

Ref: BHE/PW/PUR/WNT2-PCP-LP-CW/1705/Corr-02

Date: 04/01/2017

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To

ALL BIDDERS

Sub: Corrigendum-02: Clarifications, Time Extension and Revised Price Bid

Job: Handling at site stores / storage yard, transporting to site, inspection, preassembly, erection, alignment, welding, NDT, fixing of hangers & supports, chemical cleaning / pickling, oil flushing, water flushing, hydro testing & steam blowing, surface finish, supply & application of primer & finish paints/ Anti corrosive / Wrapping and coating as applicable including labelling & flow direction on the piping / over insulation & hangers and supports, pre-commissioning, commissioning, trial operation & handing over to customer for Power Cycle piping, LP piping, CW Piping and its associated items /systems, hangers and supports, valves of 1 x 800 MW at GSECL Wanakbori Thermal Power Project.

Tender Specification Nos: BHE/PW/PUR/WNT2-PCP-LP-CW/1705

Bidders to kindly take note of the followings:

AA) CLARIFICATIONS

Sl. No.	Ref. clause of Tender docs	Bidder's Queries	BHEL's Clarification
1.	Sr. No. 1e of Vol II Price Bid And Corrigendum 01 dtd 30/12/2016	<i>Tonnage against CW piping is shown as 341 MT whereas in sl no. 1 of Corrigendum 01 it is mentioned as 1038 approximately. Clarify.</i>	<p>Description of 'Rate schedule identifier' in item No 1-e and 1-f of Volume II Price Bid is inadvertently interchanged.</p> <p><u>VOLUME-II Price Bid Specification has been revised to incorporate the correction in the description of 'Rate schedule identifier' and is being issued through EPS as file titled "Volume-II Price Bid -1705-Rev 01" in quotation format</u></p> <p>Bidders to note that Price Bids shall be submitted in revised format only. In case any bidder submits their price bid in old format, then single notional rate quoted by the bidder shall be considered for evaluation and the total price shall be re-calculated based on Revised Price Bid Volume II –Rev 01.</p>

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Sl. No.	Ref. clause of Tender docs	Bidder's Queries	BHEL's Clarification
			Details of CW piping is given in shipping list provided herewith. Majority of the CW piping is underground.
2.	Chapter V: T&P to be deployed by BHEL free of hire charges on sharing basis	<i>Confirm whether induction coil for Induction Heating Machines to be supplied/deployed by BHEL free of charge.</i>	Induction coil for Induction Heating Machines shall be in bidder's scope as per clause 48 of Chapter IV.
3.	TCC Chapter XIII pipe installation clause no 13.1.42 (Pg no. 106-107)	The surface of the pipe.....Edge preparation shall be done. Charnfering as per BHEL Engineer Instruction. <i>Confirm the approx. quantum of work involved for edge preparation in terms of inch dia.</i>	Majority of the pipes of HP piping shall be supplied with prepared edge however edge preparation may have to be done as per site requirement, especially for pipelines where pipes are supplied in running meter.
4.	TCC XIV Welding Heat Treatment and NDT clause 14.1.2 (Pg no. 119)	The Joint details indicated in the welding schedule..... estimation purposes only. <i>Please provide the welding schedule along with details of HP LP piping material specification with size and equivalent joints. Clarify approx. no. of weld joints involved in HP piping , LP piping and CW piping</i>	Welding schedule attached. (EWS FOR WANAKBORI 1X800 MW-TG-7266 and EWS FOR WANAKBORI 1X800 MW-SG-7266)
5.	TCC Chapter XIX Coating and wrapping Clause 1.5	Pipe surface shall beetc. <i>Normally sand blasting is done at fabrication shop only. Confirm if sand</i>	Sand blasting is not in the scope of work.

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Sl. No.	Ref. clause of Tender docs	Bidder's Queries	BHEL's Clarification
	(i) (Pg no. 149)	<i>blasting is involved in this work. If yes provide surface area for san blasting.</i>	
6.	TCC XIX Coating and wrapping clause 1.5 (iii) (Pg no. 149)	With anti-corrosive tape of 4mm... rates. <i>Confirm the approx. quantum of work involved for buried piping in terms of running meter</i>	Approximately 500 running meters of CW underground piping is in the scope of work. Attached P&ID may please be referred for ACW & CW piping.
7.	Sr no 1.9 of Chapter XIX COATING AND WRAPPING (Pg no. 150)	1.9. Also refer the painting schedule 2 Protection of Internal Surface for buried pipe (For pipe dia 450NB and above) a. Surface cleaning by wire brush, power tools cleaning b. Application of one coat of epoxy resin based red oxide primer followed by adequate No. of finish coats of coal tar epoxy paint to achieve total dry film thickness of 200 microns 3 Protection of External Surface (Over ground Piping) a. Surface cleaning by wire brush, power tools cleaning b. Application of one coat of red lead primer followed by adequate No. of finish coats of Synthetic enamel paint to achieve total dry film thickness of 200 microns.	Referred Clause to be read as: 1.9. <u>Painting/Protection – Pipes</u> Also refer the painting schedule 1) Internal Surface (For Pipes dia 1000 NB and above) a) Surface cleaning by wire brush b) Application of one coat of epoxy resin based red oxide primer followed by adequate no (2 to 3) of finish coats of synthetic enamel paint to achieve total dry film thickness of 150-200 microns 2)External surface – Overground piping a) Surface cleaning by wire brush b) Application of one coat of red lead primer followed by adequate no (2 to 3) of finish coats of synthetic enamel paint to achieve total dry film thickness of 150-200 microns c)Underground protection shall be as “One coat of coal tar primer (min 2 mm) of approved quality followed by a final coating of epoxy resin & coal tar blend (min 1 mm) and then two layers, each 2mm thick of coal tar tape as outer wrap”

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Sl. No.	Ref. clause of Tender docs	Bidder's Queries	BHEL's Clarification
		c. Also refer the painting schedule	
8.		Provide coating and wrapping area in sq mtr for buried piping	Refer clause no. 7 of this corg 02 dtd 03/01/2017 : 1.9 of Chapter XIX COATING AND WRAPPING as amended above
9.	TCC Chapter V T&P to be deployed by bhel free of hire charge on sharing basis Chapter XI General Clause 11.3.32	6. Operator for BHEL owned crane will be arranged by BHEL Crane operator deployed by the contractor shall be tested by BHEL before he is allowed to operate the crane. <i>These two clauses are contradictory, confirm which is applicable.</i>	Operator for BHEL owned crane shall be provided by BHEL, However for EOT crane Operator has to be arranged by the bidders.
10.	Kindly clarify the scope of preparation of neutralization pit for chemical cleaning / EDTA cleaning.		Preparation of neutralization pit for chemical cleaning / EDTA cleaning is not in the scope of work.
11.	As per our experience and calculations for subject tender, Unit rate arrived for piping (1f i.e 44% of "X") is not sufficient for execution with additional scope of supply and application of paint and coating & wrapping. Hence, we request M/s BHEL to allow the bidder to submit the quote for supply and application of paint and coating and wrapping as a separate line item or the percentage shall be increased upto 75-76% of "X". And also for supply portion separate LOI / LOA shall be issued by BHEL due to VAT / CST issues.		There shall be no change in Unit rate arrived for piping 1f i.e 44% of "X". No separate LOA shall be issued for supply portion.

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Sl. No.	Ref. clause of Tender docs	Bidder's Queries	BHEL's Clarification
12.	Kindly clarify the scope of fabrication. Our understanding is that all HP piping (P91/CS/P22) will be supplied as pre-fabricated spools (With edge preparation) and LP piping will be supplied in running meter. And also cutting, edge preparation etc of LP piping by grinding / flame cutting method is allowed.		All HP piping (P91/CS/P22) will be supplied as pre-fabricated spools (With edge preparation). Not all LP piping shall be supplied in running meter. Cutting, edge preparation etc of site routed piping by grinding / flame-cutting method shall be allowed.
13.	Furnish the approved list of welding electrodes.		Approved list of welding electrodes is attached herewith.

BB) EXTENSION OF LAST DATE OF OFFER SUBMISSION

The last date for submission of Tender has been re-scheduled to **10/01/2017, 15.00 hrs.**
Technical Bid shall be opened on 10/01/2017/2016 at 16.00 hrs

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All other Terms and conditions of the Tender Specification shall remain unaltered unless expressly amended by BHEL in writing.


Bidders are requested to submit as a part of Technical Bid, a copy of this corrigendum duly countersigned by the authorized signatory and stamped with the Official seal as a token of Bidder's unqualified acceptance of this corrigendum/ digitally signed.

This letter is hosted as file titled "Corrigendum-02 Clarifications and Time Extension" against NIT-1705 on e-Procurement Portal of BHEL i.e. <https://bheleps.buyjunction.in>

Thanking you,
Yours faithfully,
AGM (Purchase)


Enclosure:

1. CW Piping details
2. Welding schedule attached. (EWS FOR WANAKBORI 1X800 MW-TG-7266 and EWS FOR WANAKBORI 1X800 MW-SG-7266)
3. PE-DG-408-165-N001 R04 CWACW SYSTEM PID
4. Commented R1_408_165_M002 - Layout of CW and ACW piping
5. PE-DG-408-651-C008-R1c-CW PIPE-LAYOUT OF PIPE FROM MAIN POWER HOUSE TO CWPH NAD CWPH TO COOLING TOWER
6. PE-DG-408-651-C003-R1b-CW DUCT PIPING-GA OF PIPE ENCASMENT NEAR POWER HOUSE
7. Approved welding consumables

	PROJECT P17274 WANAKBORI EXTN 1X800 MW LPP-8		SHIPPING LIST
	PGMA	.80-468 MAIN CIRCULATION WATER PIPING	REVISION '06'
DPN-NS 055-1	JOB NOS	7274	NETWORK 6251869
	T. WT	*38340.222 (KG) DU RANGE 1 - 26	PAGE 1 / 2

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	PIPE OD-3740X20-IS3589-410MPA			01 M	380.000	697186.000	
002	PIPE 2743 X 20 - IS3589-410MPA-LS/SPI-OG			01 M	21.115	28357.445	
003	PIPE 2743 X 20 - IS3589-410MPA-LS/SPI-UG			02 M	60.335	81029.905	
004	PIPE DIA 2235X18 (SPI/LONGI) IS3589-410MP			03 M	10.000	9840.000	
005	PIPE DIA 2235X18 (SPI/LONGI) IS3589-410MP			04 M	45.000	44280.000	
006	90DEG MITRE BEND R=2775 OD3740X20 (UG)			01 NO	3.000	24898.473	
007	90DEG MITRE BEND R=1650 OD2235X20 (UG)			02 NO	1.000	2965.416	
008	90DEG MITRE BEND R=1650 OD2235X20 (OG)			03 NO	2.000	5930.832	
009	15DEG MITRE BEND R=2025 OD2743X20 (UG)			04 NO	2.000	3289.778	
010	TORISPHERICAL DISHED.END OD3740X20 (UG)			05 NO	3.000	10107.000	
011	FAB. UNEQUAL TEE NB3700/2700 (UG)			06 NO	2.000	27700.216	
012	FAB. UNEQUAL TEE NB3700/2200 (UG)			07 NO	1.000	9734.449	
013	FABRICATED HEADER NB3700/2700 (UG)			01 NO	2.000	42891.228	

NOTE: 1. Where item number is not available use mark number for identifying. 2. When * is marked in Drawing Number column separate erection drawing will follow.	CREATED BY	I.BISWAS
	APPROVED & ISSUED BY	S.RAMAMURTHY

	PROJECT P17274 WANAKBORI EXTN 1X800 MW LPP-8		SHIPPING LIST
	PGMA	.80-468 MAIN CIRCULATION WATER PIPING	REVISION '06'
DPN-NS 055-1	JOB NOS	7274	NETWORK 6251869
	T. WT	*38340.222 (KG) DU RANGE 1 - 26	PAGE 2 / 2

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	PIPE OD813X8 (OG) EP STY-D ;D1=797.0			01 M	50.000	7940.000	
015	PIPE OD813X8 (UG) EP STY-D ;D1=797.0			02 M	160.000	25408.000	
016	PIPE OD610X8 (UG) EP STY-D ;D1=594.0			03 M	45.000	5346.000	
017	PIPE OD457X6 (UG) EP STY-D ;D1=445.0			04 M	85.000	5671.200	
018	90DEG MITRE BEND OD813X10;R=800(OG)			05 NO	7.000	1820.000	
019	90DEG MITRE BEND OD813X10;R=800(UG)			06 NO	6.000	1560.000	
020	45DEG MITRE BEND OD813X10;R=800(UG)			07 NO	1.000	129.000	
021	90DEG MITRE BEND OD610X8;R=600(UG)			08 NO	4.000	471.716	
022	45DEG MITRE BEND OD610X8;R=600(UG)			09 NO	2.000	118.324	
023	90DEG MITRE BEND OD457X6;R=450(OG)			10 NO	2.000	100.080	
024	90DEG MITRE BEND OD457X6;R=450(UG)			11 NO	4.000	200.160	
025	FABRICATED EQUAL TEE.NB800 (OG)			12 NO	1.000	455.000	
026	FABRICATED EQUAL TEE.NB800 (UG)			13 NO	2.000	910.000	
***** SHIPPING LIST COMPLETED *****							

NOTE: 1. Where item number is not available use mark number for identifying. 2. When * is marked in Drawing Number column separate erection drawing will follow.	CREATED BY	I.BISWAS
	APPROVED & ISSUED BY	S.RAMAMURTHY

List of Approved Welding Consumables with Heavy Pressure Boiler Plant, Tiruchirappalli as on 24.04.2015

SI NO	Vendor No	Vendor Name	Size_Detail	Vendor Type	Specification	Welding	Brand
01	20047	KANEMATSU TRADING CORPORATION	NOT APPLICABLE	Foreign Agent	AS PER BHEL WCPI	PRESSURE PARTS	BRAND:MF-38
02	10081	ESAB INDIA LTD	NOT APPLICABLE	Manufacturer	AS PER BHEL WCPI	PRESSURE PARTS	BRAND:MF-38
03	11712	TAPADIA ENGINEERS & TRADERS P.LTD.	NOT APPLICABLE	Manufacturer	AS PER BHEL WCPI	PRESSURE PARTS	
04	20516	LINCOLN ELECTRIC FRANCE S.A.	NOT APPLICABLE.	Manufacturer	AS PER BHEL WCPI	PRESSURE PARTS	GM 80 - B2
05	11712	TAPADIA ENGINEERS & TRADERS P.LTD.	NOT APPLICABLE	Manufacturer	AS PER BHEL WCPI	PRESSURE PARTS	BRAND NAME : TPD-50S
06	19371	NDT FLUXES.	NOT APPLICABLE	Manufacturer	AS PER BHEL WCPI	PRESSURE PARTS	
07	80218	M/s Modi Arc Electrodes Co.	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	
08	11378	MAILAM INDIA LIMITED	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	MAILARC -18 PLUS
09	80020	HONAVAR ELECTRODES PVT LTD	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	ULTIMATE - 18
10	80019	ESAB INDIA LTD.	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	OK 67.60
11	80018	D & H INDIA LIMITED	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	SUPER LH (N1)
12	10774	D&H SECHERON ELECTRODES PVT LTD.	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	MOLYTHERME
13	80126	Ador Welding Limited	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	METALBOND
14	10936	AHURA WELDING ELECTRODE MANUFACTURE	WELD:SMAW:SS E410-15	Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	SUN ARC
15	80291	Bharat Heavy Electricals Limited ,T		Manufacturer	AS PER BHEL SPEC	PRESSURE PARTS	
16	80291	Bharat Heavy Electricals Limited ,T		Manufacturer	ER430-WCPI013	PRESSURE PARTS	
17	80291	Bharat Heavy Electricals Limited ,T		Manufacturer	E7018-1	PRESSURE PARTS	
18	80291	Bharat Heavy Electricals Limited ,T		Manufacturer	COBALT BASED POWDER - WCPI 302	PRESSURE PARTS	
19	10015	ANITA FLUXES ALLOY SPECIALITY		Manufacturer	WPI 407	PRESSURE PARTS	
20	10785	ADOR WELDING LIMITED		Manufacturer	WPI 407	PRESSURE PARTS	
21	21411	METRODE PRODUCTS LIMITED,	DIA.0.8,1.9,1.0 & 1.2MM	Manufacturer	GTAW WIRE FOR SA335T92 WELDING	PRESSURE PARTS	
22	20563	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM	Manufacturer	GTAW WIRE FOR SA335T92 WELDING	PRESSURE PARTS	
23	20563	VOESTALPINE BOHLER WELDING	DIA.1.2MM	Manufacturer	ASME.SEC.IIC,SFA-5.28,ER80S-B2	PRESSURE PARTS	UNION ER 80S B2
24	20047	KANEMATSU TRADING CORPORATION	DIA.1.2 MM	Foreign Agent	ASME.SEC.IIC,SFA-5.28,ER80S-B2	PRESSURE PARTS	MG-S80B2F
25	21411	METRODE PRODUCTS LIMITED,	DIA.1.2MM	Manufacturer	ASME.SEC.IIC,SFA-5.28,ER80S-B2	PRESSURE PARTS	
26	10081	ESAB INDIA LTD	DIA.1.2MM	Manufacturer	ASME.SEC.IIC,SFA-5.28,ER80S-B2	PRESSURE PARTS	
27	20563	VOESTALPINE BOHLER WELDING	DIA.1.20MM	Manufacturer	ASME.SEC.IIC,SFA-5.28,ER90S-B3	PRESSURE PARTS	UNION ER 90S B3
28	21411	METRODE PRODUCTS LIMITED,	DIA: 1.20 MM	Manufacturer	ASME.SEC.IIC,SFA-5.28,ER90S-B3	PRESSURE PARTS	ER 90S-B3 BULK MIG
29	21991	SPECIAL METALS WELDING PRODUCTS	DIA.0.8,0.9 & 1.0MM	Manufacturer	ASME.SEC.II.C.SFA-5.14.ERNICRFE-7A	PRESSURE PARTS	
30	20047	KANEMATSU TRADING CORPORATION	DIA: 0.8 MM	Foreign Agent	ASME.SEC.II.C.SFA-5.14.ERNICRFE-7A	PRESSURE PARTS	TG-SN690NB
31	20563	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM	Manufacturer	ER70S-A1	PRESSURE PARTS	
32	20047	KANEMATSU TRADING CORPORATION	DIA.0.8,0.9,1.0,1.2 & 1.6MM	Foreign Agent	ER70S-A1	PRESSURE PARTS	
33	21411	METRODE PRODUCTS LIMITED,	DIA:0.8, 0.9, 1.0 & 1.2 MM	Manufacturer	ER70S-A1	PRESSURE PARTS	CMO
34	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.2 & 1.6MM	Manufacturer	ASME SEC II C SFA-5.28 ER80S-B2	PRESSURE PARTS	
35	13690	GEE LIMITED,	DIA.1.2MM	Manufacturer	ASME SEC II C SFA-5.28 ER80S-B2	PRESSURE PARTS	GM80S-B2
36	20047	KANEMATSU TRADING CORPORATION	DIA.1.0,1.2 & 1.6MM	Foreign Agent	ASME SEC II C SFA-5.28 ER80S-B2	PRESSURE PARTS	
37	21411	METRODE PRODUCTS LIMITED,	DIA.0.8,0.9,1.0 & 1.2MM	Manufacturer	ASME SEC II C SFA-5.28 ER80S-B2	PRESSURE PARTS	
38	22391	AIR-LIQUIDE WELDING FRANCE,	DIA.0.8,1.0 & 1.2MM	Manufacturer	ER347SI	PRESSURE PARTS	
39	20047	KANEMATSU TRADING CORPORATION	DIA.0.8,1.0, & 1.2MM	Foreign Agent	ER347SI	PRESSURE PARTS	
40	21411	METRODE PRODUCTS LIMITED,	DIA.0.8,1.0 & 1.2MM	Manufacturer	ER347SI	PRESSURE PARTS	
41	11784	VENUS WIRE INDUSTRIES PVT LTD	DIA.0.8,0.9,1.0 & 1.2MM	Manufacturer	ER347SI	PRESSURE PARTS	
42	22391	AIR-LIQUIDE WELDING FRANCE,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ERNICR3	PRESSURE PARTS	
43	21411	METRODE PRODUCTS LIMITED,	DIA.0.8,1.0 & 1.2MM	Manufacturer	ERNICR3	PRESSURE PARTS	
44	20067	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM	Manufacturer	ERNICR3	PRESSURE PARTS	
45	20047	KANEMATSU TRADING CORPORATION	DIA.0.8,1.2 & 1.6MM	Foreign Agent	ERNICR3	PRESSURE PARTS	
46	22391	AIR-LIQUIDE WELDING FRANCE,	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	MIG ER90S-B9	PRESSURE PARTS	
47	21411	METRODE PRODUCTS LIMITED,	DIA.0.8,1.0 & 1.2MM	Manufacturer	MIG ER90S-B9	PRESSURE PARTS	
48	20563	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM	Manufacturer	MIG ER90S-B9	PRESSURE PARTS	
49	15810	NOUVEAUX INDUSTRIES (P) LTD.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	NOUVARC
50	13693	RASI ELECTRODES LTD.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	RASI CO2

51	14340	NALLI ARC INDUSTRIE,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	NALLI ARC
52	13906	MARUTI WELD PRIVATE LIMITED,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	MARUTI MIG
53	15100	MANTEK WIRES	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	MANTEK MIG
54	16575	STANDARD WIRE PRODUCTS	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	STAR
55	16166	EVERSHINE WIRES	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	SHINE ARC - 1
56	15085	VOLTARC ELECTRODES (P) LTD,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	AUTOFIL-6
57	14455	WIRE AND WIRE PRODUCTS	DAI.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	ESSARC
58	10081	ESAB INDIA LTD	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	ESAB MW 1
59	14791	ANAND ARC LTD.,	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	ANAND MIG - 1
60	13763	CLASSIC ELECTRODES (INDIA) LTD.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	CLASSIC MIG 70S
61	10785	ADOR WELDING LIMITED	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	AUTOMIG - 1
62	17814	CALCUTTA ELECTRODES PVT. LTD.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	SHIVA-CO2
63	11420	MODI ARC ELECTRODES CO.	SIZE DIA. 1.20MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	MODI MAG-1
64	11378	MAILAM INDIA LIMITED	8	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	MAILAM MIG6
65	15082	ROYAL WELDING WIRES PVT. LTD.,	SIZE DIA.1.20MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	JACKSUN 70S-6
66	19305	MURLI ELECTRODE PVT. LTD,	SIZE: DIA. 1.20MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	WONDER -MIG
67	11288	JAGSHAAN INDUSTRIES	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	JAGM1
68	16662	NATIONAL ENGINEERING ENTERPRISES,	DAI.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	CARBOMIG S6
69	15924	DAYACHAND ENGINEERING INDUSTRIES	DIA: 1.20 MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	FAIRWELD
70	13986	B&H ELECTRODES PVT. LTD,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	B&H MIG
71	14458	M W WIRETECK PVT. LTD.	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	PRESSURE PARTS	MARUTI MIG
72	13211	D&H INDIA LIMITED	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	MIGARC WS 6
73	13690	GEE LIMITED,	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	GM 70
74	18705	MODI HITECH INDIA LTD.,	DAI.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	GMM
75	13549	ATHARVE WELDING TECHNOLOGIES (INDIA	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	ATHARV MIG WIRE
76	10758	ALPHA ARC PVT LTD	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	ALPHA MIG
77	91270	VEEPEES INDIA,	DIA.1.0,1.2 & 1.6MM	Indian Agent	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	
78	11528	RAAJRATNA ELECTRODES LTD	DIA 1,1.2,1.6,2 MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	RAAJMIG-1(LAYER)
79	17813	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	CROWN MIG 6
80	13487	MAGNARC ELECTRODES PVT.LTD.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	MAGFIL
81	14428	SHAKUNT ENTERPRISES PRIVATE LIMITED	DAI.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	SANWALAKA XTRA ARC
82	10737	SRI DHARAANI STEEL,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	LEND WIRE MIG
83	14575	WELD ALLOY PRODUCTS,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	M.W.A.70S
84	17644	VARUN ELECTRODES PVT. LTD.,	DAI.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	PRIMA
85	17841	PRASHANTH CYLINDERS PVT. LTD.,	DIA. 1.0,1.2 & 1.6 MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	PRAWELD
86	17842	PRECISION DRAWEL PVT., LTD.,	DAI.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	PRECISION
87	16548	WELD EXCEL INDIA LTD.,	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	EXCEL MAG1
88	15101	PRECISION WELDARC LTD,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	PWL MIG 2
89	13743	UNIQUE WELDING PRODUCTS PVT.LTD.,	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	UNIWELD
90	13911	ROYAL ARC ELECTRODES LIMITED	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	ROYAL 70S6
91	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.0.8,1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	AUTO THERME - 1
92	16661	KLINWELD WIRES PVT. LTD.,	DIA.1.0,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-5.18.ER70S-6	STRUCTURALS	KLINWELD
93	21411	METRODE PRODUCTS LIMITED,	DIA.0.8,1.2 & 1.6MM	Manufacturer	ASME.SEC.II.C-SFA;5.28 ER80S-G	PRESSURE PARTS	
94	20047	KANEMATSU TRADING CORPORATION	DAI.0.8,0.9,1.0 & 1.2,1.4 & 1.6MM	Foreign Agent	ASME.SEC.II.C-SFA;5.28 ER80S-G	PRESSURE PARTS	
95	20047	KANEMATSU TRADING CORPORATION	DAI.0.8,0.9,1.0 & 1.2MM	Foreign Agent	-----	PRESSURE PARTS	
96	20130	ALCONIX CORPORATION	DIA. 1.0 & 1.2MM	Foreign Agent	-----	PRESSURE PARTS	
97	10081	ESAB INDIA LTD	NOT APPLICABLE	Manufacturer	ASME SFA 5.23	PRESSURE PARTS	
98	22391	AIR-LIQUIDE WELDING FRANCE,	NOT APPLICABLE	Manufacturer	ASME SFA 5.23	PRESSURE PARTS	
99	21411	METRODE PRODUCTS LIMITED,	NOT APPLICABLE	Manufacturer	ASME SFA 5.23	PRESSURE PARTS	
100	20047	KANEMATSU TRADING CORPORATION	NOT APPLICABLE	Foreign Agent	ASME SFA 5.23	PRESSURE PARTS	
101	20563	VOESTALPINE BOHLER WELDING	NOT APPLICABLE	Manufacturer	ASME SFA 5.23	PRESSURE PARTS	
102	20563	VOESTALPINE BOHLER WELDING	NOT APPLICABLE	Manufacturer	SAW FLUX FOR SA335P92	PRESSURE PARTS	

103	20563	VOESTALPINE BOHLER WELDING	NOT APPLICABLE	Manufacturer	SAW WIRE FOR SA335P92	PRESSURE PARTS	
104	21411	METRODE PRODUCTS LIMITED,	DIA:3.2 MM	Manufacturer	SAW WIRE FOR SA335P92	PRESSURE PARTS	
105	10015	ANITA FLUXES ALLOY SPECIALITY	FULL RANGE	Manufacturer	WCPI 407	PRESSURE PARTS	
106	10785	ADOR WELDING LIMITED	FULL RANGE	Manufacturer	WCPI 407	PRESSURE PARTS	BRAND: AUTOMELT S 76
107	13691	MANTEK WELDAIDFLUX CO.	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	MANTEK - 22
108	14593	R.M.H.CHEMICAL INDUSTRIES	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	RMH AUTOWELD GR. I
109	14309	S.CHEMS & ALLIED PRODUCERS PVT LIMI	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SURE FLUX GP
110	11701	SUPER WELD PRODUCTS	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SWP40T
111	19114	WELMET TECHNOLOGIES PVT. LTD.,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	WELMET FLUX 81-L
112	15099	THERMIT ALLOYS (P) LTD,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	CONWELD - RM
113	17381	NOUVEOFLUX CHEMICAL COMPANY	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	NOUVEOFLUX
114	13211	D&H INDIA LIMITED	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SUPERMELT II
115	11712	TAPADIA ENGINEERS & TRADERS P.LTD.	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	TPD-50
116	15084	DWEKAM ELECTRODES LTD,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	MEARGEARC SFA-2
117	15085	VOLTARC ELECTRODES (P) LTD,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SUBARC-1 (EL-8)
118	19695	SUBMER FLUX TECHNOLOGIES,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SHINE FLUX
119	15082	ROYAL WELDING WIRES PVT. LTD.,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	JACKSUN SFA GRADE- 1
120	13833	SUN FLUX,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SUN BRAND SUPER FLUX
121	13534	RUPA INDUSTRIES,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	RUPA MELT - 1
122	19735	RENUKA FLUXES COMPANY,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	RENUKA
123	14791	ANAND ARC LTD.,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	ANAND MELT - 1
124	10081	ESAB INDIA LTD	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	OK FLUX 10.81L
125	10466	SUN AUTO WELD INDUSTRIES,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	SUN FLUX
126	13484	OSCAR AUTO FLUX,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	OSCAR AUTOWELD GR. I
127	11288	JAGSHAAN INDUSTRIES	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	JAG EZ WELD G 18L
128	13486	A V WELDTECH PVT.LTD.,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	AV EZEWELD 18L
129	12184	LAKSHMI CHEMICAL INDUSTRIES	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	LAXMI FLUX
130	10785	ADOR WELDING LIMITED	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	AUTOMELT GR.II
131	11528	RAAJRATNA ELECTRODES LTD	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	RAAJMELT-1
132	15101	PRECISION WELDARC LTD,	NOT APPLICABLE	Manufacturer	F7AZ- EL 8	STRUCTURALS	PWL8101
133	20563	VOESTALPINE BOHLER WELDING	DIA. 1.6,2.0,2.4 & 3.2MM	Manufacturer	-----	PRESSURE PARTS	
134	21411	METRODE PRODUCTS LIMITED,	DIA. 2.4 & 3.2MM	Manufacturer	-----	PRESSURE PARTS	
135	15083	MARUTHI ELECTRODES (P) LTD.,	DIA.2.4MM	Manufacturer	ER70S-A1	STRUCTURALS	BRAND-MARUTHY TA1
136	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.6,2.0,2.4,2.5 & 3.2MM	Manufacturer	ER70S-A1	PRESSURE PARTS	
137	20563	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.0MM	Manufacturer	ER70S-A1	PRESSURE PARTS	
138	11227	HONAVAR ELECTRODES PVT. LTD.,	SIZE DIA.2.40 MM	Manufacturer	ER70S-A1	PRESSURE PARTS	HW 70SA1
139	22456	I.A.BARNES & CO. LTD,	DIA. 2.40 MM	Foreign Agent	ER70S-A1	PRESSURE PARTS	BRAND : UNISCO ER 70
140	10785	ADOR WELDING LIMITED	DIA. 2.40 MM	Manufacturer	ER70S-A1	PRESSURE PARTS	BRAND:TIGFIL 70S -A1
141	20047	KANEMATSU TRADING CORPORATION	DIA. 0.8,1.0,1.2,1.6,2.0,2.4 & 3.2MM	Foreign Agent	ER70S-A1	PRESSURE PARTS	
142	21411	METRODE PRODUCTS LIMITED,	DIA: 2.40 MM	Manufacturer	ER70S-A1	PRESSURE PARTS	CMO
143	21411	METRODE PRODUCTS LIMITED,	DIA.1.6,2.4 & 3.2MM	Manufacturer	ER80SG 1.25CR 1/2MO	PRESSURE PARTS	
144	13690	GEE LIMITED,	SIZE DIA. 2.40 MM	Manufacturer	ER80SG 1.25CR 1/2MO	PRESSURE PARTS	GETIG 80S-B2
145	21461	INDUSTRIA NAZIONALE ELETTRODI S.p.A	DIA.2.0,2.4 & 2.5MM	Manufacturer	ER80SG 1.25CR 1/2MO	PRESSURE PARTS	
146	10785	ADOR WELDING LIMITED	DIA. 2.40 MM	Manufacturer	ER80SG 1.25CR 1/2MO	PRESSURE PARTS	TIGFIL 80S -B2
147	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.6,2.0,2.4,2.5 & 3.2MM	Manufacturer	ER80SG 1.25CR 1/2MO	STRUCTURALS	
148	20047	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0,2.4 & 3.2MM	Foreign Agent	ER80SG 1.25CR 1/2MO	PRESSURE PARTS	
149	15083	MARUTHI ELECTRODES (P) LTD.,	DIA.2.4MM	Manufacturer	ER80SG 1.25CR 1/2MO	PRESSURE PARTS	MARUTHI TB2
150	20563	VOESTALPINE BOHLER WELDING	DIA.2.0,2.4 & 3.0MM	Manufacturer	ER90SG-2 1/4CR 1MO	PRESSURE PARTS	
151	15083	MARUTHI ELECTRODES (P) LTD.,	DIA. 2.4MM	Manufacturer	ER90SG-2 1/4CR 1MO	PRESSURE PARTS	MARUTHI TB3
152	10785	ADOR WELDING LIMITED	DIA: 2.40 MM	Manufacturer	ER90SG-2 1/4CR 1MO	PRESSURE PARTS	BRAND:TIGFIL 90S - B
153	20047	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0,2.4 & 3.2MM	Foreign Agent	ER90SG-2 1/4CR 1MO	PRESSURE PARTS	
154	21461	INDUSTRIA NAZIONALE ELETTRODI S.p.A	DIA.2.0,2.4 & 3.2MM	Manufacturer	ER90SG-2 1/4CR 1MO	PRESSURE PARTS	

155	21411	METRODE PRODUCTS LIMITED,	DIA.1.6 & 2.4MM	Manufacturer	ER90SG-2 1/4CR 1MO	PRESSURE PARTS	
156	21411	METRODE PRODUCTS LIMITED,	DIA.1.0,1.6,2.0,2.4 & 3.2MM	Manufacturer	ER347	PRESSURE PARTS	
157	20563	VOESTALPINE BOHLER WELDING	DIA.1.0,1.6,2.0,2.4 & 3.2MM	Manufacturer	ER347	PRESSURE PARTS	
158	20047	KANEMATSU TRADING CORPORATION	DIA.1.2,1.6,2.0,2.4 & 3.2MM	Foreign Agent	ER347	PRESSURE PARTS	
159	13690	GEE LIMITED,	SIZE DIA.2.40MM	Manufacturer	ER347	PRESSURE PARTS	GETIG 347
160	15083	MARUTHI ELECTRODES (P) LTD.,	DIA.2.0 & 2.4MM	Manufacturer	ERNICR3	PRESSURE PARTS	
161	20563	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	ERNICR3	PRESSURE PARTS	
162	20047	KANEMATSU TRADING CORPORATION	DIA.0.8,0.9,1.0,1.2,1.6,2.0,2.4,3.2 & 4	Foreign Agent	ERNICR3	PRESSURE PARTS	
163	21411	METRODE PRODUCTS LIMITED,	DIA: 2.40 MM	Manufacturer	ERNICR3	PRESSURE PARTS	20.70.NB
164	22391	AIR-LIQUIDE WELDING FRANCE,	DIA.2.4MM	Manufacturer	TIG ER90S-B9	PRESSURE PARTS	
165	20047	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0 & 2.4MM	Foreign Agent	TIG ER90S-B9	PRESSURE PARTS	BRAND:TGS-90 B9
166	20563	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	TIG ER90S-B9	PRESSURE PARTS	
167	21411	METRODE PRODUCTS LIMITED,	DIA.1.6,2.4 & 3.2MM	Manufacturer	TIG ER90S-B9	PRESSURE PARTS	
168	20563	VOESTALPINE BOHLER WELDING	DIA.2.0,2.4 & 3.0MM	Manufacturer	ASME SEC.II.C.SFA-5.28 ER80S-D2	PRESSURE PARTS	
169	21411	METRODE PRODUCTS LIMITED,	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	ASME SEC.II.C.SFA-5.28 ER80S-D2	PRESSURE PARTS	
170	20130	ALCONIX CORPORATION	DIA.1.6,2.0 & 2.4MM	Foreign Agent	ASME SEC.II.C.SFA-5.28 ER80S-D2	PRESSURE PARTS	
171	20130	ALCONIX CORPORATION	DIA.1.0MM & 2.40MM	Foreign Agent	GTAW ROD SUPER 304 H	PRESSURE PARTS	
172	20563	VOESTALPINE BOHLER WELDING	DIA.0.8 & 1.0 & 2.40 MM	Manufacturer	GTAW ROD SUPER 304 H	PRESSURE PARTS	THERMANIT 304CU
173	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA:2.5, 3.15, 4.0, 5.0 & 6.30MM	Manufacturer	E7018-A1	PRESSURE PARTS	BRAND-ULTIMATE 18A1.
174	11420	MODI ARC ELECTRODES CO.	DIA.2.50,3.15,4.00,5.00 & 6.30MM	Manufacturer	E7018-A1	PRESSURE PARTS	
175	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.50,3.15,4.00,5.00 & 6.30MM	Manufacturer	E7018-A1	PRESSURE PARTS	
176	15090	RAJ KESARI ELECTRODES,	DIA.2.50,4.00,& 5.00 MM	Manufacturer	E7018-A1	PRESSURE PARTS	RAJWELD-18A1
177	18432	VIJAY ELECTRODES AND WIRES PVT.	DIA.2.5,3.15 & 4.0 MM	Manufacturer	E8018-B2	PRESSURE PARTS	VJ-8018-B2
178	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.2,4.0 & 5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	
179	18705	MODI HITECH INDIA LTD.,	DIA.2.5,3.15, 4.0 & 5.0 MM	Manufacturer	E8018-B2	PRESSURE PARTS	GM 80-B2
180	13690	GEE LIMITED,	DIA.2.5,3.15, 4 & 5 MM	Manufacturer	E8018-B2	PRESSURE PARTS	GRIDUCT3
181	15090	RAJ KESARI ELECTRODES,	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	RAJWELD-8018B2
182	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	
183	14040	MANTEK ELECTRODS PRIVATE LTD,	DIA.5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	MANTEK CROMO 1
184	11378	MAILAM INDIA LIMITED	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	
185	13906	MARUTI WELD PRIVATE LIMITED,	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	ULTRA-CR-1
186	11420	MODI ARC ELECTRODES CO.	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	E8018-B2	PRESSURE PARTS	
187	13690	GEE LIMITED,	DIA.2.5,3.15, 4 & 5 MM	Manufacturer	E9018-B3	PRESSURE PARTS	GRIDUCT - 4
188	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	E9018-B3	PRESSURE PARTS	
189	18705	MODI HITECH INDIA LTD.,	DIA.2.5,3.15 & 4.0 MM	Manufacturer	E9018-B3	PRESSURE PARTS	GM 90 B3
190	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.2,4.0 & 5.0MM	Manufacturer	E9018-B3	PRESSURE PARTS	
191	13906	MARUTI WELD PRIVATE LIMITED,	DIA.3.15,4.0 & 5.0MM	Manufacturer	E9018-B3	PRESSURE PARTS	ULTRA - CR-2
192	18432	VIJAY ELECTRODES AND WIRES PVT.	DIA.2.5,3.15 & 4.0MM	Manufacturer	E9018-B3	PRESSURE PARTS	VJ-9018-B3
193	11420	MODI ARC ELECTRODES CO.	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	E9018-B3	PRESSURE PARTS	
194	13911	ROYAL ARC ELECTRODES LIMITED	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E9018-B3	PRESSURE PARTS	ROYAL CHROME 2
195	13211	D&H INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0 MM	Manufacturer	E9018-B3	PRESSURE PARTS	SUPER - CR - 2
196	11378	MAILAM INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0 MM	Manufacturer	E9018-B3	PRESSURE PARTS	MAILARC 2CR
197	22391	AIR-LIQUIDE WELDING FRANCE,	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	ASME SEC.II.C.SFA-5.5E9015-B9	PRESSURE PARTS	
198	20047	KANEMATSU TRADING CORPORATION	DIA.2.6,3.2,4.0 & 5.0MM	Foreign Agent	ASME SEC.II.C.SFA-5.5E9015-B9	PRESSURE PARTS	
199	21411	METRODE PRODUCTS LIMITED,	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	ASME SEC.II.C.SFA-5.5E9015-B9	PRESSURE PARTS	
200	20563	VOESTALPINE BOHLER WELDING	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	ASME SEC.II.C.SFA-5.5E9015-B9	PRESSURE PARTS	
201	21411	METRODE PRODUCTS LIMITED,	DIA.2.5,3.2 & 4.0MM	Manufacturer	SMAW ELECTRODE - T92 / P92	PRESSURE PARTS	
202	20563	VOESTALPINE BOHLER WELDING	DIA.2.5,3.2 & 4.0MM	Manufacturer	SMAW ELECTRODE - T92 / P92	PRESSURE PARTS	
203	17814	CALCUTTA ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SHIVA-S
204	17644	VARUN ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	PRIMA-6013S
205	14584	SUN ELECTRODE	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUN GP 13
206	14523	JINDAL DUROWELD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	DU-ROD 11

207	14534	AARYA ELECTRODES PVT.LTD.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	AARYA-13
208	13911	ROYAL ARC ELECTRODES LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ROYAL S
209	15086	SRI RENGHA ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUNSHINE E6013
210	10785	ADOR WELDING LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	METALBOND
211	10758	ALPHA ARC PVT LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ALPHA 6013
212	13663	ORION WIRE MANUFACTURING CO.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUN ARC X - 19
213	14449	IDEAL ELECTRODES	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	IDEAL 40
214	10667	EUREKA SYSTEMS AND ELECTRODES P.LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	NUMBER ONE
215	14457	BALAJI ELECTRODES	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SONY ARC E6013
216	13729	ORANGE ELECTRODES INDUSTRIES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	GALA WELD
217	13487	MAGNARC ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MAGNARC 63
218	13549	ATHARVE WELDING TECHNOLOGIES (INDIA	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	AWT E6013
219	13986	B&H ELECTRODES PVT. LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	B&H ULTRA
220	16003	MIGLANI ENGINEERS	DIA. 2.5,3.15,4.0 & 5.0MM	Manufacturer	E6013	STRUCTURALS	MIGLANI ARK-X
221	13538	WELDCOM ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	NOVAX - 13
222	17813	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	CROWN 13S
223	11420	MODI ARC ELECTRODES CO.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	STEELON STD
224	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	REGULAR-S.
225	14447	UPARC ELECTRODES COMPANY.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	UPARC E6013
226	14448	BRIGHT WELD TECHNOLOGIES	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	A-ONE E6013
227	12893	RUKHMANI ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	BALAJI
228	15929	WELDALL ELECTRODES (INDIA)	DIA: 2.5,3.15,4.0 & 5.0 MM	Manufacturer	E6013	STRUCTURALS	WELDALL
229	18540	KOLLIPARA ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	KELARC 6013
230	18433	NUCOR WELD(INDIA)PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	EKNOWELD
231	17820	SETH ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	KAYNOZ 7S
232	17812	VICTOR ELECTRODES LIMITED ,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	VICTOR 6013 PLUS
233	17802	SRI VARSHA ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	BLAZE ARC
234	17801	JAIN WELDING ELECTRODES PVT. LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUN WELD 6013
235	17643	SUNDEEP ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUNDEEP 13S
236	17664	ELMARC ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ELMARK 11
237	17661	ALPHA WELDING & ALLIED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	LG
238	15090	RAJ KESARI ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	RAJCORD-13S
239	15082	ROYAL WELDING WIRES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	JACKSON 5
240	13690	GEE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	GEECON PINK
241	15081	ANNAI SIVAKAMI AMMAL INDUSTRIES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUN LINE 27
242	15102	SOLARC WELD RODS,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	VATSARC 19 PLUS.
243	13693	RASI ELECTRODES LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	RASI E6013
244	15083	MARUTHI ELECTRODES (P) LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MARUTHI 6013X-
245	15085	VOLTARC ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	
246	15087	V.N.C.ELECTRODEES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	BEST ARC MS11-
247	15088	NIVETHA ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MEDAL ARC
248	13763	CLASSIC ELECTRODES (INDIA) LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	CLASSIC 6013 PLUS.
249	13906	MARUTI WELD PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MARUTI 44-
250	14040	MANTEK ELECTRODS PRIVATE LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MANTEK GP-13.
251	13211	D&H INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	STANDARD
252	14429	ALPHA FLUX & ELETRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	WELDER - G
253	14575	WELD ALLOY PRODUCTS,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	WA 6013-S
254	11881	FUSION ENGG. PRODUCTS LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ELECTRA-6
255	11380	MALU ELECTRODES PVT.LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MANGALAM E 6013
256	11378	MAILAM INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MAILARC 13R
257	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	NORMA
258	10081	ESAB INDIA LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ESAB FERROSPEED PLUS

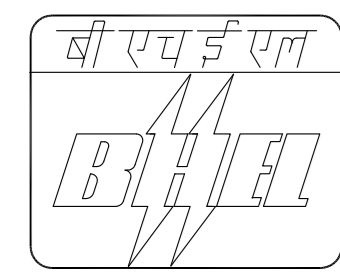
259	19111	SPECTRA SUPER ALLOYS LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUDO 6013
260	18597	SHIELDARC EQUIPMENTS PVT. LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ESL' ARC-62
261	11528	RAAJRATNA ELECTRODES LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	RATNA 6013X
262	15089	WELDCRAFT PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MAXIMA-6013X
263	19906	BAGHERWAL ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MONARC-S
264	18300	SUPERON SCHWEISSTECHNIK INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	OVERCORD S
265	19875	ABIRAMI ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	SUNWELD
266	18705	MODI HITECH INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	GM 20
267	18846	COSMOS ELECTRODES PVT., LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	ATLAS-13
268	19751	FINE WELD ELECTRODESS INDIA (P)LTD.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MECA E6013
269	19745	MEGA WELD TECHNOLOGIES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MEGA E6013
270	16168	P.R.Industries	SIZE DIA. 2.5,3.15,4.0 & 5.0MM	Manufacturer	E6013	STRUCTURALS	ANAND-13
271	16886	G TEKH ELECTRODES	DIA.2.50,3.15,4.00 & 5.00MM	Manufacturer	E6013	STRUCTURALS	SKY ARC E6013
272	16344	MICRO WELD (INDIA)	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	MICRO-6013
273	17451	WELDWELL ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E6013	STRUCTURALS	WELDFAST SUPER
274	15833	THIRUMALA ELECTRODES CO.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SEVEN ARCS-18
275	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUPRATHERME
276	14040	MANTEK ELECTRODS PRIVATE LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	MANTEK LH 18
277	11378	MAILAM INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	MAIL ARC 18
278	13211	D&H INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUPER LH
279	13542	SAITRON ENGINEERS PVT. LTD,	DIA. 2.50,3.15,4.00 & 5.0MM	Manufacturer	E7018	PRESSURE PARTS	SAITRON LH-7018
280	17451	WELDWELL ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00 MM	Manufacturer	E7018	PRESSURE PARTS	WELDFAST LH 18
281	15085	VOLTARC ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SPEEDARC E-7018
282	14791	ANAND ARC LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	ANAND THERME
283	14575	WELD ALLOY PRODUCTS,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	WA 7018
284	15083	MARUTHI ELECTRODES (P) LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	MARUTHI 7018
285	13906	MARUTI WELD PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	ULTRA - 7018
286	13911	ROYAL ARC ELECTRODES LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	
287	17813	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	CROWN-18
288	15082	ROYAL WELDING WIRES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	JACKSON 18H
289	17643	SUNDEEP ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUNDEEP 7018
290	15086	SRI RENGA ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUNSHINE - 18
291	18300	SUPERON SCHWEISSTECHNIK INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUPERCITO OERLICON E
292	17644	VARUN ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	PRIMA7018
293	18705	MODI HITECH INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	GM 18
294	18540	KOLLIPARA ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	KELARC-7018
295	18846	COSMOS ELECTRODES PVT., LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUPRA MAX-18
296	11881	FUSION ENGG. PRODUCTS LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	BASICOTE 6
297	18433	NUCOR WELD(INDIA)PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	EKNOWELD
298	13690	GEE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	
299	13693	RASI ELECTRODES LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	RASI 7018LH
300	16548	WELD EXCEL INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	EXCEL - 18----
301	10081	ESAB INDIA LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	ESAB-36H
302	11420	MODI ARC ELECTRODES CO.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	MODI 7018
303	15084	DWEKAM ELECTRODES LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	DK-18
304	15090	RAJ KESARI ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	SUPERLET - 18.
305	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	PRESSURE PARTS	ULTIMATE - 18----
306	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00 & 6.30MM	Manufacturer	E7018-1	PRESSURE PARTS	
307	11420	MODI ARC ELECTRODES CO.	DIA 2.50,3.15,4.00 & 5.00 & 6.30MM	Manufacturer	E7018-1	PRESSURE PARTS	MODI 7018 SPL
308	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00 & 6.30MM	Manufacturer	E7018-1	PRESSURE PARTS	
309	18432	VIJEY ELECTRODES AND WIRES PVT.	DIA 2.50, 3.15, 4.00 & 5.00 MM	Manufacturer	E7018-1	PRESSURE PARTS	VJ 7018-1
310	13211	D&H INDIA LIMITED	DIA 2.50,3.15 & 4.00MM	Manufacturer	E7018-1	PRESSURE PARTS	SUPER-LH(SPL)

311	11378	MAILAM INDIA LIMITED	DIA 2.50,3.15 & 4.00 MM	Manufacturer	E7018-1	PRESSURE PARTS	MAILARC-18PLUS
312	13690	GEE LIMITED,	DIA 2.50,3.15,4.00,5.00 & 6.30 MM	Manufacturer	E7018-1	PRESSURE PARTS	GEE SPL.
313	20130	ALCONIX CORPORATION	DIA 2.6,3.2,4.0 & 5.0MM	Foreign Agent	JIS Z3211 D4316	PRESSURE PARTS	
314	15089	WELDCRAFT PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MAXIDURE-7018
315	15091	MAGNA ENGINEERING	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MAGNARAC-LH
316	15102	SOLARC WELD RODS,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPRADYNE
317	17814	CALCUTTA ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SHIVATHERME-18
318	18432	VIJAY ELECTRODES AND WIRES PVT.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	VIJAY-7018
319	13542	SAITRON ENGINEERS PVT. LTD,	DIA. 2.50,3.15,4.00 & 5.0MM	Manufacturer	E7018	STRUCTURALS	SAITRON LH-7018
320	14429	ALPHA FLUX & ELETRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPER WELD 7018
321	19111	SPECTRA SUPER ALLOYS LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUDO 7018
322	13763	CLASSIC ELECTRODES (INDIA) LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	CLASSIC LH 7018
323	13487	MAGNARC ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MAGNAARCH LH
324	19305	MURLI ELECTRODE PVT. LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPERIAL LH E7018
325	19906	BAGHERWAL ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MONOTHERME
326	10667	EUREKA SYSTEMS AND ELECTRODES P.LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	EUTHERME LH
327	10758	ALPHA ARC PVT LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ALPHA 7018
328	13388	THE INDIAN SEEL & WIRE PRODUCTS LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ISWP SPARK 7018
329	10785	ADOR WELDING LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPABASE 7018
330	11380	MALU ELECTRODES PVT.LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MANGALAM E 7018
331	11528	RAAJRATNA ELECTRODES LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	RATNA 7018
332	12893	RUKHMANI ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	REPL 7018
333	15083	MARUTHI ELECTRODES (P) LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MARUTHI 7018
334	15084	DWEKAM ELECTRODES LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	DK-18
335	15085	VOLTARC ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00 MM	Manufacturer	E7018	STRUCTURALS	SPEEDARC E-7018
336	15086	SRI RENGHA ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00MM	Manufacturer	E7018	STRUCTURALS	SUNSHINE - 18
337	15090	RAJ KESARI ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPERLET - 18.
338	15833	THIRUMALA ELECTRODES CO.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SEVEN ARCS-18
339	16548	WELD EXCEL INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	EXCEL - 18----
340	17451	WELDWELL ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00 MM	Manufacturer	E7018	STRUCTURALS	WELDFAST LH 18
341	17643	SUNDEEP ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUNDEEP 7018
342	17644	VARUN ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	PRIMA7018
343	17813	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	CROWN-18
344	18300	SUPERON SCHWEISSTECHNIK INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPERCITO OERLICON E
345	18433	NUCOR WELD(INDIA)PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	EKNOWELD
346	18540	KOLLIPARA ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	KELARC-7018
347	18705	MODI HITECH INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	GM 18
348	18846	COSMOS ELECTRODES PVT., LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPRA MAX-18
349	10081	ESAB INDIA LTD	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ESAB-36H
350	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPRATHERME
351	11227	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ULTIMATE - 18----
352	11378	MAILAM INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MAIL ARC 18
353	11420	MODI ARC ELECTRODES CO.	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MODI 7018
354	11881	FUSION ENGG. PRODUCTS LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	BASICOTE 6
355	13211	D&H INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	SUPER LH
356	13690	GEE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	GRICON GREEN
357	13693	RASI ELECTRODES LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	RASI 7018LH
358	13906	MARUTI WELD PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ULTRA - 7018
359	13911	ROYAL ARC ELECTRODES LIMITED	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ROYAL THERM
360	14040	MANTEK ELECTRODS PRIVATE LTD,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	MANTEK LH 18
361	14575	WELD ALLOY PRODUCTS,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	WA 7018
362	14791	ANAND ARC LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	ANAND THERME

363	15082	ROYAL WELDING WIRES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	JACKSON 18H
364	15087	V.N.C.ELECTRODEES,	DIA 2.50,3.15,4.00 & 5.00	Manufacturer	E7018	STRUCTURALS	BESTARC-LH-18
365	14676	ITW INDIA LIMITED: WELDING GROUP.	DIA 1.2 & 1.6 MM	Indian Agent	E71T-1	PRESSURE PARTS	
366	91270	VEEPEES INDIA,	DIA.1.2 & 1.6MM	Indian Agent	E71T-1	PRESSURE PARTS	
367	21065	HYUNDAI WELDING CO. LTD.,	DIA.1.2 & 1.6MM	Manufacturer	E71T-1	PRESSURE PARTS	
368	20970	THE SHANGHAI LINCOLN ELECTRIC	DIA.1.2 & 1.6MM	Manufacturer	E71T-1	PRESSURE PARTS	
369	20047	KANEMATSU TRADING CORPORATION	DIA.1.2,1.4 & 1.6MM	Foreign Agent	E71T-1	PRESSURE PARTS	
370	20047	KANEMATSU TRADING CORPORATION	DIA.1.2 & 1.6MM	Foreign Agent	E309T0-1	PRESSURE PARTS	
371	20033	KISWEL LTD.,	FULL RANGE	Manufacturer	E309LMOT0-1 WCPI 508	PRESSURE PARTS	
372	20047	KANEMATSU TRADING CORPORATION	FULL RANGE	Foreign Agent	E309LMOT0-1 WCPI 508	PRESSURE PARTS	
373	20563	VOESTALPINE BOHLER WELDING	FULL RANGE	Manufacturer	E309LMOT0-1 WCPI 508	PRESSURE PARTS	THERMIT TG 309 MO
374	21411	METRODE PRODUCTS LIMITED,	SIZE DIA.1.20MM	Manufacturer	E551T1-B2C	PRESSURE PARTS	CORMET 1
375	21065	HYUNDAI WELDING CO. LTD.,	DIA.1.2 & 1.6MM	Manufacturer	E551T1-B2C	PRESSURE PARTS	
376	91270	VEEPEES INDIA,	DIA.1.2 & 1.6MM	Indian Agent	E551T1-B2C	PRESSURE PARTS	
377	20047	KANEMATSU TRADING CORPORATION	DIA.1.2,1.4 & 1.6MM	Foreign Agent	E551T1-B2C	PRESSURE PARTS	
378	20047	KANEMATSU TRADING CORPORATION	DIA.1.2 & 1.6MM	Foreign Agent	E91T1-B3	PRESSURE PARTS	
379	91270	VEEPEES INDIA,	DIA. 1.2 & 1.6MM	Indian Agent	E91T1-B3	PRESSURE PARTS	
380	14676	ITW INDIA LIMITED: WELDING GROUP.	DIA 1.2 & 1.6 MM	Indian Agent	ASME SECTIONII.C.SFA-5.20 E 71T - 1	PRESSURE PARTS	
381	91270	VEEPEES INDIA,	DIA.0.9,1.2 7 1.6MM	Indian Agent	ASME SECTIONII.C.SFA-5.20 E 71T - 1	PRESSURE PARTS	
382	21065	HYUNDAI WELDING CO. LTD.,	DIA.1.2 & 1.6MM	Manufacturer	ASME SECTIONII.C.SFA-5.20 E 71T - 1	PRESSURE PARTS	
383	10081	ESAB INDIA LTD	DIA.1.2 & 1.6MM	Manufacturer	ASME SECTIONII.C.SFA-5.20 E 71T - 1	PRESSURE PARTS	
384	20047	KANEMATSU TRADING CORPORATION	DIA.1.2,1.4 & 1.6MM	Foreign Agent	ASME SECTIONII.C.SFA-5.20 E 71T - 1	PRESSURE PARTS	
385	20970	THE SHANGHAI LINCOLN ELECTRIC	DIA.1.2 & 1.6MM	Manufacturer	ASME SECTIONII.C.SFA-5.20 E 71T - 1	PRESSURE PARTS	
386	14676	ITW INDIA LIMITED: WELDING GROUP.	DIA:1.6 MM	Indian Agent	ASME.SEC.II.C SFA-5.29 E551T1-B2C	PRESSURE PARTS	TWE-811B2
387	91270	VEEPEES INDIA,	DIA.1.6MM	Indian Agent	ASME.SEC.II.C SFA-5.29 E551T1-B2C	PRESSURE PARTS	K81TB2
388	20047	KANEMATSU TRADING CORPORATION	DIA.1.6 MM	Foreign Agent	ASME.SEC.II.C SFA-5.29 E551T1-B2C	PRESSURE PARTS	DW-81B2
389	20130	ALCONIX CORPORATION	FULL RANGE	Manufacturer	ECOCRA - WCPI 236	PRESSURE PARTS	
390	20018	KENAMETAL STELLITE	FULL RANGE	Manufacturer	ECOCRA - WCPI 236	PRESSURE PARTS	
391	20018	KENAMETAL STELLITE	DIA: 3.20 & 4.0 MM	Manufacturer	WCH05	PRESSURE PARTS	ECOCRE
392	20073	WEARTECH INTL INC	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	WCH05	PRESSURE PARTS	
393	21991	SPECIAL METALS WELDING PRODUCTS	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	ENICRFE3	PRESSURE PARTS	
394	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.5,3.2,4.0 & 5.0MM	Manufacturer	ENICRFE3	PRESSURE PARTS	
395	20563	VOESTALPINE BOHLER WELDING	DIA. 2.5, 3.2 & 4.0 MM	Manufacturer	ENICRFE3	PRESSURE PARTS	
396	21411	METRODE PRODUCTS LIMITED,	DIA:2.5, 3.2, 4.0 & 5.0 MM	Manufacturer	ASME:SEC.II.C.SFA-5.14,ENICRFE-7	PRESSURE PARTS	
397	21991	SPECIAL METALS WELDING PRODUCTS	DIA.2.4,3.2,4.0 & 4.8	Manufacturer	ASME:SEC.II.C.SFA-5.14,ENICRFE-7	PRESSURE PARTS	
398	22391	AIR-LIQUIDE WELDING FRANCE,	DIA: 2.5, 3.2 & 4.0 MM	Manufacturer	ASME:SEC.II.C.SFA-5.14,ENICRFE-7	PRESSURE PARTS	SUPERANEL 690
399	10081	ESAB INDIA LTD	DIA. 2.5, 3.15, 4.0 & 5.0MM	Manufacturer	E309-16	PRESSURE PARTS	
400	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	Manufacturer	E309-16	PRESSURE PARTS	
401	11420	MODI ARC ELECTRODES CO.	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E309-16	PRESSURE PARTS	SS 309
402	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	Manufacturer	E310-16	PRESSURE PARTS	
403	10081	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E310-16	PRESSURE PARTS	
404	10081	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E316-16	PRESSURE PARTS	
405	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	Manufacturer	E316-16	PRESSURE PARTS	
406	10081	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E316L-16	PRESSURE PARTS	
407	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	Manufacturer	E316L-16	PRESSURE PARTS	
408	11378	MAILAM INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E347-16	PRESSURE PARTS	
409	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	Manufacturer	E347-16	PRESSURE PARTS	
410	10081	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E347-16	PRESSURE PARTS	
411	11420	MODI ARC ELECTRODES CO.	DIA.2.5,3.15,4.0 & 5.0MM	Manufacturer	E347-16	PRESSURE PARTS	
412	22516	AB SANDVIK PROCESS SYSTEM,	DIA.2.0,2.5,3.25,4.0 & 5.0MM	Manufacturer	-----	STRUCTURALS	
413	22515	VOESTALPINE BOHLER WELDING NORDIC	DIA.2.5,3.25 & 4.0MM	Manufacturer	-----	PRESSURE PARTS	
414	10313	ZIRCAST LTD	FULL RANGE	Manufacturer	HAYNESS ALLOY 25 - WCPI113	PRESSURE PARTS	

415	13690	GEE LIMITED,	FULL RANGE	Indian Agent	HAYNESS ALLOY 25 - WCPI113	PRESSURE PARTS	
416	20073	WEARTECH INTL INC	FULL RANGE	Manufacturer	HAYNESS ALLOY 21 - WCPI-112	PRESSURE PARTS	
417	13690	GEE LIMITED,	FULL RANGE	Indian Agent	HAYNESS ALLOY 21 - WCPI-112	PRESSURE PARTS	
418	20073	WEARTECH INTL INC	FULL RANGE	Manufacturer	RCOCRA - WCPI 111	PRESSURE PARTS	
419	20018	KENNAMETAL STELLITE	FULL RANGE	Manufacturer	RCOCRA - WCPI 111	PRESSURE PARTS	
420	13690	GEE LIMITED,	FULL RANGE	Indian Agent	RCOCRA - WCPI 111	PRESSURE PARTS	
421	10313	ZIRCAST LTD	FULL RANGE	Manufacturer	RCOCRA - WCPI 111	PRESSURE PARTS	
422	20018	KENNAMETAL STELLITE	FULL RANGE	Manufacturer	COBALT BASED POWDER - WCPI 302	PRESSURE PARTS	
423	20073	WEARTECH INTL INC	NOT APPLICABLE	Manufacturer	COBALT BASED POWDER - WCPI 302	PRESSURE PARTS	WT-6
424	20130	ALCONIX CORPORATION	FULL RANGE	Foreign Agent	COBALT BASED POWDER - WCPI 302	PRESSURE PARTS	
425	20321	HOGANAS BELGIUM SA	NOT APPLICABLE	Manufacturer	COBALT BASED POWDER - WCPI 302	PRESSURE PARTS	
426	20067	VOESTALPINE BOHLER WELDING	FULL RANGE	Manufacturer	COBALT BASED POWDER - WCPI 302	PRESSURE PARTS	
427	16314	SUN WIRES.	DIA.2.50MM TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	SUN WIRES
428	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	AUTOTHERME GRADE A
429	19905	T.M.INDUSTRIES,	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	BRAND-TMI-1(S)
430	13486	A V WELDTECH PVT.LTD.,	DIA: 4.0 MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	AV 1
431	14791	ANAND ARC LTD.,	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	ANAND SAW - 1
432	15085	VOLTARC ELECTRODES (P) LTD,	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	SAW WIRE EL - 8
433	15084	DWEKAM ELECTRODES LTD,	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	MERGEARC GRADE A
434	13693	RASI ELECTRODES LTD.,	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	RASI EL 8
435	11528	RAAJRATNA ELECTRODES LTD	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	RAAJSAW - 1
436	15810	NOUVEAUX INDUSTRIES (P) LTD.,	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	NOUVAX
437	19114	WELMET TECHNOLOGIES PVT. LTD.,	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	WELMET WIRE EL8
438	14455	WIRE AND WIRE PRODUCTS	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	ESARC
439	16166	EVERSHINE WIRES	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	SHINE ARC
440	10785	ADOR WELDING LIMITED	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	AUTOMELT GR.A
441	13534	RUPA INDUSTRIES,	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	RUPA SAW-1
442	10081	ESAB INDIA LTD	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	OK AUTROD 12.08L
443	15101	PRECISION WELDARC LTD,	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	METASPOOLS1DIA4.00MM
444	11288	JAGSHAAN INDUSTRIES	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	JAG 1 A
445	13211	D&H INDIA LIMITED	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	SUPERMELT GR-A
446	17813	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	CROWN EL 8
447	14340	NALLI ARC INDUSTRIE,	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	NALLI SA -1
448	11378	MAILAM INDIA LIMITED	DIA.2.0 TO 5.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	MAILAM SAW 8
449	15100	MANTEK WIRES	DIA.2.4,3.2 & 4.0MM	Manufacturer	AWS A5.17 EL-8	STRUCTURALS	MANTEK GR.A
450	20047	KANEMATSU TRADING CORPORATION	DIA 3.2,4.0 & 4.8 MM	Foreign Agent	EB3	PRESSURE PARTS	
451	20563	VOESTALPINE BOHLER WELDING	DIA.3.2,4.0 & 4.8MM	Manufacturer	EB3	PRESSURE PARTS	
452	20033	KISWEL LTD.,	FULL RANGE	Manufacturer	ER430-WCPI013	PRESSURE PARTS	
453	10081	ESAB INDIA LTD	FULL RANGE	Trader	ER430-WCPI013	PRESSURE PARTS	
454	20047	KANEMATSU TRADING CORPORATION	FULL RANGE	Foreign Agent	ER430-WCPI013	PRESSURE PARTS	
455	20033	KISWEL LTD.,	FULL RANGE	Manufacturer	ER410 - WCPI012	PRESSURE PARTS	
456	20047	KANEMATSU TRADING CORPORATION	FULL RANGE	Foreign Agent	ER410 - WCPI012	PRESSURE PARTS	
457	20047	KANEMATSU TRADING CORPORATION	DIA 3.2,4.0 & 4.8 MM	Foreign Agent	EB2	PRESSURE PARTS	
458	20563	VOESTALPINE BOHLER WELDING	DIA.3.2,4.0 & 4.8MM	Manufacturer	EB2	PRESSURE PARTS	
459	20516	LINCOLN ELECTRIC FRANCE S.A.	DIA:2.0MM AND 4.0MM	Manufacturer	EB2	PRESSURE PARTS	LNS 150
460	20047	KANEMATSU TRADING CORPORATION	DIA.2.0,2.4,3.2,4.0 & 4.8MM	Foreign Agent	EG	PRESSURE PARTS	
461	20563	VOESTALPINE BOHLER WELDING	DIA.2.0,2.4,3.2,4.0 & 4.8MM	Manufacturer	EG	PRESSURE PARTS	
462	10081	ESAB INDIA LTD	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	EM12K	PRESSURE PARTS	
463	10774	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0 MM	Manufacturer	EM12K	PRESSURE PARTS	AUTOTHERME GRADE B
464	11378	MAILAM INDIA LIMITED	DIA.2.0 MM	Manufacturer	EM12K	PRESSURE PARTS	MAILAM SAW12
465	10785	ADOR WELDING LIMITED	DIA.2.0 MM	Manufacturer	EM12K	PRESSURE PARTS	AUTOMELT EM12K
466	14455	WIRE AND WIRE PRODUCTS	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	EM12K	PRESSURE PARTS	ESARK EM12K

467	15810	NOUVEAUX INDUSTRIES (P) LTD.,	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	EM12K	PRESSURE PARTS	NOUVAARC S2
468	20563	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM	Manufacturer	EM12K	PRESSURE PARTS	
469	20047	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0,2.4 & 3.2MM	Foreign Agent	EM12K	PRESSURE PARTS	KOBE STEEL LTD, JAPA
470	22391	AIR-LIQUIDE WELDING FRANCE,	DIA.2.4 & 3.2MM	Manufacturer	SFA 5.23 EB9	PRESSURE PARTS	
471	10081	ESAB INDIA LTD	DIA.2.5 & 3.2MM	Manufacturer	SFA 5.23 EB9	PRESSURE PARTS	
472	21411	METRODE PRODUCTS LIMITED,	DIA.2.4 & 3.2MM	Manufacturer	SFA 5.23 EB9	PRESSURE PARTS	
473	20563	VOESTALPINE BOHLER WELDING	DIA. 1.6, 2.5 & 3.0 MM	Manufacturer	SFA 5.23 EB9	PRESSURE PARTS	
474	20047	KANEMATSU TRADING CORPORATION	DIA.1.6,2.4 & 3.2 & 4.00MM	Foreign Agent	SFA 5.23 EB9	PRESSURE PARTS	



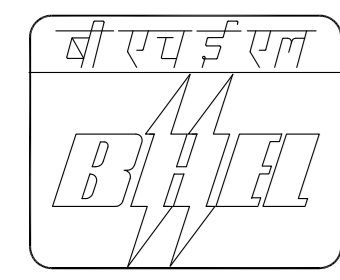
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-300	REV. NO. : 00
	SYSTEM : MAIN STEAM PIPING FROM SH. OUTLET TO MS STOP VALVE.	WELDING CODE : IBR / ASME
		PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	1-80-300-21024	SH OUTLET HEADER	SA335P92	660	120	TIG & ARC	120 \hat{U}	ER90S-B9	E9015B9				1057 REV 01	205	760 ±10	2.5 Mts PER mm min 30 min	100% UT & 100% MPI	*	*	100% HARDNESS
		MATCHING PIECE	SA182F91						2	450	100	160								
02	1-80-300-21024	PIPE PIPE BEND	SA335P91	ID380	66/72	TIG & ARC	66 \hat{U}	ER90S-B9	E9015B9				1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		MATCHING PIECE PIPE/VALVE	SA182F91 SA335P91/C12A						24	4008	960	1560								
03	1-80-300-21024	PIPE	SA335P91	88.9	15.24	TIG & ARC	15.24 \hat{U}	ER90S-B9	E9015B9				1036 REV 07	220	745 ±15	2.5 Mts PER mm min 30 min	100% RT	*	*	100% HARDNESS
		FORGING FITTING/VALVE	SA182F91 WP91/C12A						40	960	320	400								

NOTES:
 01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT.
 02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
 03. FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.
 04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 02.05.16	DRAWING NO. 4-80-300-79617	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-301	REV. NO. : 00
	SYSTEM : MAIN STEAM FROM BOILER STOP VALVE TO ESV	WELDING CODE : IBR / ASME
		PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-301-21041	VALVE/PIPE FORGING	C12A/SA335P91	ID350	60/65	TIG & ARC	60 \overline{U}	ER90S-B9	E9015B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		FORGING PIPE	SA182F91 SA335P91					75	14807	3416	5543								
02	1-80-301-21041	STEAM INLET TURBINE END	GX12CrMoVNbN9-1	663	136.5	TIG & ARC	136.5 \overline{U}	ER90S-B9	E9015B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		PIPE	SA182F91					2	342	100	160								
03	1-80-301-21041	THERMOWELL	AISI 316	63.5	13	TIG & ARC	13 \overline{V}	ER Ni Cr3	ENi Cr Fe3			1047 REV 01	220 ON P15E SIDE	750±20	2.5 Mts PER mm min 60min	100% RT	*	*	100% HARDNESS
		STUB	SA 182 F91					4	40	50	28								
04	1-80-301-21041	THERMO WELL STUB	AISI316	24	7	TIG & ARC	7 \overline{P} +6 \overline{D}	ER Ni Cr3	ENi Cr Fe3			1047 REV 01	220 ON P15E SIDE	750±20	2.5 Mts PER mm min 60min	100% RT	*	*	100% HARDNESS
		STUB	SA182F91					4	40	56	30								

NOTES:

01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT. 03. FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.
02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02 04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 02.05.16	DRAWING NO. 4-80-301-79646	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-303

SYSTEM : MS PIPING TO AUX PRDS

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
01	1-80-303-21160	PIPE FITTING	SA335P91 SA234WP91	219.1	34	TIG & ARC	34 √	ER90SB9	E9015B9				1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		PIPE FITTING/VALVE	SA335P91 SA234WP91/F91				17	1008	303	420	891									
02	1-80-303-21160	PIPE	SA335P22	457.2	9.53	TIG & ARC	9.53 √	ER90SB3	E9018-B3				1038 REV 04	220	750 ±20	2.5mtS PER mm minimum 60 min	RT 100%	*	*	100% HARDNESS
		VALVE	F91				1	150	34	53	-									
03	1-80-303-21160	PIPE	SA335P11	457.2	20	TIG & ARC	9.53 √	ER80SB2	E8018B2				1012 REV 04	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FITTING	SA234WP22				1	150	34	53	-									
04	1-80-303-21160	PIPE	SA335P11	457.2	20	TIG & ARC	9.53 √	ER70SA1	E7018A1				1033 REV 03	150	660±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FITTING	SA105				1	150	34	53	-									
05	1-80-303-21160	PIPE FITTING	SA106GRB SA234WPB	457.2	9.53	TIG & ARC	9.53 √	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB				7	1050	238	371	-									
06	1-80-303-21160	PIPE	SA106GRB	219.1	6.35	TIG & ARC	6.35 √	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PLATE	SA234WPB SA515GR70				2	142	74	-	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 26.04.16	DRAWING NO. 4-80-303-79960	REV. 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CUST. NO : 7266

REV. NO. : 00

CONTRACTOR : M/S BHEL

PGMA : 80-303

WELDING CODE : IBR / ASME

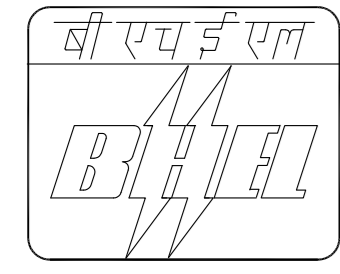
SYSTEM : MS PIPING TO AUX PRDS

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
07	1-80-303-21160	PIPE	SA335P22	457.2	9.53	TIG & ARC	9.53V	ER90SB3	E9018B3				1014 REV 03	150	700 ±20	2.5 Mts PER mm min 60 min	100% RT	*	*	3% HARDNESS
		FITTING	SA234WP22				1	150	34	53	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 26.04.16	DRAWING NO. 4-80-303-79960	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-304	REV. NO. : 00
	SYSTEM : HPBP UPSTREAM PIPING	WELDING CODE : IBR / ASME
		PAGE NO : 01 OF 01

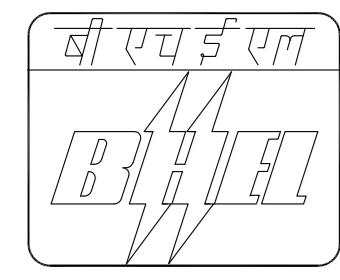
SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	1-80-304-21040	PIPE/FORGING TEE	SA234WP91	OD355.6	54	TIG & ARC	54 ∩	ER90S-B9	E9015B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS	
		PIPE	SA 335 P91				25	2460	680	1110	4750									

NOTES:

01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT. 03. FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.

02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02 04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 02.05.16	DRAWING NO. 4-80-304-79635	REV . 00
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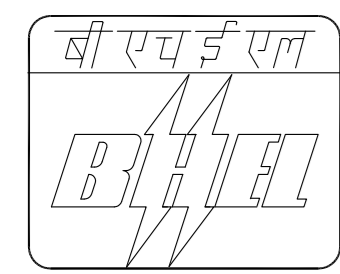
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-307	REV. NO. : 00
	SYSTEM : HP & LP BYPASS WARMUP	WELDING CODE : IBR / ASME
		PAGE NO : 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-307-21269	PIPE	SA335P91	60.3	12.5	TIG & ARC	12.5V	ER90SB9	E9015B9			1036 REV 07	220	745 ±15	2.5 Mts PER mm min 30 min	100% RT	*	*	100% HARDNESS
		PIPE/BEND VALVE	SA335P91 C12A				48	480	624	336	-								
02	1-80-307-21269	PIPE	SA335P91	60.3	5.54	TIG & ARC	5.54V	ER90SB9	E9015B9			1036 REV 07	220	745 ±15	2.5 Mts PER mm min 30 min	100% RT	*	*	100% HARDNESS
		PIPE/BEND VALVE	SA335P91 C12A				~40	520	400	-	-								
03	1-80-452-20075	PIPE	SA335P22	33.4	4.55	TIG & ARC	5D	-	E9018B3			1023 REV 00	10	745 ±35	1 HOUR PER 25 MM min 60 min	LPI/ MPI 100%	*	*	HARDNESS 3%
		FITTING	F22				~20	-	40										

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 19.09.16	DRAWING NO. 4-80-307-80208	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-310

SYSTEM : HRH PIPING

DOC.NO. : NA

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	Ø2.4	Ø2.5								
01	0-80-310-06981 0-80-310-06982	VALVE/PIPE FORGING	C12A/SA335P91 SA182F91	ID650	36/42	TIG & ARC	36 $\overline{\cup}$	ER90S-B9	E9015B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		FORGING PIPE	SA182F91 SA335P91					104	28600	5512	9048								
02	0-80-310-06981 0-80-310-06982	RH OUTLET HEADER	SA335P92	813	85	TIG & ARC	85 $\overline{\cup}$	ER90S-B9	E 9015 B9			1057 REV 01	205	760 ±10	2.5 Mts PER mm min 30 min	100% UT & 100% MPI	*	*	100% HARDNESS
		FITTING	SA335P91					2	560	110	180								
03	0-80-310-06981 0-80-310-06982	MATCHING PIECE (TURBINE END)	SA182F91	ID730	59.5	TIG & ARC	59.5 $\overline{\cup}$	ER90S-B9	E 9015 B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		TURBINE NOZZLE	GX12CrMoVNbN9-1					2	640	130	220								
04	0-80-310-06981 0-80-310-06982	THERMOWELL	AISI 316	63.5	13	TIG & ARC	13 $\overline{\cup}$	ER Ni Cr3	ENi Cr Fe3			1047 REV 01	220 ON P15E SIDE	750±20	2.5 Mts PER mm min 60min	100% RT	*	*	100% HARDNESS
		STUB	SA 182 F91					4	40	50	28								
05	0-80-310-06981 0-80-310-06982	THERMO WELL STUB	AISI316	24	7	TIG & ARC	7 $\overline{\cup}$ +6 Δ	ER Ni Cr3	ENi Cr Fe3			1047 REV 01	220 ON P15E SIDE	750±20	2.5 Mts PER mm min 60min	100% RT	*	*	100% HARDNESS
		STUB	SA182F91					40	56	30	-								

NOTES:

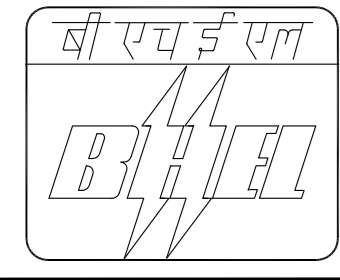
01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT.

02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

03. FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.

04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 02.05.16	DRAWING NO. 4-80-310-79675	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANALBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-312
 SYSTEM : LPBP PIPING

DOC.NO. : NA
 REV. NO. : 00
 WELDING CODE : IBR / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-312-21032	PIPE FITTING	SA335P91 SA234WP91	711	46	TIG & ARC	46 ∩	ER90S-B9	E 9015 B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		PIPE VALVE	SA335P91 SA182F91					47	13160	2491	4089								
02	1-80-312-21032	PIPE	SA691 2 1/4CR CL22	1118	28	TIG & ARC	28 ∩	ER90S-B3	E 9018 B3			1035 REV 04	220	730-770	2.5 Mts PER mm min 1hr	100% UT & 100% MPI	*	*	100% HARDNESS
		VALVE	SA182F91					2	760	168	276								
03	1-80-312-21032	PIPE	SA691 2 1/4CR CL22	1118	28	TIG & ARC	28 ∩	ER80S-B2	E 8018 B2			1012 REV 04	150	680 TO 720	2.5mts PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		CONDENSER	P11					2	760	168	276								
04	1-80-312-21032	THERMO WELL STUB	AISI321	30	7	TIG & ARC	7 P +6 ∩	ER Ni Cr3	ENi Cr Fe3			1047 REV 01	220 ON P15E SIDE	750±20	2.5 Mts PER mm min 60min	RT 100%	*	*	100% HARDNESS
		STUB	SA182F91					4	40	56	30								

NOTES:

01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT. 03. FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.
 02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02 04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 03.05.16	DRAWING NO. 4-80-312-79626	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANALBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-320

SYSTEM : CRH PIPING

DOC.NO. : NA

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4								
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0					
01	1-80-320-21048	TURBINE END	SA234WP22	914	47	TIG & ARC	47 ∩	ER90S-B3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FITTING	SA234WP22CL1					1	305	73	120								
02	1-80-321-21042	PIPE FITTING	SA335P22 SA234WP22	813	35	TIG & ARC	35 ∩	ER90S-B3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		PIPE FITTING	SA335P22 SA234WP22					6	1632	366	600								
03	1-80-321-21042	VALVE	P22 EQUIVALENT	813	35	TIG & ARC	35 ∩	ER80S-B2 E8018-B2				1012 REV 04	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FORGING	SA182F11					1	272	61	100								
04	1-80-321-21042	FORGING	SA182F11	965	34	TIG & ARC	34 ∩	ER70SA1 E7018-1				1033 REV 03	150	660±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	
		PIPE	SA106GRC					1	305	73	120								
05	1-80-321-21042	PIPE	SA335P22	323.9	28	TIG & ARC	28 ∩	ER90S-B3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FORGING PLATE	SA182F22 SA387GR22					2	206	50	80								
06	1-80-321-21042 0-80-320-06983	PIPE FITTING	SA106GRC SA234WPC	965	34	TIG & ARC	34 ∩	ER70SA1 E7018-1				1005 REV 05	100	635±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		PIPE FITTING	SA106GRC SA234WPC					29	8845	2117	3480								

NOTES:

01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT.

03.FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.

02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 12.09.16	DRAWING NO. 4-80-320-79645	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANALBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-320

SYSTEM : CRH PIPING

DOC.NO. : NA

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS		
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME						
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5	Ø3.2
07	0-80-320-06983	PIPE FITTING	SA106GRC	813	31	TIG & ARC	31 ∩	ER70SA1	E7018-1				1005 REV 05	100	635±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*		
		PIPE FITTING	SA234WPC					SA106GRC	SA234WPC	46	12512	2806									4600
08	0-80-320-06983	PIPE	SA106GRC	559	36	TIG & ARC	31 ∩	ER70SA1	E7018-1				1005 REV 05	100	635±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*		
		FITTING	SA234WPC					2	370	84	140	330									
09	1-80-321-21042	PIPE	SA106GRC	406.4	16	TIG & ARC	16 ∩	ER70SA1	E7018-1				1005 REV 05	100	635±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*		
		FITTING	SA234WPC					2	284	60	100	36									
10	1-80-321-21042	THERMOWELL	AISI 321	63.5	13	TIG ARC	13 ∩	ER Ni Cr3	E Ni Cr Fe3				1024 REV 01	150 ON P5A SIDE	700±20	2.5mtS PER mm minimum 60 min	RT 100%	LPI 100%	*	*	
		STUB	SA 182 F22 CL3					2	20	28	14	-									
11	0-80-320-06983	THERMOWELL	AISI 321	63.5	13	TIG & ARC	13 ∩	ER Ni Cr3	E Ni Cr Fe3				1025 REV 01	-	610±15	2.5mtS PER mm min 30mts	RT 100%	LPT 100%	*	*	
		STUB	SA 105					4	40	56	28	-									
12	1-80-321-21042	THERMOWELL	AISI 321	30	7	TIG ARC	7 ∩+ 6 Δ	ER Ni Cr3	E Ni Cr Fe3				1024 REV 01	150 ON P5A SIDE	700±20	2.5mtS PER mm minimum 60 min	RT 100%	LPI 100%	*	*	
		STUB	SA 182 F22 CL3					1	10	14	7	-									

NOTES:

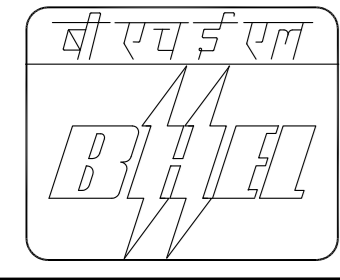
01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT.

03.FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.

02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 12.09.16	DRAWING NO. 4-80-320-79645	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANALBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-321

SYSTEM : HPBP DOWNSTREAM PIPING

DOC.NO. : NA

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-321-21042	PIPE	SA335P91	406.4	42	TIG & ARC	42 ∩	ER90S-B9	E9015-B9			1050 REV 05	220	755 ±15	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		VALVE	SA182F91					2	250	60	100								
02	1-80-321-21042	FITTING	SA234WP22	660	40	TIG & ARC	40 ∩	ER90S-B3	E9018-B3			1014 REV 03	150	680 TO 720	2.5mTS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		ORIFICE	P22 EQUIVALENT					4	825	248	231								
03	1-80-321-21042	PIPE FITTING	SA335P22	457.2	25	TIG & ARC	25 ∩	ER90S-B3	E9018-B3			1014 REV 03	150	680 TO 720	2.5mTS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		PIPE FITTING	SA234WP22					15	2025	510	840								
04	1-80-321-21042	PIPE	SA335P22	457.2	25	TIG & ARC	25 ∩	ER80S-B2	E8018-B2			1012 REV 04	150	680 TO 720	2.5mTS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FORGING	SA182F11					2	270	70	120								
05	1-80-321-21042	THERMOWELL	AISI321	63.5	13	TIG & ARC	13 ∩	ER Ni Cr3	E Ni Cr Fe3			1024 REV 01	150 ON P5A SIDE	700±20	2.5mTS PER mm minimum 60 min	RT 100%	*	*	100% HARDNESS
		STUB	SA182F22CL3					2	20	28	14								
06	1-80-321-21042	PIPE	SA335P91	406.4	42	TIG & ARC	42 ∩	ER90S-B3	E9018-B3			1035 REV 04	220	750 ±20	2.5 Mts PER mm min 60 min	100% UT & 100% MPI	*	*	100% HARDNESS
		FITTING	SA234WP22					2	250	60	100								

NOTES:

01. LPI / MPI ,UT WHEREVER APPLICABLE SHALL BE CARRIED AFTER PWHT.

02. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

03. FOR P91 WELDING "SITE WELDING PRACTICE 4-80-992-59237" TO BE FOLLOWED.

04. 3% HARDNESS CHECKING ON BUTT WELDS OF ALLOYSTEEL,OTHER THAN P91 & F91

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 11.08.16	DRAWING NO. 4-80-321-79643	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-322	WELDING CODE : IBR / ASME
	SYSTEM : COLD REHEAT PIPING TO DEAERATOR PEGGING	PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	Ø2.4	Ø2.5									Ø3.2
01	1-80-322-21158	FITTING PIPE	SA106GRC SA234WPC	406.4	16	TIG & ARC	16 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC				32	4544	960	1610	570									
02	1-80-322-21158	FITTING PIPE	SA106GRC SA234WPC	965	34	TIG & ARC	34 ∇	ER70SA1	E7018-1				1005 REV 05	150	635±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC				2	644	146	240	572									
03	1-80-322-21158	FITTING PIPE	SA106GRC SA234WPC	965	10	TIG & ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC				9	2871	657	1035	-									
04	1-80-322-21158	FITTING PIPE	SA106GRB SA234WPB	323.9	12.7	TIG & ARC	12.7 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE	SA106GRB SA234WPB				2	208	48	74	-									
05	1-80-322-21158	FITTING PIPE	SA106GRC SA234WPC	219.1	8.18	TIG & ARC	8.18 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE	SA106GRC SA234WPC				2	140	34	32	-									
06	1-80-322-21158	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13 ∇	ERNiCr3	ERNiCrFe3				1025 REV 01	-	610±15	2.5mtS PER mm min 30mts	RT 100% LPT 100%	*	*	
		TEMP STUB	SA 105				1	10	14	7	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.16	DRAWING NO. 4-80-322-79941	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-322

SYSTEM : COLD REHEAT PIPING TO
DEAERATOR PEGGING

REV. NO. : 00

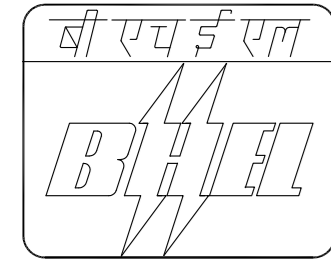
WELDING CODE : IBR / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	Ø2.4	Ø2.5								
07	1-80-322-21158	FITTING	SA234WPB	273	12.7	TIG & ARC	12.7 ∇	E7018-1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		VALVE	WC9				1	87	20	30	-								
08	1-80-322-21158	FITTING	SA105	508	20	TIG & ARC	20 ∇	E7018-1				1003 REV 03	-	-	-	RT 100%	*	*	
		VALVE	WC9				1	177	38	63	46								
09	1-80-322-21158	FITTING	SA105	660	22	TIG & ARC	22 ∇	E7018-1				1003 REV 03	-	-	-	RT 100%	*	*	
		FITTING	SA234WPB				1	233	50	83	162								
10	1-80-322-21158	FITTING	SA234WPB	762	9.53	TIG & ARC	9.53 ∇	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING	SA234WPB				1	251	63	99	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.16	DRAWING NO. 4-80-322-79941	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANALBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-323

SYSTEM : EXTRACTION STEAM PPG TO
BFPT A&B

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-323-21169	FITTING PIPE	SA234WPC SA106GRC	OD273	12.7	TIG& ARC	12.7 \hat{V}	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					33	3441	740	1221								
02	1-80-323-21169	VALVE	SA216WCC	OD273	12.7	TIG& ARC	12.7 \hat{V}	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					8	744	160	264								
03	1-80-323-21169	WN FLANGE	SA515GR70	OD273	12.7	TIG& ARC	12.7 \hat{V}	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					4	372	80	132								
04	1-80-323-21169	FITTING PIPE	SA234WPB SA106GRB	OD323.9	9.53/36	TIG& ARC	9.53 \hat{V}	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPB SA106GRB					16	1664	384	592								
05	1-80-323-21169	PIPE	SA106GRC	OD114.3	6.02	TIG& ARC	6.02 \hat{V}	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING	SA234WPB					8	216	168	-								
06	1-80-323-21169	BRANCH PIPE	SA106GRC	OD168.3	14.27	ARC	12 ∇	-	E7018-1			1021 REV 01	-	-	-	LPI/MPI 10%			
		FLANGE	SA515GR70					2	-	-	30								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 27.04.16	DRAWING NO. 4-80-323-79961	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CUST. NO : 7266

REV. NO. : 00

CONTRACTOR : M/S BHEL

PGMA : 80-324

WELDING CODE : IBR / ASME

SYSTEM : CRH PIPING TO AUX PRDS

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	1-80-324-21161	PIPE FITTING	SA106GRB SA234WPB	114.3	6.02	TIG & ARC	6.02 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB				27	675	540	--	--									
02	1-80-324-21161	PIPE	SA335P11	114.3	6.02	TIG & ARC	6.02 ∇	ER70SA1	E7018-1				1033 REV 03	150	610±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		VALVE	WCB				1	25	20	--	--									
03	1-80-324-21161	PIPE	SA335P11	114.3	6.02	TIG & ARC	6.02 ∇	ER80SB2	E8018B2				1012 REV 04	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		VALVE	WC9				1	25	20	--	--									
04	1-80-324-21161	VALVE	WC9	114.3	6.02	TIG & ARC	6.02 ∇	ER90SB3	E9018B3				1013 REV 02	150	-	-	RT 100%	*	*	3% HARDNESS
		FITTING	SA234WP22				1	25	20	--	--									
05	1-80-324-21161	PIPE	SA335P11	219.1	12.7	TIG & ARC	12.7 ∇	ER80SB2	E8018B2				1012 REV 04	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		FITTING	SA234WP22				1	67	17	25	8									
06	1-80-324-21161	PIPE	SA335P11	219.1	12.7	TIG & ARC	12.7 ∇	ER70SA1	E7018-1				1033 REV 03	150	610±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		VALVE	WCB				1	67	17	25	8									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 26.04.16	DRAWING NO. 4-80-324-79959	REV. 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CUST. NO : 7266

REV. NO. : 00

CONTRACTOR : M/S BHEL

PGMA : 80-324

WELDING CODE : IBR / ASME

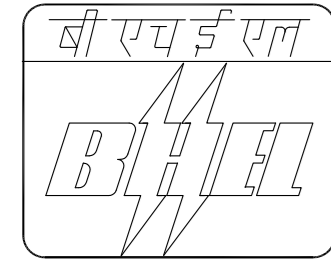
SYSTEM : CRH PIPING TO AUX PRDS

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
07	1-80-324-21161	PIPE	SA106GRB	219.1	12.7	TIG & ARC	12.7 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		VALVE FITTING	WCB SA234WPC					2	134	34	50	16								
08	1-80-324-21161	PIPE FITTING	SA106GRB SA234WPB	219.1	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB					19	1349	703	--	--								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 26.04.16	DRAWING NO. 4-80-324-79959	REV. 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-329

SYSTEM : EXTRACTION STEAM PPG TO
BFPT A&B

REV. NO. : 00

WELDING CODE : IBR / ASME

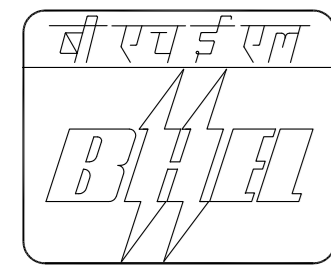
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-329-21173	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB	508	12.7	TIG& ARC	12.7 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPB SA106GRB					14	2338	532	882								
02	1-80-329-21173	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB	406.4	9.53	TIG& ARC	9.53 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPB SA106GRB					45	5940	1350	2115								
03	1-80-329-21173	FITTING PIPE	SA234WPB SA106GRB	273	9.27	TIG& ARC	9.27 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPB SA106GRB					28	2436	560	840								
04	1-80-329-21173	NOZLLE	GRB EQUIVALENT	273	9.27	TIG& ARC	9.27 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA106GRB					4	348	80	120								
05	1-80-329-21173	PLATE PIPE	SA515GR70 SA106GRC	219.1	6.35	TIG& ARC	6.35 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA106GRB					6	426	222	-								
06	1-80-329-21173	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13.0 \hat{V}	ERNiCr3	ERNiCrFe3			1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LP1100%	*	*	
		TEMP STUB	SA 105					2	20	28	14								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02

02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-329-79965	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-332

SYSTEM : EXTRACTION STEAM PIPING TO
LOW PRESSURE HEATER-3

REV. NO. : 00

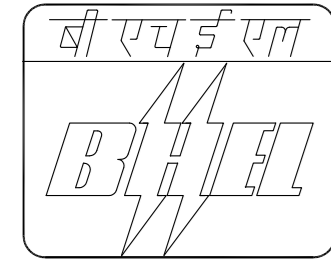
WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	QTY(NOS.)									
01	1-80-332-21155	FITTING PIPE	SA672GRB70 SA234WPC	610	10	TIG& ARC	10∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE/VALVE	SA672GRB70 SA234WPC/WCC						22	4502	902	1412								
02	1-80-332-21155	FITTING PIPE	SA672GRB70 SA234WPC	813	10	TIG& ARC	10∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE/VALVE	SA672GRB70 SA234WPC/WCC						12	3216	725	1158								
03	1-80-332-21155	PIPE	SA106GRB	273	6.35	TIG& ARC	6.35∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE SA515GR70	SA106GRB SA515GR70						2	223	44	20								
04	1-80-332-21155	PIPE	SA106GRB	219.1	6.35	TIG& ARC	6.35∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE SA515GR70	SA106GRB SA515GR70						4	355	163	-								
05	1-80-332-21155	THERMOWELL	ANSI321	30	13	TIG & ARC	10∇ + 6Δ	ERNiCr3	ERNiCrFe3				1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		TEMP STUB	SA 105						2	20	28	14								
06	1-80-332-21155	FITTING	SA234WPB	914	10	TIG& ARC	10∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		NOZZLE	SA515GR70						1	302	84	132								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-332-77883	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-334

SYSTEM : EXTRACTION PPG TO LPH#04

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-334-21031	PIPE FITTING	SA106GRB	508	12.7	TIG & ARC	12.7 ∇	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA234WPB					SA106GRB	SA234WPB/WCB	33	2100								
02	1-80-334-21031	FITTING	SA234WPB	610	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		TURBINE NOZZ	SA106GRB					1	270	60	27								
03	1-80-334-21031	FITTING	SA234WPB	559	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*		
		LPH NOZZLE	SA106GRB					1	270	60	27								
04	1-80-334-21031	PIPE	SA106GRB	219.1	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		PLATE FITTING	SA515GR70					4	284	148	--								
05	1-80-334-21031	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13.0 ∇	ERN1Cr3	ERN1CrFe3			1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		TEMP STUB	SA 105					3	30	42	21								
06	1-80-334-21031	THERMOWELL	AISI 321	24	17	TIG & ARC	17∇+6∇	ERNI Cr3	ENI Cr Fe3			1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		STUB	SA 105					1	5	7	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 11.05.16	DRAWING NO. 4-80-334-79981	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-335

SYSTEM : EXTRACTION STEAM PPG TO
DEAERATOR

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY	QTY(gms)			QTY(NOS.)	TEMP. °C					HOLD TIME
								TIG	ARC SPEC.											
01	1-80-335-21195	TURBINE NOZZLE	16Mo3	610	10	TIG& ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA672GRB70				1	201	46	72	-									
02	1-80-335-21195	PIPE FITTING	SA672GRB70 SA234WPB	610	10	TIG& ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA672GRB70 SA234WPB				8	804	368	576	-									
03	1-80-335-21195	PIPE FITTING	SA106GRB SA234WPB	508	12.7	TIG& ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA106GRB SA234WPB				32	5280	184	2016	576									
04	1-80-335-21195	PIPE FITTING	SA672GRB70 SA234WPB	660	10	TIG& ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA672GRB70 SA234WPB				6	1326	300	400	-									
05	1-80-335-21195	BRANCH PIPE FITTING	SA672GRB70 SA234WPB	219.1	6.35	TIG& ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA106GRB				4	284	148	-	-									
06	1-80-335-21195	FITTING	SA234WPB	762	10	TIG& ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING	SA234WPB				1	251	57	90	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-335-79977	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-335

SYSTEM : EXTRACTION STEAM PPG TO DEAERATOR

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
07	1-80-335-21195	PIPE FITTING/NOZZ	SA672GRB70 SA234WPB/SA106GrB	965	10	TIG & ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA672GRB70 SA234WPB				5	1600	365	580	-									
08	1-80-335-21195	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13.0 ∇	ERNiCr3	ERNiCrFe3				1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		TEMP STUB	SA 105				4	30	42	21	-									
09	1-80-335-21195	THERMOWELL	AISI 321	30	10	TIG & ARC	6∇ + 6∇	ERNiCr3	ENI Cr Fe3				1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		STUB	SA 105				1	5	7	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-335-79977	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-336

SYSTEM : EXTRACTION STEAM PPG TO
HIGH PRESSURE HEATER 6A & 6B

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
01	1-80-336-21030	NOZZLE	13CRMo4-5	457	9.53	TIG & ARC	9.53 ∇	ER80S-B2	E8018-B2				1012 REV 04	150	680 - 720°	2.5 Mts PER mm 60 min	RT 100%	*	*	3% HARDNESS
		FITTING	SA234WP22				1	150	34	53	-									
02	1-80-336-21030	FITTING PIPE	SA234WP22 SA335P22	323.9	9.53	TIG & ARC	9.53 ∇	ER90SB3	E9018-B3				1014 REV 03	150	680 -720	2.5 Mts PER mm 60 min	RT 100%	*	*	3% HARDNESS
		FITTING PIPE/VALVE	SA234WP22 SA335P22/WC9				32	3328	768	1184	-									
03	1-80-336-21030	FITTING PIPE	SA234WP22 SA335P22	273	9.27	TIG & ARC	9.27 ∇	ER90SB3	E9018-B3				1014 REV 03	150	680 -720	2.5 Mts PER mm 60 min	RT 100%	*	*	3% HARDNESS
		FITTING PIPE	SA234WP22 SA335P22				20	1740	400	600	-									
04	1-80-336-21030	NOZZLE	SA182F11	273	9.27	TIG & ARC	9.27 ∇	ER80S-B2	E8018-B2				1012 REV 04	150	680 - 720°	2.5 Mts PER mm 60 min	RT 100%	*	*	3% HARDNESS
		FITTING	SA234WP22				2	180	40	60	-									
05	1-80-336-21030	PIPE	SA335P22	168.3	7.11	TIG & ARC	7.11 ∇	ER90SB3	E9018B3				1013 REV 02	150	-	-	RT 100%	*	*	3% HARDNESS
		FITTING PLATE	SA234WP22 SA387GR22				4	212	60	36	-									
06	1-80-336-21030	THERMOWELL	AISI321	63.5	13	TIG & ARC	13 ∇	ERNI Cr3	ENI Cr Fe2				1024 REV 01	150 ON P5 SIDE	680 TO 720	1 HOUR PER 25mm 60 min	RT100% LPI100%	*	*	
		STUB	SA182F22CL3				1	10	14	7	-									

NOTES:
01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 23.08.16	DRAWING NO. 4-80-336-79948	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-336

SYSTEM : EXTRACTION STEAM PPG TO
HIGH PRESSURE HEATER 6A & 6B

REV. NO. : 00

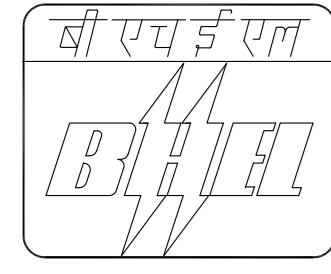
WELDING CODE : IBR / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
07	1-80-336-21030	THERMOWELL	AISI321	30	7	TIG & ARC	7 ∇	ERNI Cr3	ENI Cr Fe2				1024 REV 01	150 ON P5 SIDE	680 TO 720	1 HOUR PER 25mm 60 min	RT100% LPI100%	*	*	
		STUB	SA182F22CL3				1	10	14	7	-									
08	1-80-336-21030	PIPE	SA106GRB	273	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPB SA106GRB				40	3600	800	320	-									
09	1-80-336-21030	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13.0 ∇	ERNiCr3	ERNiCrFe3				1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		TEMP STUB	SA 105				4	30	42	21	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 23.08.16	DRAWING NO. 4-80-336-79948	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-337

SYSTEM : EXTRACTION STEAM PPG FROM
CRH TO HPH 7A & 7B

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	QTY	QTY								
01	1-80-337-21171	FITTING PIPE	SA234WPC SA106GRC	406	16	TIG& ARC	16 √	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					6	792	180	282								
02	1-80-337-21171	FITTING PIPE	SA234WPC SA106GRC	323.9	12.7	TIG& ARC	12.7√	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					38	3914	912	2090								
03	1-80-337-21171	HPH NOZZLE	SA350LF2CL1	273	12.7	TIG& ARC	12.7√	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING	SA234WPC					2	206	48	110								
04	1-80-337-21171	PIPE	SA106GRC	114.3	6.02	TIG& ARC	6.02√	ER70SA1	E7018-1			1003 REV 03	10	-	-	RT 10%	*	*	
		FITTING	SA234WPC					4	104	80	-								
05	1-80-337-21171	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13 √	ERN1Cr3	ERN1CrFe3			1025 REV 01	-	610±15	2.5mtS PER mm min 30mts	RT 100% LPT 100%	*	*	
		TEMP STUB	SA 105					4	40	56	28								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 28.04.16	DRAWING NO. 4-80-337-79963	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7216

PGMA : 80-338

SYSTEM : EXTRACTION STEAM PPG FROM
TO HIGH PRESSURE HEATER
8A & 8B

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
01	1-80-338-21170	NOZZLE (HPH-8)	SA182F11	168.3	10.97	TIG& ARC	10.97 ∇	ER70S-A1	E7018-1				1033 REV 04	150°C	660°C ±10°	2.5mtS PER mm minimum 60 min	RT 100%	*	*	3% HARDNESS
		ELBOW	SA234WPC					2	102	30	46	-								
02	1-80-338-21170	FITTING PIPE	SA234WPC SA106GRC	168.3	10.97	TIG& ARC	10.97 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC					36	1836	540	828	-								
03	1-80-338-21170	FITTING PIPE	SA234WPC SA106GRC	219.1	12.7	TIG& ARC	12.7 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC					32	2144	544	800	256								
04	1-80-338-21170	PIPE	SA106GRC	114.3	13.49	TIG& ARC	8.56 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING	SA234WPC					8	272	88	120	-								
05	1-80-338-21170	ELBOW	SA234WPC	168.3	10.97	TIG& ARC	10.97 ∇	ER70SA1	E7018-1				1003 REV03 WT-412	-	-	-	RT 10%	*	*	
		NOZZLE	SA182F22					2	102	30	46	-								
06	1-80-338-21170	THERMOWELL	ANSI321	63.5	13	TIG & ARC	13.0 ∇	ERNiCr3	ERNiCrFe3				1025 REV 01	-	610 ±15	2.5mtS PER mm minimum 30 min	RT100% LPI100%	*	*	
		TEMP STUB	SA 105					6	60	84	42	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-338-79962	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7216

PGMA : 80-338

SYSTEM : EXTRACTION STEAM PPG FROM
TO HIGH PRESSURE HEATER
8A & 8B

REV. NO. : 00

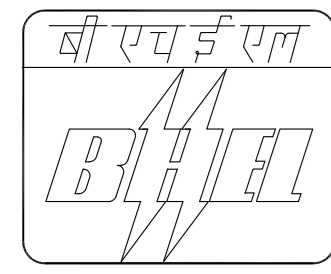
WELDING CODE : IBR / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	ARC SPEC. QTY(NOS.)										
07	1-80-338-21170	THERMOWELL	AISI 321	30	10	TIG & ARC	6μ + 6Δ	ERNi Cr3	ENi Cr Fe3			1025 REV 01	-	610±15	2.5mtS PER mm min 30mts	RT 100% LPT 100%	*	*	
		STUB	SA 105					1	5	7	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-338-79962	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI (1X800MW)

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-339

SYSTEM : AUX. STEAM TO TURBO
DRIVEN BOILER FEED PUMP

REV. NO. : 00

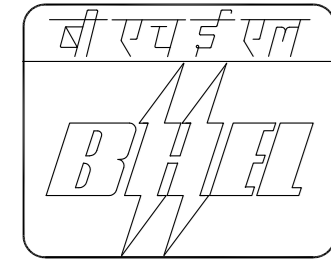
WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	2-80-339-14015	FITTING PIPE	SA234WPB SA106GRB	219.1	6.35	TIG& ARC	6.35 √	ER70SA1	E7018-1			1003 REV 03	10	-	-	10% RT	*	*	
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB					32	2201	1147	-								
02	2-80-339-14015	PIPE	SA106GRC	219.1	12.7	TIG& ARC	12.7 √	ER70SA1	E7018-1			1003 REV 03	10	-	-	10% RT	*	*	
		FITTING/ VALVE	SA234WPC/ WCC					4	288	68	100								
03	2-80-339-14015	PIPE	SA106GRB	114.3	6.02	TIG& ARC	6.02 √	ER70SA1	E7018-1			1003 REV 03	10	-	-	10% RT	*	*	
		FITTING	SA234WPB					2	54	42	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 22.04.16	DRAWING NO. 4-80-339-79940	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-340
 SYSTEM : AUX STEAM HEADER

REV. NO. : 00
 WELDING CODE : IBR / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	1-80-340-21159	PIPE FITTING	SA106GRB SA234WPB	457.2	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB					14	2100	476	742	--								
02	1-80-340-21159	PIPE FITTING	SA106GRB SA234WPB	273	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING	SA106GRB SA234WPB					3	270	60	27	--								
03	1-80-340-21159	PIPE	SA106GRB	219.1	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PLATE FITTING	SA515GR70 SA234WPB					4	284	148	--	--								
04	1-80-340-21159	PIPE	SA106GRB	114.3	6.02	TIG & ARC	6.02 ∇	ER70SA1	E7018-1				1003 REV 03	10	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB					8	208	160	--	--								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED VIGNESH KUMAR	DESIGN/CHD. KONDAPA NAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 26.04.16	DRAWING NO. 4-80-340-79943	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-345	WELDING CODE : IBR / ASME
	SYSTEM : AUXILIARY STEAM TO DEAERATOR	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS			
				SIZE OD mm	THICK mm			ARC SPEC.		QTY	Ø2.4			Ø2.5	Ø3.2					Ø4.0	TEMP. °C	HOLD TIME
								TIG	ARC SPEC.													
				PART-1	PART-1																	
01	1-80-345-21163	FITTING PIPE	SA234WPB SA106GRB	273	6.35	TIG & ARC	6.35∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*				
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB					35	3150	700	350									-		
02	1-80-345-21163	PIPE FITTING	SA672GRB70 SA234WPB	508	12.7	TIG & ARC	12.7∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*				
		PIPE FITTING/VALVE	SA672GRB70 SA234WPB/WCB					18	2970	684	1134									324		
03	1-80-345-21163	PIPE FITTING	SA106GRB SA234WPB	168.3	7.11	TIG & ARC	7.11∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*				
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB					18	660	260	140									-		
04	1-80-345-21163	PIPE FITTING	SA106GRB SA234WPB	406.4	9.53	TIG & ARC	9.53∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*				
		PIPE/NOZZLE FITTING	SA106GRB SA234WPB					2	264	60	60									-		
05	1-80-345-21163	PIPE	SA106GRB	219.1	6.35	TIG & ARC	6.35∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*				
		BRANCH/PLATE	SA106GRC SA515GR70					2	142	74	-									-		
06	1-80-345-21163	PIPE	SA106GRB	114.3	6.02	TIG & ARC	6.02∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*				
		FITTING	SA234WPB					2	52	40	-									-		

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-345-79995	REV . 00
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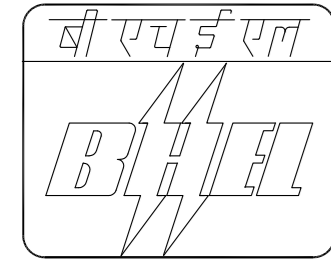
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-345	WELDING CODE : IBR / ASME
	SYSTEM : AUXILIARY STEAM TO DEAERATOR	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
07	1-80-345-21163	VALVE(ASV-8)	WC9	273	6.35	TIG& ARC	6.35√	ER70SA1	E7018-1				WT412 REV00	10% RT	*	*			
		PIPE	SA106GRB					35	90	20	9	-							
08	1-80-345-21163	VALVE(ASV-8)	WC9	508	12.7	TIG& ARC	12.7√	ER70SA1	E7018-1				WT412 REV00	100% RT	*	*			
		FITTING	SA234WPB					18	165	38	63	18							

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-345-79995	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-349

SYSTEM : AUX STEAM TO TURBINE
GLAND SEALING

REV. NO. : 00

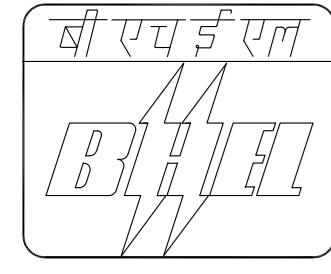
WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-349-21162	PIPE FITTING	SA106GRB SA234WPB	OD88.9	5.49	TIG& ARC	5.49√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB					30	600	450	-								
02	1-80-349-21162	PIPE	SA106GRB	OD48.3	5.08	TIG& ARC	5.08√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB					~12	120	96	-								
03	1-80-349-21162	PIPE	SA106GRB	OD48.3	5.08	ARC	5∇	ER70SA1	E7018-1			1021 REV 01	-	-	-	LPI/MPI 10%	*	*	
		FITTING	SA105					~30	-	100	-								
04	1-80-349-21162	PIPE	SA106GRB	OD33.4	4.55	TIG& ARC	4.55√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB					~12	84	60	-								
05	1-80-349-21162	PIPE	SA106GRB	OD33.4	4.55	ARC	5∇	-	E7018-1			1021 REV 01	-	-	-	LPI/MPI 10%	*	*	
		FITTING	SA105					~30	-	35	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 09.03.16	DRAWING NO. 4-80-349-80170	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI (1X800MW)

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-363

SYSTEM : EXHAUST STEAM FROM PRIME MOVERS

REV. NO. : 00

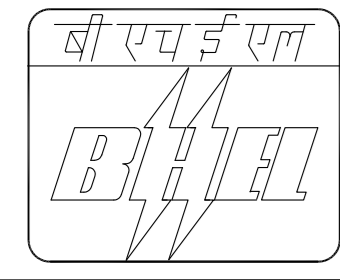
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-363-21194	FITTING PIPE	SA106GRB SA234WPB	60.3	5.54	TIG& ARC	5.54√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					40	520	400	-								
02	1-80-363-21192	PIPE	SA515GR70	2032	16	TIG& ARC	16 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING	SA515GR70					28	20636	4368	7168								
03	1-80-363-21194	FITTING PIPE	SA106GRB SA234WPB	168.3	7.11	TIG& ARC	7.11 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					12	640	180	110								
04	1-80-363-21193	FITTING PIPE	SA106GRB SA234WPB	323.9	9.53	TIG& ARC	9.53√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					36	3744	864	1332								
05	1-80-363-21194	FITTING	SA234WPB	114.3	6.02	TIG& ARC	6.02√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING	SA234WPB					2	54	42	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED R.P.SINGH	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 10.05.2016	DRAWING NO. 4-80-363-79976	REV . 00
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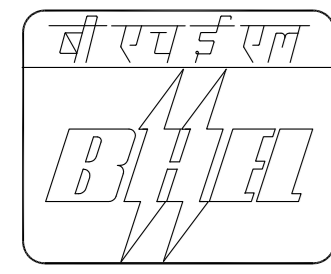
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-370	REV. NO. : 00
	SYSTEM : HP DRAIN FLASH TANK VENT TO ATMOSPHERE	WELDING CODE : - / ASME
		PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-370-21211	PIPE	SA515GR70	1870	20	TIG & ARC	20 \sqrt{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/NOZZLE MITRE BEND	SA515GR70					17	11133	2387	3920								
02	1-80-370-21211	PIPE	SA106GRB	273	9.27	TIG & ARC	9.27 \sqrt{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	GRB/WPB					13	1170	260	390								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA C.HARITHA	DATE 03.08.16	DRAWING NO. 4-80-370-80013	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBIRI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7216

PGMA : 80-371

SYSTEM : UNIT FLASH TANK VENT

REV. NO. : 00

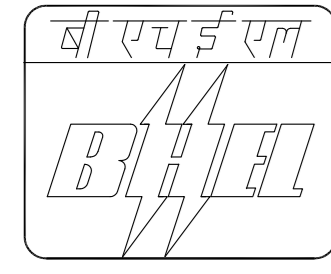
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	2-80-371-14081	FITTING PIPE	SA234WPB SA106GRB	508	12.7	TIG& ARC	12.7 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/NOZZLE	SA234WPB SA106GRB SA516GR60				8	1320	320	520	144									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.03.16	DRAWING NO. 4-80-371-80124	REV . 00
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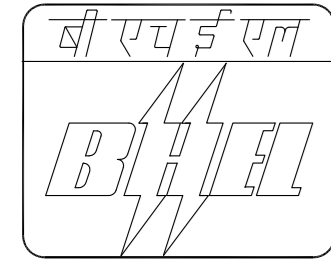
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI (1X800MW) CONTRACTOR : M/S BHEL	CUST. NO : 7266 PGMA : 80-373 SYSTEM : AUX STEAM HDR SV EXHAUST PIPING	DOC.NO. : - REV. NO. : 00 WELDING CODE : - / ASME PAGE NO : 01 OF 01
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SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-373-21168	PIPE	SA106GRB	273	6.35	TIG & ARC	6.35V	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING	WPB					8	900	220	120								
02	1-80-373-21168	PIPE	SA106GRB	355.6	9.53	TIG & ARC	9.53V	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		FITTING	WPB					16	2300	475	722								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED R.P.SINGH	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA	DATE 07.05.2016	DRAWING NO. 4-80-373-79975	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-375

SYSTEM : LP HEATERS SAFETY VALVE
DISCHARGE TO LP FLASH PIPE

REV. NO. : 00

WELDING CODE : - / ASME

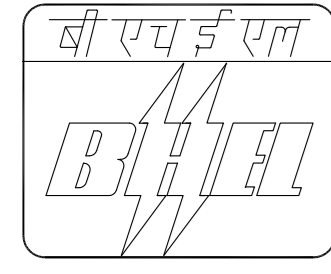
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	2-80-375-14080	PIPE FITTING	SA106GRB SA234WPB	219.1	6.35	TIG& ARC	6.35√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					33	2343	1221	-	-								
02	2-80-375-14080	PIPE	SA106GRB	168.3	7.11	TIG& ARC	7.11√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING	SA234WPB					2	106	30	18	-								
03	2-80-375-14080	PIPE	SA106GRB	168.3	7.11	ARC	7△ 8△	ER70SA1	E7018-1				1022 REV 01	-	-	-	LPI/MPI 10%	*	*	
		FLANGE	SA515GR70					2	-	50	-	-								

NOTES:

- 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
- 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-375-80122	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-379

SYSTEM : HP HEATERS SAFETY VALVE
DISCHARGE TO HP FLASH PIPE

REV. NO. : 00

WELDING CODE : - / ASME

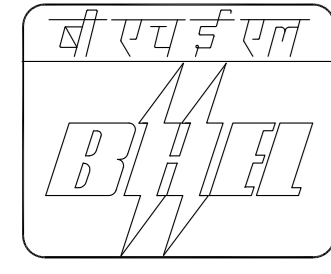
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-379-21042	PIPE FITTING	SA106GRB SA234WPB	168.3	7.11	TIG& ARC	7.11∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					100	5300	1497	898								
02	1-80-379-21042	PIPE	SA106GRB	114.3	6.02	ARC	6∇ 7∇	ER70SA1	E7018-1			1022 REV 01	-	-	-	LPI/MPI 10%	*	*	
		FLANGE	SA515GR70					6	-	80	-								

NOTES:

- 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
- 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 24.08.16	DRAWING NO. 4-80-379-80323	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

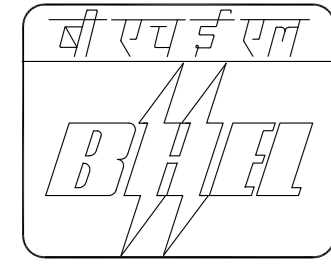
CUST. NO : 7266
 PGMA : 80-381
 SYSTEM : HP HEATERS VENTS

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	--	PIPE	SA106GRB	60.3	5.54	ARC	6Δ	--	E7018-1			1022 REV 01	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105					~126	--	473	-								
02	--	PIPE	SA106GRB	33.4	4.55	ARC	5Δ	--	E7018-1			1022 REV 01	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105					~25	--	33	-								
03	--	PIPE	SA106GRB	33.4	4.55	TIG& ARC	4.55∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB				~20	146	105	-	-								
04	--	PIPE	SA106GRB	60.3	5.54	TIG& ARC	5.54∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB				~75	975	750	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-381-80442	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-382

SYSTEM : AIR EXTRACTION FROM LP HEATERS
TO CONDENSER

REV. NO. : 00

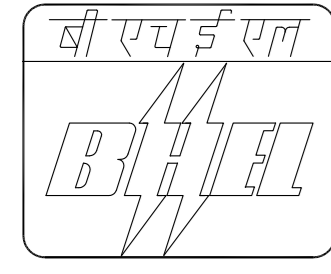
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	1-80-382-21270	FITTING PIPE	SA234WPB SA106GRB	OD114.3	6.02	TIG& ARC	6.02√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB					67	1586	1220	-	-								
02	1-80-382-21270	FITTING PIPE	SA234WPB SA106GRB	OD168.3	7.11	TIG& ARC	7.11√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					52	2756	792	476	-								
03	1-80-382-21270	PIPE	SA106GRB	OD88.9	5.49	TIG& ARC	5.49√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		NOZZLE(COND)	GRB EQUIVALENT					4	80	60	-	-								
04	1-80-382-21270	BEND PIPE	SA106GRB SA106GRB	OD33.4	4.55	TIG& ARC	4.55√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		BEND PIPE	SA106GRB SA106GRB					~20	130	100	-	-								
05	1-80-382-21270	PIPE	SA106GRB	OD33.4	4.55	ARC	5∇	-	E7018-1				1022 REV 01	-	-	-	LPI/MPI 10%	*	*	
		SW STUB	SA105					6	-	33	-	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.09.16	DRAWING NO. 4-80-382-80370	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

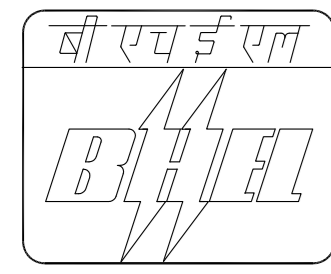
CUST. NO : 7266
 PGMA : 80-385
 SYSTEM : SAFETY VALVE ESCAPE PIPING
 FROM EXTRACTION LINE TO
 BFPT

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-385-21172 2-80-385-14327	FITTING PIPE	SA234WPB SA106GRB	355.6	9.53	TIG& ARC	9.53 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					43	4472	1032	1591								
02	1-80-385-21172	FITTING PIPE	SA234WPB SA106GRB	273	6.35	TIG& ARC	6.35 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					4	360	80	36								
03	2-80-385-14327	FITTING PIPE	SA234WPB SA106GRB	60.3	5.54	TIG& ARC	5.54 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					6	78	60	-								

NOTES:
 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-385-79996	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-388

SYSTEM : CONDENSER AIR EVACUATION PIPING

REV. NO. : 00

WELDING CODE : - / ASME

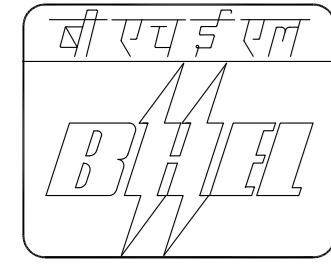
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-388-21430	FITTING PIPE	SA234WPB SA106GRB	219.1	6.35	TIG& ARC	6.35 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB					60	5325	2442	-								
02	1-80-388-21430	FITTING PIPE	SA234WPB SA106GRB	323.9	9.53	TIG& ARC	9.53 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB					25	3250	660	1018								
03	1-80-388-21430	FITTING PIPE	SA234WPB SA106GRB	273	6.35	TIG& ARC	6.35 \hat{V}	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCB					50	5563	1100	495								

NOTES:

- 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
- 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 19.09.16	DRAWING NO. 4-80-388-80409	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-400
 SYSTEM : CONDENSATE SUCTION PIPING

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	1-80-400-19950	FITTING PIPE	SA106GRB SA234WPB	355.6	9.53	TIG& ARC	9.53√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					20	2875	594	902	-								
02	1-80-400-19950	FITTING PIPE	SA672GRB70 SA234WPB	660	10	TIG& ARC	10√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA672GRB70 SA234WPB					23	2444	505	767	-								
03	1-80-400-19950	FITTING PIPE	SA672GRB70 SA234WPB	559	10	TIG& ARC	10√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/WCC	SA234WPB SA672GR70/WCB					12	2070	416	654	-								
04	1-80-400-19950	FITTING PIPE	SA234WPB SA672GRB70	610	10	TIG& ARC	10√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA672GRB70					9	1560	317	488	-								
05	1-80-400-19950	PIPE	SA106GRB	60.3	5.54	TIG & ARC	5.54√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB					36	454	360	-	-								
06	1-80-400-19950	PIPES	SA106GRB	60.3 & 33.4	5.54 & 4.55	ARC	6Δ 5Δ	-	E7018-1				1022 REV 01	-	-	-	LPI/MPI 10%	*	*	
		FLANGE	SA515GR70					45	-	118	-	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-400-79999	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-401	WELDING CODE : - / ASME
	SYSTEM : CEP DISCHARGE TO DEAERATOR	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS		
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME						
								TIG	ARC SPEC.		QTY									Ø2.4	Ø2.5
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0							
01	0-80-401-07013 0-80-401-07014 0-80-401-07015	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	457.2	12.7	TIG & ARC	12.7∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB				141	20868	4794	7896	2256										
02	0-80-401-07013 0-80-401-07015	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	323.9	9.53	TIG & ARC	9.53∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB				48	4992	1152	1776	-										
03	0-80-401-07013	FITTING PIPE	SA234WPB SA106GRB	406.4	12.7	TIG & ARC	12.7∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB				17	2006	476	765	204										
04	0-80-401-07013	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	88.9	5.49	TIG & ARC	5.49∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB				32	640	480	-	-										
05	0-80-401-07014 0-80-401-07015	FITTING PIPE	SA234WPB SA106GRB	508	12.7	TIG & ARC	12.7∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB				12	1980	456	756	216										
06	0-80-401-07014	FITTING PIPE	SA234WPB SA106GRB	114.3	6.02	TIG & ARC	6.02∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB				4	108	84	-	-										

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.16	DRAWING NO. 4-80-401-80092	REV . 00
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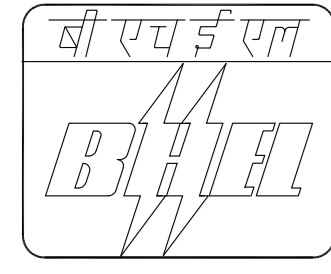
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-401	WELDING CODE : - / ASME
	SYSTEM : CEP DISCHARGE TO DEAERATOR	PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS		
				SIZE OD mm	THICK mm			ARC SPEC.		QTY	QTY(gms)			QTY(NOS.)	TEMP. °C					HOLD TIME	
								TIG	ARC SPEC.												QTY
				QTY	QTY(gms)			QTY(NOS.)	QTY	QTY(gms)	QTY(NOS.)			QTY	QTY(gms)					QTY(NOS.)	
07	1-80-401-21258	FITTING PIPE	SA234WPB SA106GRB	168.3	7.11	TIG & ARC	7.11 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		FITTING PIPE	SA234WPB SA106GRB					46	2438	690	414	-									
08	1-80-401-21258	VALVE	WC6	168.3	7.11	TIG & ARC	7.11 ∇	ER80S-B2	E8018-B2				1033 REV 03	150	650 TO 670	2.5mtS PER mm minimum 60 min	100% RT	*	*		
		PIPE	SA106GRC					2	106	30	18	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.16	DRAWING NO. 4-80-401-80092	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

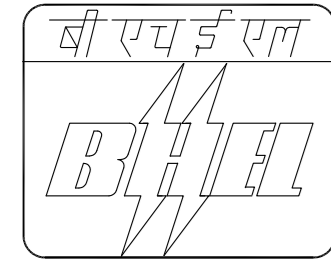
CUST. NO : 7266
 PGMA : 80-402
 SYSTEM : CEP DISCHARGE TO DEAERATOR

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	1-80-402-21230	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	457.2	12.7	TIG& ARC	12.7√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					26	3900	884	1456	448								
02	1-80-402-21230	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	323.9	9.53	TIG& ARC	9.53√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					14	1040	240	370	-								
03	1-80-402-21230	FITTING PIPE	SA234WPB SA106GRB	508	12.7	TIG& ARC	12.7√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					2	340	80	126	36								
04	1-80-402-21230	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	406.4	12.7	TIG& ARC	12.7√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					28	3668	840	1400	392								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-402-80036	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

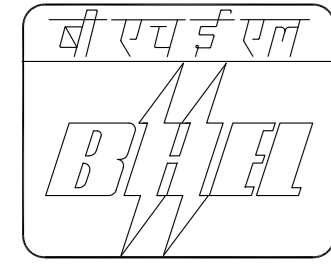
CUST. NO : 7266
 PGMA : 80-403
 SYSTEM : CEP DISCHARGE TO DEAERATOR

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4								
01	1-80-403-21231	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	323.9	9.53	TIG& ARC	9.53√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					12	1248	288	444								
02	1-80-403-21231	FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC	457.2	12.7	TIG& ARC	12.7√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/VALVE	SA234WPB SA106GRB/WCC					62	9176	2108	3472								
03	1-80-403-21231	FITTING PIPE	SA234WPB SA106GRB	406.4	12.7	TIG& ARC	12.7√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					5	655	150	255								
04	1-80-403-21231	FITTING PIPE	SA234WPB SA106GRB	508	12.7	TIG& ARC	12.7√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					5	825	200	315								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-403-80093	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANKABORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-407

SYSTEM : CONDENSATE TO VALVE GLAND SEALING

REV. NO. : 00

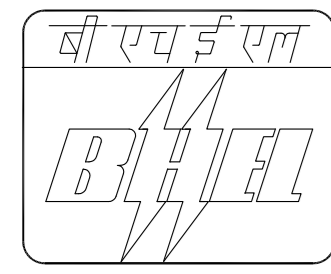
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	--	PIPE	SA106GRB	60.3	5.54	ARC	6Δ	E7018-1				1022 REV 01	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105					~54	-	150	-								
02	--	PIPE	SA106GRB	33.4	4.55	ARC	5Δ	E7018-1				1022 REV 01	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105					~200	-	231	-								
03	--	PIPE	SA106GRB	21.3	3.73	ARC	4Δ	E7018-1				1022 REV 01	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105					~230	--	112	-								
04	--	FITTING PIPE	SA234WPB SA106GRB	114.3	6.02	TIG& ARC	6.02 ∇	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					~8	216	168	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED	DESIGN/CHD.	DESIGN/APPD.	CHD./APPD. - QA	DATE	DRAWING NO.	REV .
ARUNSHARAMA	KONDAPANAI DU	R.SESHAGIRI	HARITHA.C	11.08.16	4-80-407-80185	00



ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-408

SYSTEM : CONDENSATE DUMP FROM HEADER

REV. NO. : 00

WELDING CODE : - / ASME

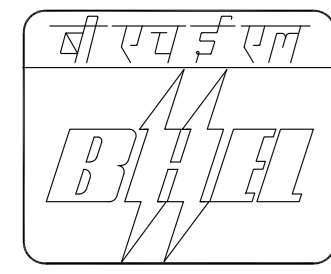
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	2-80-408-14058	PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB	219.1	8.18	TIG& ARC	8.18 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					4	273	66	66								
02	2-80-408-14058	PIPE FITTING/VALVE	SA106GRB SA234WPB	219.1	6.35	TIG& ARC	6.35 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB/WCB					21	1491	777	-								
03	2-80-408-14058	FITTING	SA234WPB	168.3	7.11	TIG& ARC	7.11 √	ER70SA1	E7018-1			1033 REV 04	150	660±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	
		CONTROL VAL	WC6					2	106	30	18								
04	2-80-408-14058	FITTING	SA234WPB	168.3	7.11	TIG& ARC	7.11 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING	SA234WPB					2	106	30	18								

NOTES:

01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.03.16	DRAWING NO. 4-80-408-80380	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-412

SYSTEM : CONDENSER EMERGENCY MAKE UP FROM CST

REV. NO. : 00

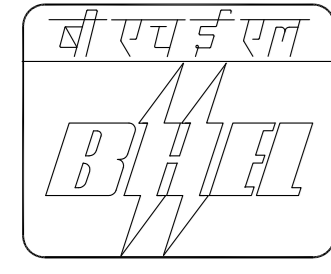
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-412-21416	FITTING PIPE	SA312TP304 SA403WP304H	114.3	3.05	TIG& ARC	3.05√	ER347	E347			1016 REV 02	10	-	-	RT10% LPI100%	*	*	
		FITTING PIPE	SA312TP304 SA403WP304H					27	729	432	-								
02	1-80-412-21416	FITTING PIPE	SA312TP304 SA403WP304H	168.3	3.4	TIG& ARC	3.4 √	ER347	E347			1016 REV 02	10	-	-	RT10% LPI100%	*	*	
		FITTING PIPE	SA312TP304 SA403WP304H					51	2805	1071	-								
02	1-80-412-21416	FITTING	SA312TP304	88.9	3.05	TIG& ARC	3.05√	ER347	E347			1016 REV 02	10	-	-	RT10% LPI100%	*	*	
		VALVE	CF8					2	42	26	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.09.16	DRAWING NO. 4-80-412-80375	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANKABORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-419

SYSTEM : DEAERATOR SAFETY VALVE
EXHAUST TO ATM

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	φ2.4	φ2.5								
01	1-80-419-21166	PIPE FITTING	SA106GRB SA234WPB	273	6.35	TIG& ARC	6.35√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING/WCB	SA106GRB SA234WPB					7	623	140	65								
02	1-80-419-21166	PIPE FITTING	SA106GRB SA234WPB	355.6	9.53	TIG& ARC	9.53√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING/WCB	SA106GRB SA234WPB					21	2184	504	777								
03	1-80-419-21156	FITTING PIPE	SA106GRB SA234WPB	60.3	5.54	TIG& ARC	5.54√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					25	315	315	250								
04	1-80-419-21156	FITTING PIPE	SA106GRB SA234WPB	114.3	6.02	TIG& ARC	6.02√	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					20	532	420	-								

NOTES:

01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

02.FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.08.16	DRAWING NO. 4-80-419-80118	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
CONTRACTOR : M/S BHEL

CUST. NO : 7266
PGMA : 80-420
SYSTEM : BOOSTER PUMP DISCHARGE
TO BFP SUCTION PIPING

REV. NO. : 00
WELDING CODE : - / ASME
PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY	QTY(gms)			QTY(NOS.)	TEMP. °C					HOLD TIME
								TIG	ARC SPEC.											
01	1-80-420-21251	FITTING PIPE	SA106GRB SA234WPB	406.4	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB				48	5808	1320	2068	-									
02	1-80-420-21251	FITTING PIPE	SA106GRB SA234WPB	355.6	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		NOZZLE PIPE	GRB EQUIVALENT SA234WPB				6	667	157	238	-									
03	1-80-420-21252	FITTING	SA106GRB	457.2	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		STRAINER	GRB EQUIVALENT				62	9360	2122	3308	-									
04	1-80-420-21252	FITTING	SA106GRB	508	12.7	TIG & ARC	12.7 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		NOZZLE	GRB EQUIVALENT				6	1000	240	360	-									
05	1-80-420-21252	FITTING	SA106GRB	610	10	TIG & ARC	10 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		STRAINER	GRB EQUIVALENT				6	1200	300	450	-									
06	1-80-420-21252	PIPE	SA106GRB	33.4	4.55	ARC	6 ∇ 7 ∇	ER70SA1	E7018-1				1022 REV 01	-	-	-	LPI/MPI 10%	*	*	
		FLANGE	SA105				3	-	100	-	-									

NOTES:
01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-420-80074	REV . 00
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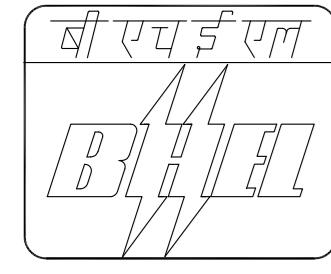
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-420	WELDING CODE : - / ASME
	SYSTEM : BOOSTER PUMP DISCHARGE TO BFP SUCTION PIPING	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS		
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME										
								TIG	ARC SPEC.												
				QTY	QTY(gms)			QTY(NOS.)	QTY(NOS.)												
07	1-80-420-21252	PIPE	SA106GRB	60.3	5.54	ARC	6D	ER70SA1	E7018-1				1022 REV 01	-	-	-	LPI/MPI 10%	*	*		
		FLANGE	SA105				7D		3	-	150	-									-

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-420-80074	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-421
 SYSTEM : BFD RECIRULATION PIPING

REV. NO. : 00
 WELDING CODE : IBR / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	1-80-421-21029	FITTING PIPE	SA234WPC SA106GRC	323.9	56	TIG& ARC	56 ∇	ER70SA1	E7018-1			1005 REV 05	100	635±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*		
		FITTING PIPE	SA234WPC SA106GRC					30	2550	720	1170									5040
02	1-80-421-21029	FITTING PIPE	SA234WPC SA106GRC	273	12.7	TIG& ARC	12.7 ∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*		
		FITTING PIPE	SA234WPC SA106GRC					51	4743	1020	1683									306
03	1-80-421-21029	PIPE	SA106GRC	323.9	56	TIG& ARC	56 ∇	ER70SA1	E7018-1							WT412-REV00	RT 100%	*	*	
		CONTROL VAL	SA182F22					6	510	150	240									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 05.05.16	DRAWING NO. 4-80-421-79625	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-423

SYSTEM : BOLIER FEED DISCHARGE PIPING

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY	QTY(gms)			QTY(NOS.)	TEMP. °C					HOLD TIME
								TIG	ARC SPEC.											
01	0-80-423-06984 0-80-423-06985	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	355.6	64	TIG & ARC	64 ∇	ER70SA1	E7018-A1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC				13	1261	351	572	2418									
02	0-80-423-06984 0-80-423-06985 1-80-423-21051	NOZZLE (PUMP)	GRC EQUIVALENT	457.2	82	TIG & ARC	82 ∇	ER70SA1	E7018-A1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		PIPE	SA106GRC				3	348	102	168	1395									
03	0-80-423-06984 0-80-423-06985 1-80-423-21051	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	457.2	82	TIG & ARC	82 ∇	ER70SA1	E7018-A1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC				55	6380	1870	3080	25575									
04	0-80-423-06984 0-80-423-06985	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	406.4	56	TIG & ARC	56 ∇	ER70SA1	E7018-A1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC				55	6325	1650	2750	10615									
05	0-80-423-06984 0-80-423-06985	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	660	116	TIG & ARC	116 ∇	ER70SA1	E7018-A1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC				14	3108	664	1100	27632									
06	0-80-423-06984 0-80-423-06985	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	559	75	TIG & ARC	75 ∇	ER70SA1	E7018-A1				1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC				16	2272	704	1104	9456									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 16.08.16	DRAWING NO. 4-80-423-79640	REV . 00
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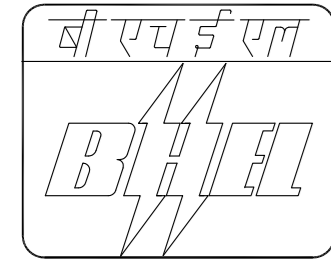
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-423	WELDING CODE : IBR / ASME
	SYSTEM : BOLIER FEED DISCHARGE PIPING	PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	ARC SPEC. QTY(NOS.)										
07	0-80-423-06984	THERMOWELL	AISI 321	63.5	13	TIG & ARC	13 √	Er Ni Cr3	ENi Cr Fe3			1025 REV 01	-	610 ±15	2.5 mts./mm min30 mts.	LPI 100% RT 100%	*	*	
	0-80-423-06985	STUB	SA 105					6	80	112	56								
08	0-80-423-06984	PIPE	SA106GRC	355.6	64	TIG & ARC	64 √	ER70SA1	E7018-A1			WT-412 - REV00			RT 100%	*	*		
		PIPE FDV-8	WC9					4	368	106	186								868
09	0-80-423-06985	NOZLLE (HP HEATERS)	SA350LF2CL1	508	62	TIG & ARC	62 √	ER70SA1	E7018-A1			1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
		FITTING	SA234WPC					2	270	80	126								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 16.08.16	DRAWING NO. 4-80-423-79640	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-424

SYSTEM : BOLIER FEED DISCHARGE PIPING

REV. NO. : 00

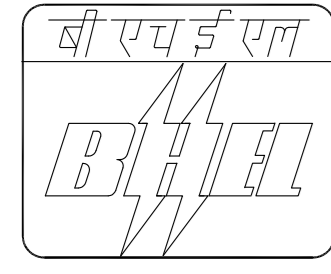
WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-424-21052 1-80-424-21053	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	457	62	TIG& ARC	62 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
	1-80-424-21056 1-80-424-21057	FITTING PIPE	SA234WPC SA106GRC					90	11700	3060	5040								
02	1-80-424-21052 1-80-424-21053	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	273	40	TIG& ARC	40 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
	1-80-424-21056 1-80-424-21057	FITTING PIPE	SA234WPC SA106GRC					42	3192	840	1386								
03	1-80-424-21052 1-80-424-21053	NOZLLE (HP HEATERS)	SA350LF2CL1	508	62	TIG& ARC	62 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
	1-80-424-21056 1-80-424-21057	FITTING	SA234WPC					10	1490	380	630								
04	1-80-424-21052 1-80-424-21053	NOZLLE (HP HEATERS)	SA350LF2CL1	323.9	40	TIG& ARC	40 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
	1-80-424-21056 1-80-424-21057	FITTING	SA234WPC					4	380	96	160								
05	1-80-424-21052 1-80-424-21053	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	406.4	56	TIG& ARC	56 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT 100%	*	*	
	1-80-424-21056 1-80-424-21057	FITTING PIPE	SA234WPC SA106GRC					26	2990	780	1300								
05	1-80-424-21052 1-80-424-21053	THERMOWELL	AISI 321	63.5	13	TIG & ARC	13 ∇	Er Ni Cr3	ENi Cr Fe3			1025 REV 01	-	610 ±15	2.5 mts. /mm min30 mts.	LPI 100% RT 100%	*	*	
	1-80-424-21056 1-80-424-21057	STUB	SA 105					28	400	448	336								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-424-79656	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-425

SYSTEM : BOLIER FEED DISCHARGE PIPING

REV. NO. : 00

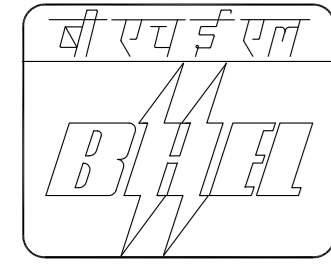
WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	1-80-425-21055	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	406.4	56	TIG & ARC	56 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mts PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					10	1150	300	50								
02	1-80-425-21055	FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC	610	82	TIG & ARC	82 ∇	ER70SA1	E7018A1			1005 REV 05	150	635 ±15	2.5mts PER mm minimum 30 min	RT 100%	*	*	
		FITTING PIPE	SA234WPC SA106GRC					26	4420	1234	1994								
03	1-80-425-21055	THERMOWELL	AISI 321	63.5	13	TIG & ARC	13 ∇	Er Ni Cr3	ENi Cr Fe3			1025 REV 01	-	610 ±15	2.5 mts. /mm min30 mts.	LPI 100% RT 100%	*	*	
		STUB	SA 105					2	20	28	14								
04	1-80-425-21055	FITTING	SA234WPC	559	75	TIG & ARC	75 ∇	ER70SA1	E7018-1			1005 REV 05	150	635 ±15	2.5mts PER mm minimum 30 min	RT 100%	*	*	
		VALVE FDV-17,18	WCC					2	300	80	140								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-425-79649	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

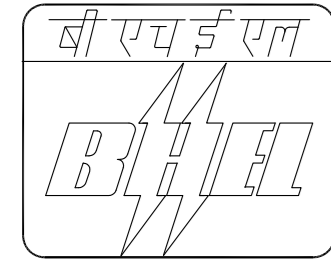
CUST. NO : 7266
 PGMA : 80-430
 SYSTEM : SPRAY WATER PIPING TO
 HPBP VALVE

REV. NO. : 00
 WELDING CODE : IBR / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	φ2.4	φ2.5								
01	2-80-430-14067	FITTING PIPE	SA234WPC SA106GRC	168.3	26	TIG& ARC	26 √	ER70SA1 E7018-1				1005 REV05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT100%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC					20	900	281	500								
02	2-80-430-14067	FITTING PIPE	SA234WPC SA106GRC	114.3	17.12 20	TIG& ARC	17.12√ 20 √	ER70SA1 E7018-1				1005 REV05	150	635 ±15	2.5mtS PER mm minimum 30 min	RT100%	*	*	
		FITTING PIPE/VALVE	SA234WPC SA106GRC/WCC					12	372	144	168								
03	2-80-430-14067	PIPE	SA335P11	114.3	20	TIG& ARC	20 √	ER70SA1 E7018-1				1033 REV03	150	610 ±10	2.5mtS PER mm minimum 60 min	RT100%	*	*	3% HARDNESS
		VALVE	WCC					2	62	24	28								
04	2-80-430-14067	VALVE(NRV)	WC9	114.3	20	TIG& ARC	20 √	ER80SB2 E8018B2				1012 REV04	150	700 ±20	2.5mtS PER mm minimum 60 min	RT100%	*	*	3% HARDNESS
		PIPE	SA335P11					2	62	24	28								
05	2-80-430-14067	FITTING PIPE	SA234WP22 SA335P22	114.3	20	TIG& ARC	20 √	ER90SB3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT100%	*	*	3% HARDNESS
		FITTING PIPE/VALVE	SA234WP22 SA335P22/WC9					16	496	192	448								
06	2-80-430-14067	FITTING PIPE	SA234WP22 SA335P22	88.9	20	TIG& ARC	20 √	ER90SB3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mtS PER mm minimum 60 min	RT100%	*	*	3% HARDNESS
		FITTING PIPE/VALVE	SA234WP22 SA335P22/F22					4	84	32	44								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 12.09.16	DRAWING NO. 4-80-430-80082	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-433

SYSTEM : SPRAY WATER PIPING TO
RE-HEATER ATTEMPERATION

REV. NO. : 00

WELDING CODE : IBR / ASME

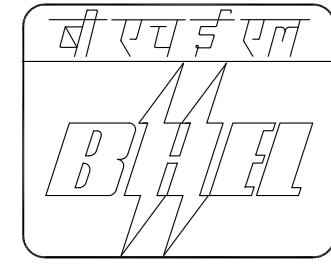
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	QTY(NOS.)									
01	1-80-433-21261	PIPE FITTING/VALVE	SA106GRC SA234WPC/WCC	114.3	13.49	TIG& ARC	13.49√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRC SA234WPC																	
02	1-80-433-21261	PIPE FITTING/VALVE	SA106GRC SA234WPC/WCC	168.3	21.95	TIG& ARC	21.95√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRC SA234WPC																	

NOTES:

- 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
- 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-433-80099	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-435

SYSTEM : CEP DISCHARGE TO APRDS

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

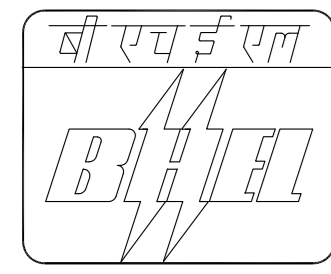
SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	φ2.4	φ2.5								
01	1-80-435-21228	PIPE FITTING/VALVE	SA106GRB SA234WPB	168.3	7.11	TIG& ARC	7.11 √	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					17	901	255	153								
02	1-80-435-21228	PIPE FITTING/VALVE	SA106GRB SA234WPB	88.9	5.49	TIG& ARC	5.49 √	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					48	960	720	-								
03	1-80-435-21228	PIPE	SA335P11	88.9	5.49	TIG& ARC	5.49 √	ER80SB2 E8018B2				1011 REV 01	150	-	-	RT 100%	*	*	
		VALVE	WC9					1	20	15	-								
04	1-80-435-21228	PIPE FITTING/VALVE	SA335P22 SA234WP22/WC9	88.9	5.49	TIG& ARC	5.49 √	ER90SB3 E9018B3				1014 REV 03	150	680 -720	2.5 Mts PER mm 60 min	RT 100%	*	*	3% HARDNESS
		PIPE FITTING	SA335P22 SA234WP22					6	120	90	-								
05	1-80-435-21228	PIPE	SA106GRB	60.3	5.54	ARC	6 Δ	E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105					~20	--	90	-								
06	1-80-435-21228	FITTING	SA234WPB	88.9	5.49	TIG& ARC	5.49 √	ER70SA1 E7018-1				1033 REV 03	150	650 -670	2.5 Mts PER mm 60 min	RT 100%	*	*	
		PIPE	SA335P11					1	20	15	-								

NOTES:

01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 12.09.16	DRAWING NO. 4-80-435-80372	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-436

SYSTEM : CONDENSER LP BYPASS SPRAY PIPING

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

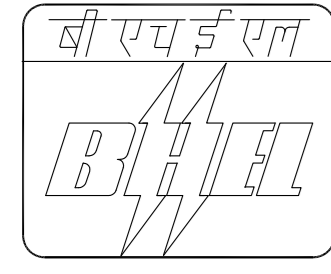
SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	QTY	QTY(NOS.)								
01	2-80-436-14057	PIPE FITTING	SA106GRB SA234WPB	323.9	9.53	TIG& ARC	9.53√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					30	3120	720	1110								
02	2-80-436-14057	PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB	273	9.27	TIG& ARC	9.27√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB					8	700	160	240								

NOTES:

01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-436-80040	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-439
 SYSTEM : UFT DRAIN TO TRENCH

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	3-80-439-33006	FITTING PIPE	SA234WPB SA106GRB	219.1	6.35	TIG& ARC	6.35 \hat{V}	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB				8	568	296	-	-									

NOTES:
 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-439-80131	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-442	WELDING CODE : - / ASME
	SYSTEM : GSC DRAIN TO FLASH TANK-B	PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
									Ø2.4	Ø2.5	Ø3.2									Ø4.0
01	2-80-442-14026	PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB	88.9	5.49	TIG& ARC	5.49∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB				30	600	450	-	-									
02	2-80-442-14026	PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB	60.3	5.54	TIG& ARC	5.54∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB				15	100	75	-	-									
03	2-80-442-14026	PIPE FITTING	SA106GRB SA234WPB	33.4	4.55	TIG& ARC	4.55∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB				5	30	25	-	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 18.08.16	DRAWING NO. 4-80-442-80302	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-443	WELDING CODE : - / ASME
	SYSTEM : LPH-2 DRAIN PIPING TO LPH-1 AND ALTERNATE DRAIN TO FLASH TANK-B	PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								TIG	ARC SPEC.											
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
01	1-80-443-21242	PIPE FITTING/WCB	SA106GRB SA234WPB/WCB	323.9	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-443-21243	PIPE FITTING/NOZZ	SA106GRB SA234WPB/CS					27	2808	648	1000	-								
02	1-80-443-21242	PIPE FITTING/WCB	SA106GRB SA234WPB/WCB	219.1	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-443-21243	PIPE FITTING/NOZZ	SA106GRB SA234WPB/CS					80	5680	2960	-	-								
03	1-80-443-21242	PIPE FITTING/WCB	SA106GRB SA234WPB/WCB	168.3	7.11	TIG & ARC	7.11 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-443-21243	PIPE FITTING/NOZZ	SA106GRB SA234WPB/CS					43	2280	645	430	-								
04	1-80-443-21242	REDUCER	SA234WPB	219.1	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1033 REV 04	150	660±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	
		CONTROL VAL (DRV-78,81)	WC6					4	284	148	-	-								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 17.09.16	DRAWING NO. 4-80-443-80070	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-444	WELDING CODE : - / ASME
	SYSTEM : LP HEATER DRAINS	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	QTY(NOS.)									
				PART-1	PART-1			Ø2.4	Ø2.5	Ø3.2	Ø4.0									
01	1-80-444-21253	PIPE FITTING/VAL	SA106GRB SA234WPB/WCB	219.1	6.35	TIG & ARC	6.35 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB				13	3220	782	736	-									
02	1-80-444-21253	PIPE FITTING/VAL	SA106GRB SA234WPB/WCB	168.3	7.11	TIG & ARC	7.11 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB				46	106	30	18	-									
03	1-80-444-21253	REDUCER	SA234WPB	168.3	7.11	TIG & ARC	7.11 √	ER70SA1	E7018-1				1033 REV 04	150	660±10	2.5mtS PER mm minimum 120 min	RT 100%	*	*	
		CONTROL VAL (DRV-43)	WC6				2	106	30	18	-									
04	1-80-444-21253	REDUCER	SA234WPB	88.9	5.49	TIG & ARC	5.49 √	ER70SA1	E7018-1				1033 REV 04	150	660±10	2.5mtS PER mm minimum 120 min	RT 100%	*	*	
		CONTROL VAL (DRV-40)	WC6				2	106	30	18	-									
05	1-80-444-21417	PIPE FITTING/VAL	SA106GRB SA234WPB/WCB	219.1	8.18	TIG & ARC	8.18 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE FITTING	SA106GRB SA234WPB				48	3220	782	736	-									
06	1-80-444-20242	PIPE FITTING/VAL	SA106GRB SA234WPB/WCB	273	6.35	TIG & ARC	6.35 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-444-20019	PIPE FITTING	SA106GRB SA234WPB				48	4717	1060	477	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 12.09.16	DRAWING NO. 4-80-444-80077	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-444	WELDING CODE : - / ASME
	SYSTEM : LP HEATER DRAINS	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
07	1-80-444-20242	FITTING	SA106GRB	323.9	9.53	TIG& ARC	9.53 ∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		LP HEATER NOZZLES	SA106GRB					6	208	48	75								
08	1-80-444-21417	PIPE FITTING	SA106GRB SA234WPB	273	6.35	TIG& ARC	6.35 ∇	ER70SA1	E7018-1			1033 REV 04	150	660±10	2.5mtS PER mm minimum 120 min	RT 100%	*	*	
		VALVE (DRV-58)	WC6					2	180	40	18								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 12.09.16	DRAWING NO. 4-80-444-80077	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-446

SYSTEM : DEAERATOR DRAIN TO UFT AND
OVER FLOW DRAIN TO F/T-B

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								TIG	ARC SPEC.		QTY									Ø2.4
01	1-80-446-21232	FITTING PIPE	SA106GRB SA234WPB	323.9	9.53	TIG & ARC	9.53 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB				5	520	120	185	-									
02	1-80-446-21232	FITTING PIPE	SA106GRB SA234WPB	219.1	6.35	TIG & ARC	6.35 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB				54	3834	2000	-	-									
03	1-80-446-21232	FITTING	SA234WPB	168.3	7.11	TIG & ARC	7.11 √	ER70SA1	E7018-1				WT412 REV01				RT 100%	*	*	
		VALVE (DRV-73)	WC9				2	106	30	18	-									
04	1-80-446-21232	FITTING PIPE	SA106GRB SA234WPB	168.3	7.11	TIG & ARC	7.11 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB				63	53	3339	567	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-446-80038	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-447	WELDING CODE : - / ASME
	SYSTEM : HIGH PRESSURE HEATER DRAINS	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	QTY(NOS.)									
				PART-1	PART-1			Ø2.4	Ø2.5	Ø3.2	Ø4.0									
01	1-80-447-21245	FITTING PIPE	SA106GRB SA234WPB	168.3	10.97	TIG & ARC	10.97 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-447-21246	FITTING PIPE	SA106GRB SA234WPB				112	5712	1680	2576	-									
02	1-80-447-21245	FITTING PIPE	SA106GRB SA234WPB	219.1	12.7	TIG & ARC	12.7 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-447-21246	FITTING PIPE	SA106GRB SA234WPB				100	6700	1700	2500	800									
03	1-80-447-21245	FITTING	SA234WPB/WPC	88.9	7.62	TIG & ARC	7.62 √	ER70SA1	E7018-1				WT412 REV00			RT 100%	*	*		
	1-80-447-21246	CONTROL VAL (DRV-5,11)	WC9				4	80	32	24	-									
04	1-80-447-21245	FITTING	SA234WPB/WPC	88.9	7.62	TIG & ARC	7.62 √	ER70SA1	E7018-1				WT412 REV00			RT 100%	*	*		
	1-80-447-21246	CONTROL VAL (DRV-2,8)	WC9				4	80	32	24	-									
05	1-80-447-21247	FITTING PIPE	SA106GRB SA234WPB	323.9	12.7	TIG & ARC	12.7 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-447-21248	FITTING PIPE	SA106GRB SA234WPB				10	1030	240	550	-									
06	1-80-447-21247	FITTING	SA234WPB/WPC	168.3	7.11	TIG & ARC	7.11 √	ER70SA1	E7018-1				1033 REV 04	150	660±10	2.5mtS PER mm minimum 60 min	RT 100%	*	*	
	1-80-447-21248	CONTROL VAL (DRV-14,20,27,34)	WC6				8	424	120	72	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.08.16	DRAWING NO. 4-80-447-80071	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-447	WELDING CODE : - / ASME
	SYSTEM : HIGH PRESSURE HEATER DRAINS	PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	ARC SPEC. QTY(NOS.)										
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0					
07	1-80-447-21247	FITTING	SA234WPB/WPC	168.3	7.11	TIG & ARC	7.11 ∇	ER70SA1 E7018-1				1003	-	-	-	10% RT	*	*	
	1-80-447-21248	CONTROL VAL (DRV-17,23,30,37)	WC9					8	424	120	72								
08	1-80-447-21249	FITTING PIPE	SA106GRB SA234WPB	273	6.35	TIG & ARC	6.35 ∇	ER70SA1 E7018-1				1003	-	-	-	10% RT	*	*	
	1-80-447-21250	FITTING PIPE	SA106GRB SA234WPB					150	13500	3000	1500								
09	1-80-447-21249	FITTING PIPE	SA106GRB SA234WPB	323.9	9.53	TIG & ARC	9.53 ∇	ER70SA1 E7018-1				1003	-	-	-	10% RT	*	*	
	1-80-447-21250	FITTING PIPE	SA106GRB SA234WPB					14	1456	336	518								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.08.16	DRAWING NO. 4-80-447-80071	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-448	WELDING CODE : - / ASME
	SYSTEM : DRAIN FROM UNLISTED EQPT/VESSEL-TG SCOPE	PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
									Ø2.4	Ø2.5	Ø3.2									Ø4.0
01	1-80-448-21277	FITTING PIPE	SA234WPB SA106GRB	273	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					10	900	200	100	-								
02	1-80-448-21277	FITTING PIPE	SA234WPB SA106GRB	508	12.7	TIG & ARC	12.7 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					11	1815	418	693	198								
03	1-80-448-21277	FITTING PIPE	SA234WPB SA106GRB	323.9	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					12	1248	288	444	-								
04	1-80-448-21404	FITTING PIPE	SA234WPB SA106GRB	219.1	6.35	TIG & ARC	6.35 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-448-21425	FITTING PIPE/NOZZ	SA234WPB SA106GRB					50	3550	1850	-	-								
05	1-80-448-21404	FITTING PIPE	SA234WPB SA106GRB	168.3	7.11	TIG & ARC	7.11 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					75	3975	1125	675	-								
06	1-80-448-21404	FITTING PIPE	SA234WPB SA106GRB	114.3	6.02	TIG & ARC	6.02 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
	1-80-448-21425	FITTING PIPE	SA234WPB SA106GRB					50	1350	1050	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 12.09.16	DRAWING NO. 4-80-448-80327	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-449	WELDING CE : - / ASME
	SYSTEM : TG CYCLE PIPING DRAINS AND VENTS	PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METH/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME									
								TIG QTY(gms)	QTY(NOS.)											
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
01	---	PIPE	SA106GRB	33.4	4.55	TIG& ARC	4.55∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB				~300	2163	1545	-	-									
02	---	PIPE	SA106GRB	33.4	4.55	ARC	5∇	-	E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105				~920	-	1062	-	-									
03	---	PIPE	SA106GRB	60.3	5.54	TIG& ARC	5.54∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB				~25	340	260	-	-									
04	---	PIPE	SA106GRB	60.3	5.54	ARC	6∇	-	E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105				~150	-	430	-	-									
05	---	PIPE	SA106GRB	48.3	5.08	ARC	5∇	-	E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105				~10	-	22	-	-									
06	---	PIPE	SA312TP304H	33.4	3.38	TIG& ARC	3.38∇	ER347	E 347				1016 REV 02	10	-	-	RT10% LPI100%	*	*	
		PIPE	SA312TP304H				~50	300	250	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-449-80441	REV . 00
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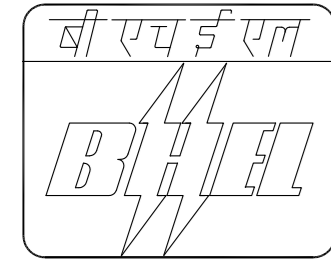
ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-449	WELDING CE : - / ASME
	SYSTEM : TG CYCLE PIPING DRAINS AND VENTS	PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METH/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS		
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME						
								QTY(gms)	QTY(NOS.)												
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0							
07	---	PIPE	SA312TP304H	60.3	3.91	TIG& ARC	3.91 ∇	ER347	E 347				1016 REV 02	10	-	-	RT10% LPI100%	*	*		
		PIPE	SA312TP304H				~14	200	126	-	-										
08	---	PIPE	SA106GRB	48.3	5.08	TIG& ARC	5.08 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*		
		PIPE	SA106GRB				~10	100	60	-	-										

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-449-80441	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-457

SYSTEM : DRAIN MANIFOLD TO FLASH TANKS

REV. NO. : 00

WELDING CODE : - / ASME

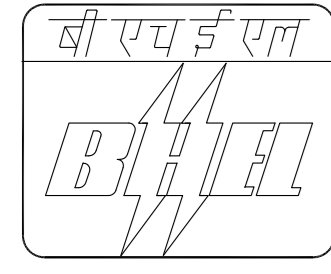
PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	Ø2.4	Ø2.5								
01	1-80-457-21420	FITTING PIPE	SA234WPB SA106GRB	219.1	8.18	TIG& ARC	8.18√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					10	770	170	160								
02	1-80-457-21420	FITTING PIPE	SA234WPB SA106GRB	355.6	9.53	TIG& ARC	9.53√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA234WPB SA106GRB					8	805	189	287								
03	1-80-457-21420	FITTING PIPE	SA234WP22 SA335P22	323.9	9.53	TIG& ARC	9.53√	ER90S-B3	E9018-B3			1014 REV 03	150	680 - 720°	2.5MIN PER 2.5MM 60 min	RT 100%	*	*	3% HARDNESS
		FITTING PIPE	SA234WP22 SA335P22					4	416	96	148								

NOTES:

- 01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
- 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 26.09.16	DRAWING NO. 4-80-457-80388	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-459

SYSTEM : FLASH TANK-A DRAIN TO CONDENSER

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	2-80-459-14055	FITTING PIPE	SA106GRB SA234WPB	323.9	6.35	TIG& ARC	6.35√	ER70SA1	E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE/NOZZLE	SA106GRB SA234WPB GRB EQUIVALENT				11	1144	264	401	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-459-80029	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-463

SYSTEM : TG AUX COOLING WATER

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 01 OF 03

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY	QTY(gms)			QTY(NOS.)	TEMP. °C					HOLD TIME
								TIG	ARC SPEC.											
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
01	---	FITTING PIPE	IS 3589 IS 3589	610	8	TIG & ARC	8 √	E 7018				1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING PIPE	IS 3589 IS 3589				23	-	1035	1656	-									
02	---	FITTING PIPE	IS 3589 IS 3589	508	6	TIG & ARC	6 √					1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING PIPE	IS 3589 IS 3589				10	-	406	267	-									
03	---	FITTING PIPE	IS 3589 IS 3589	457	6	TIG & ARC	6 √					1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING PIPE	IS 3589 IS 3589				55	-	1530	990	-									
04	---	FITTING PIPE	IS 3589 IS 3589	406.4	6	TIG & ARC	6 √					1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING PIPE	IS 3589 IS 3589				34	-	1078	952	-									
05	---	FITTING PIPE	IS 3589 IS 3589	355.6	6	TIG & ARC	6 √					1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING PIPE	IS 3589 IS 3589				40	-	810	600	-									
06	---	FITTING PIPE	IS 3589 IS 1239	323.9	6	TIG & ARC	6 √					1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING PIPE	IS 3589 IS 1239				36	-	975	585	-									

NOTES:

01 * REFER NDE MANUAL NO. PSQ-NDE:COM-R01/11-06

02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-463-80440	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-463

SYSTEM : TG AUX COOLING WATER

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 02 OF 03

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	QTY	QTY(NOS.)								
				PART-1	PART-1			QTY	QTY(NOS.)	QTY	QTY(NOS.)			QTY	QTY(NOS.)				
07	---	FITTING PIPE	IS 3589 IS 1239	OD273	6	TIG & ARC	6 √	E 7018				1213	10	-	-	RT 10%	*	*	
		FITTING PIPE	IS 3589 IS 1239				65	-	1320	884	-	REV 00							
08	---	FITTING PIPE	IS 3589 IS 1239	OD219.1	6	TIG & ARC	6 √	E 7018				1213	10	-	-	RT 10%	*	*	
		FITTING PIPE	IS 3589 IS 1239				20	-	800	-	-	REV 00							
09	---	FITTING PIPE	IS 3589 IS 1239	NB150	5.4	TIG & ARC	5.4 √	E 7018				1213	10	-	-	RT 10%	*	*	
		FITTING PIPE	IS 3589 IS 1239				80	-	1200	800	-	REV 00							
10	---	FITTING PIPE	IS 3589 IS 1239	NB100	5.4	TIG & ARC	5.4 √	E 7018				1213	10	-	-	RT 10%	*	*	
		FITTING PIPE	IS 3589 IS 1239				20	-	3505	-	-	REV 00							
11	---	FITTING PIPE	IS 3589 IS 1239	NB80	4.85	TIG & ARC	4.85 √	E 7018				1213	10	-	-	RT 10%	*	*	
		FITTING PIPE	IS 3589 IS 1239				50	-	1050	-	-	REV 00							
12	---	PIPE	IS1239	NB50	4.5	ARC	4.5 √	E 7018				1213	10	-	-	RT 10%	*	*	
		FITTING	IS1239				~100	-	1100	-	-	REV 00							

NOTES:

01 * REFER NDE MANUAL NO. PSQ-NDE:COM-R01/11-06

02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-463-80440	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

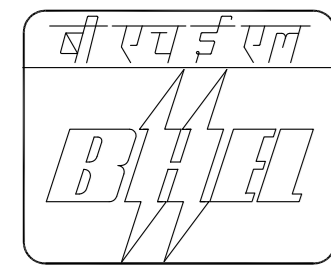
CUST. NO : 7266
 PGMA : 80-463
 SYSTEM : TG AUX COOLING WATER

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 03 OF 03

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								TIG	ARC SPEC.		Ø2.4									Ø2.5
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
13	---	PIPE	IS1239	NB50	4.5	ARC	4.5V	E 7018				1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING	IS1239				~100	-	800	-	-									
14	---	PIPE	IS1239	NB25	4.05	ARC	4 V	E 7018				1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING	IS1239				~100	-	500	-	-									
15	---	PIPE	IS3589	813.0	10	ARC	10 V	E 7018				1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING	IS3589				~18	-	1100	1730	-									
16	---	PIPE	IS3589	711.2	10	ARC	10 V	E 7018				1213 REV 00	10	-	-	RT 10%	*	*		
		FITTING	IS3589				~10	-	550	850	-									

NOTES:
 01 * REFER NDE MANUAL NO. PSQ-NDE:COM-R01/11-06
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-463-80440	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-473

SYSTEM : CONDENSER NORMAL MAKE UP PIPING.

REV. NO. : 00

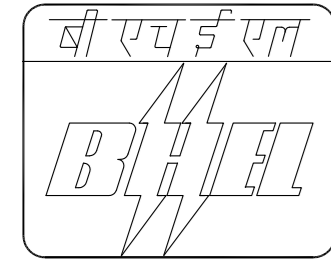
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	2-80-473-14016	FITTING PIPE	SA312TP304 SA403WP304H	114.3	3.05	TIG& ARC	3.05√	ER347	E 347				1016 REV 02	10	-	-	RT10% LPI100%	*	*	
		FITTING PIPE	SA312TP304 SA403WP304H				24	620	400	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 08.09.16	DRAWING NO. 4-80-473-80206	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-477

SYSTEM : SERVICE WATER PIPING

REV. NO. : 00

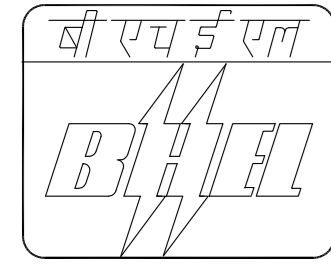
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
		PART-1	PART-1				QTY	Ø2.4	Ø2.5	Ø3.2	Ø4.0								
01	--	PIPE	IS 1239	NB80	5.4	ARC	5.4√	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		FITTING	IS 1239				~120	-	1800	-	-								
02	--	PIPE	IS 1239	NB50	4.8	ARC	4.8√	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		FITTING	IS 1239				~140	-	1300	-	-								
03	--	PIPE	IS 1239	NB40	4.0	ARC	4.0√	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		FITTING	IS 1239				~10	-	30	-	-								
04	--	PIPE	IS 1239	NB25	4.0	ARC	4.0√	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		FITTING	IS 1239				~70	-	140	-	-								

NOTES:
 01 * REFER NDE MANUAL NO. PSQ-NDE:COM-R01/11-06
 02.FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.08.16	DRAWING NO. 4-80-477-80291	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

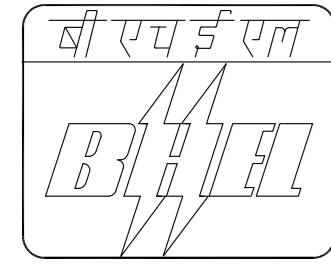
CUST. NO : 7266
 PGMA : 80-493
 SYSTEM : FLSH TANK-A VENT TO
 CONDENSER

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	2-80-493-14053	TANK-A NOZZLE	SA516GR70	1118	10	TIG& ARC	10 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		BELLOW	SA515GR70				1	368	84	132	-									
02	2-80-493-14053	PIPE/BEND BELLOWS	SA515GR70	1118	10	TIG& ARC	10 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/BEND BELLOWS	SA515GR70				5	1840	420	660	-									
03	2-80-493-14053	CONDENSER NOZZLE	GRB EQUIVALENT	1118	10	TIG& ARC	10 √	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		BELLOW	SA516GR70				1	368	84	132	-									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAU DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-493-80028	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-494

SYSTEM : FLSH TANK-B VENT TO
CONDENSER

REV. NO. : 00

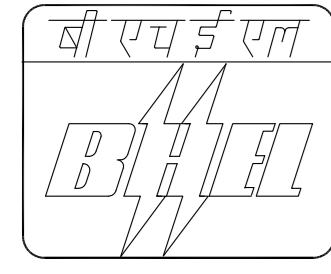
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	2-80-494-14047	TANK-B NOZZLE	SA516GR70	1118	10	TIG& ARC	10 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA515GR70					1	368	84	132								
02	2-80-494-14047	PIPE/BEND BELLOWS	SA515GR70 SA515GR70 SA516GR70	1118	10	TIG& ARC	10 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/BEND BELLOWS	SA515GR70 SA515GR70 SA516GR70					8	2944	672	1056								
03	2-80-494-14047	CONDENSER NOZZLE	GRB EQUIVALENT	1118	10	TIG& ARC	10 √	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA515GR70					1	368	84	132								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-494-80025	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANKABORI 1X800MW
 CONTRACTOR : M/S BHEL

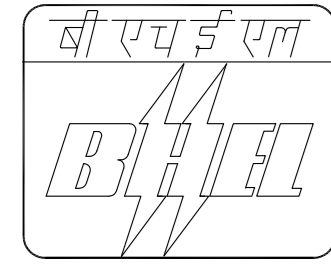
CUST. NO : 7266
 PGMA : 80-495
 SYSTEM : FLSH TANK-B DRAIN TO CONDENSER

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	2-80-495-14051	TANK-B NOZZLE	SA516GR70	610	10	TIG& ARC	10 ∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA515GR70					1	201	46	72								
02	2-80-495-14051	PIPE FITTING	SA515GR70 SA234WPB	610	10	TIG& ARC	10 ∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA515GR70 SA234WPB					10	2010	460	720								
03	2-80-495-14051	CONDENSER NOZZLE	GRB EQUIVALENT	610	10	TIG& ARC	10 ∇	ER70SA1	E7018-1			1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE	SA515GR70					1	201	46	72								

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAIDU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.08.16	DRAWING NO. 4-80-495-80027	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-601

SYSTEM : LP DOSING PIPING

REV. NO. : 00

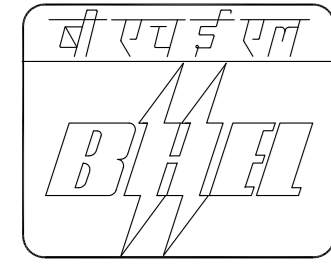
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	--	FITTING PIPE	SA312TP304 SA403WP304H	33.4	3.38	TIG& ARC	3.38√	ER347	E 347				1016 REV 02	10	-	-	RT10% LPI100%	*	*	
		FITTING PIPE	SA312TP304 SA403WP304H				~300	1800	1500	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO./04-02/AMD-02
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUNSHARAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 01.10.16	DRAWING NO. 4-80-601-80439	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-673
 SYSTEM : LUBE OIL PIPING SYSTEM

REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	QTY(NOS.)										
01	--	FITTING PIPE	SA106GRB SA234WPB	88.9	5.49	TIG& ARC	5.49√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					~250	5000	3750	-								
02	--	FITTING PIPE	SA106GRB SA234WPB	60.3	5.54	TIG& ARC	5.54√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					~6	78	60	-								
03	--	FITTING PIPE	SA106GRB SA234WPB	33.4	4.55	TIG& ARC	4.55√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					~32	224	160	-								
04	--	FITTING PIPE	SA106GRB SA234WPB	48.3	5.08	TIG& ARC	4.55√	ER70SA1	E7018-1			1003 REV 03	-	-	-	10% RT	*	*	
		FITTING PIPE	SA106GRB SA234WPB					~2	20	15	-								
05	--	FITTING	SA105	60.3	5.54	ARC	6△	--	E 7018-1			1022 REV 00	-	-	-	LPI/MPI 10%	*	*	
		PIPE	SA106GRB					~24	--	75	-								
06	--	FITTING	SA105	33.4	4.55	ARC	5△	--	E 7018-1			1022 REV 00	-	-	-	LPI/MPI 10%	*	*	
		PIPE	SA106GRB					~30	--	28	-								

NOTES:

01. * REFER NDE MANUAL NO. PSQ :NDM:COM:REV NO.R00/04-02 AMD.02
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED ARUN SHRAMA	DESIGN/CHD. KONDAPANAI DU	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 11.03.16	DRAWING NO. 4-80-673-80253	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-342
 SYSTEM : AUXILIARY STEAM PIPING TO
 STEAM COIL AIR PRE-HEATER

DOC.NO. : NA
 REV. NO. : 00
 WELDING CODE : IBR / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4								
01	1-80-342-21165	FITTING PIPE	SA234WPB	273	9.27	TIG & ARC	9.27 \sqrt{V}	ER70SA1 E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	SA106GRB					WCB	SA106GRB/WPB	49	4263								
02	1-80-342-21165	PIPE/FITTING	SA106GRB/WPB	219.1	8.18	TIG & ARC	8.18 \sqrt{V}	ER70SA1 E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	SA106GRB/WPB					WCB	SA106GRB/WPB	67	4690								
03	1-80-342-21165	PIPE/FITTING	SA106GRB/WPB	114.3	6.02	TIG & ARC	6.02 \sqrt{V}	ER70SA1 E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	SA106GRB/WPB					WCB	SA106GRB/WPB	44	1171								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 18.11.16	DRAWING NO. 4-80-342-80033	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-343

REV. NO. : 00

SYSTEM : AUXILIARY STEAM PIPING TO SOOT BLOWING

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	2-80-343-14060	FITTING PIPE VALVE PIPE/FITTING	SA234WPB SA106GRB WCB SA106GRB/WPB	168.3	7.11	TIG & ARC	7.11V 61	ER70SA1 3233	Ø2.5 915	Ø3.2 671	Ø4.0 -	1003 REV 03	-	-	-	RT 10%	*	*	

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 19.11.16	DRAWING NO. 4-80-343-80034	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-351

REV. NO. : 00

SYSTEM : AUXILIARY STEAM PIPING TO MILL INERTING

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY	Ø2.4									Ø2.5
01	1-80-351-21167	FITTING PIPE	SA234WPB SA106GRB	355.6	11.3	TIG & ARC	11.3V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				82	9266	2214	3608	984									
02	1-80-351-21167	PIPE/FITTING	SA106GRB/WPB	219.1	8.18	TIG & ARC	8.18V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				54	3780	918	972	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 19.11.16	DRAWING NO. 4-80-351-80209	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-370

REV. NO. : 00

SYSTEM : FLASH TANK AND FLASH TANK
DRAIN TANK VENT TO ATMOSPHERE

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
01	1-80-370-21211	PIPE	SA515GR70	1868	20	TIG & ARC	20 ∇	ER70SA1	E7018-1				1004 REV 03	-	-	-	RT 10%	*	*	
		PIPE/NOZZLE MITRE BEND	SA515GR70					19	12662	2714	4458	3295								
02	1-80-370-21211	PIPE	SA106GRB/WPB	273	9.27	TIG & ARC	9.27 ∇	ER70SA1	E7018-1				1004 REV 03	-	-	-	RT 10%	*	*	
		PIPE/FITTING NOZZLE	SA106GRB/WPB					13	1131	260	390	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 19.11.16	DRAWING NO. 4-80-370-80013	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-395

SYSTEM : AUXILIARY STEAM PIPING TO FUEL OIL ATOMISATION

DOC.NO. : NA

REV. NO. : 00

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS		
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME						
								QTY(gms)	QTY(NOS.)												
01	3-80-395-32961	FITTING PIPE PIPE/FITTING	SA234WPB SA106GRB SA106GRB/WPB	114.3	6.02	TIG & ARC	6.02V 8	ER70SA1 213	Ø2.4	Ø2.5	Ø3.2	Ø4.0	1003 REV 03	-	-	-	RT 10%	*	*		

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 19.11.16	DRAWING NO. 4-80-395-80050	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-451

REV. NO. : 00

SYSTEM : BOILER INTEGRAL PIPING DRAINS

WELDING CODE : IBR / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)		QTY(NOS.)									
								QTY	Ø2.4	Ø2.5	Ø3.2								
01	1-80-451-21347	FITTING PIPE	SA234WP22 SA335P22	60.3	11.07	TIG & ARC	11.07√	ER90S-B3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mts PER mm MINIMUM 60 MIN	RT 10% HARDNESS 3%	*	*	
		VALVE PIPE/FITTING	SA182F22 SA335P22/WP22					64	583	832	448								
02	1-80-451-21391 1-80-451-21392 1-80-451-21393 1-80-451-21394 1-80-451-21395	FITTING PIPE	SA234WP22 SA335P22	60.3	5.54	TIG & ARC	5.54√	ER90S-B3 E9018-B3				1013 REV 02	150	-	-	RT 10% HARDNESS 3%	*	*	
		VALVE PIPE/FITTING	SA182F22 SA335P22/WP22					107	1349	1070	-								
03	2-80-451-14212 2-80-451-14213	FITTING PIPE	SA234WP22 SA335P22	88.9	15.24	TIG & ARC	15√	ER90S-B3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mts PER mm MINIMUM 60 MIN	RT 10% HARDNESS 3%	*	*	
		VALVE PIPE/FITTING	SA182F22 SA335P22/WP22					41	984	328	410								
04	1-80-451-21347 2-80-451-14212 2-80-451-14213	PIPE	SA335P22	33.4	9.09	TIG & ARC	9.09√	ER90S-B3 E9018-B3				1014 REV 03	150	680 TO 720	2.5mts PER mm MINIMUM 60 MIN	RT 10%	*	*	
		PLATE	SA387 Gr22					84	303	1176	-								
05	1-80-451-21392 1-80-451-21393	PIPE	SA335P22	33.4	4.55	TIG & ARC	4.55√	ER90S-B3 E9018-B3				1014 REV 03	150	-	-	RT 10%	*	*	
		PLATE	SA387 Gr22					28	180	140	-								
06	1-80-451-21348 1-80-451-21349 1-80-451-21350 1-80-451-21351	PIPE/FITTING	SA106GRB/WPB	73.0	14.02	TIG & ARC	14√	ER70SA1 E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB					142	3550	1136	1420								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.

02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 21.11.16	DRAWING NO. 4-80-451-80306	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-451	REV. NO. : 00
	SYSTEM : BOILER INTEGRAL PIPING DRAINS	WELDING CODE : IBR / ASME
		PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)											
									Ø2.4	Ø2.5	Ø3.2									Ø4.0
07	1-80-451-21391	PIPE/FITTING	SA106GRB/WPB	88.9	15.24	TIG & ARC	15 \sqrt{V}	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				8	192	64	80	40									
08	1-80-451-21396	PIPE/FITTING	SA106GRB/WPB	168.3	27.5	TIG & ARC	27.5 \sqrt{V}	ER70SA1	E7018-1				1004 REV 03	100	595 TO 625	2.5mts PER mm MINIMUM 30 MIN	RT 100%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				24	1080	336	576	480									
09	2-80-451-14210	PIPE/FITTING	SA106GRB/WPB	60.3	11.07	TIG & ARC	11 \sqrt{V}	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				10	91	130	70	-									
10	1-80-451-21348 1-80-451-21349 1-80-451-21350 1-80-451-21351	PIPE	SA106GRB	33.4	9.09	TIG & ARC	9.09 \sqrt{V}	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PLATE	SA515 Gr70				176	634	2464	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 21.11.16	DRAWING NO. 4-80-451-80306	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW	CUST. NO : 7266	REV. NO. : 00
CONTRACTOR : M/S BHEL	PGMA : 80-453	WELDING CODE : IBR / ASME
	SYSTEM : LP PIPING DRAINS	PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	QTY(NOS.)										
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0					
01	3-80-453-33104	PIPE	SA106GRB	21.3	3.73	TIG& ARC	3.73∇	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB				~15	203	-	-	-								
02	3-80-453-33104	PIPE	SA106GRB	33.4	4.55	TIG& ARC	4.55∇	ER70SA1 E7018-1				1003 REV 03	-	-	-	10% RT	*	*	
		PIPE	SA106GRB				~100	640	500	-	-								
03	3-80-453-33104	PIPE	SA106GRB	21.3	3.73	ARC	4Δ	- E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105				15	-	7	-	-								
04	3-80-453-33104	PIPE	SA106GRB	33.4	4.55	ARC	5Δ	- E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*	*	
		FITTING	SA105				305	-	305	-	-								
05	3-80-453-33104	PIPE	SA106GRB	60.3	5.54	ARC	6Δ	- E 7018-1				1022 REV 00	-	-	-	10% MPI/LPI	*		
		FITTING	SA105				2	-	6	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-453-80248	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-454
 SYSTEM : SCAPH DRAIN TO FLASH TANK
 MANIFOLD

DOC.NO. : NA
 REV. NO. : 00
 WELDING CODE : IBR / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								TIG	ARC SPEC.											Ø2.4
01	2-80-454-14191	FITTING PIPE	SA234WPB SA106GRB	114.3	6.02	TIG & ARC	6.02V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/FITTING	SA106GRB/WPB					18	479	378	-	-								
02	2-80-454-14191	PIPE/FITTING	SA106GRB/WPB	88.9	5.49	TIG & ARC	5.49V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/FITTING	SA106GRB/WPB					24	471	360	-	-								
03	2-80-454-14191	PIPE/FITTING	SA106GRB/WPB	60.3	5.54	TIG & ARC	5.54V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/FITTING	SA106GRB/WPB					16	202	160	-	-								
04	2-80-454-14191	PIPE/FITTING	SA106GRB/WPB	48.3	5.08	TIG & ARC	5.08V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB					230	2277	1840	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 23.11.16	DRAWING NO. 4-80-545-80250	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-455	REV. NO. : 00
	SYSTEM : DRAIN FROM UNLISTED EQPT/VESSEL-SG SCOPE	WELDING CODE : - / ASME
		PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								TIG												
01	1-80-455-21213	FITTING PIPE	SA234WPB SA106GRB	609.6	9.53	TIG & ARC	9.53V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		NOZZLE PIPE/FITTING	WCB SA106GRB/WPB					9	1822	416	654	-								
02	1-80-455-21236	PIPE/FITTING	SA106GRB/WPB	457.2	9.53	TIG & ARC	9.53V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB					17	2550	578	901	-								
03	1-80-455-21236 1-80-455-21313 2-80-455-14147	PIPE/FITTING	SA106GRB/WPB	323.9	9.53	TIG & ARC	9.53V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB					49	5096	1176	1813	-								
04	1-80-455-21313	PIPE/FITTING	SA106GRB/WPB	219.1	8.18	TIG & ARC	8.18V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB					28	1960	476	504	-								
05	1-80-455-21315 1-80-455-21316	PIPE/FITTING	SA106GRC/WPC	273	15.09	TIG & ARC	15.09V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/FITTING	SA106GRC/WPC					33	2904	660	1089	330								
05	1-80-455-21315 1-80-455-21316	PIPE	SA106GRC	273	15.09	TIG & ARC	15.09V	ER70SA1	E7018-1				1033 REV 04	150	650 TO 670	2.5 mts PER mm MINIMUM 60 min	RT 10% HARDNESS 3%	*	*	
		PIPE	SA335P11					8	704	160	264	80								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 21.11.16	DRAWING NO. 4-80-455-80214	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-455	REV. NO. : 00
	SYSTEM : DRAIN FROM UNLISTED EQPT/VESSEL-SG SCOPE	WELDING CODE : - / ASME
		PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME					
								QTY(gms)	QTY(NOS.)	QTY(gms)	QTY(NOS.)									
				PART-1	PART-1			QTY	Ø2.4	Ø2.5	Ø3.2			Ø4.0						
07	2-80-455-14145	FITTING PIPE	SA234WPB SA106GRB	508	9.52	TIG & ARC	9.52V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		NOZZLE PIPE/FITTING	WCB SA106GRB/WPB				22	3674	836	1320	-									
08	2-80-455-14146	PIPE/FITTING	SA106GRB/WPB	88.9	5.49	TIG & ARC	5.49V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				19	373	285	-	-									
09	2-80-455-14147	PIPE/FITTING	SA106GRB/WPB	406.4	9.53	TIG & ARC	9.53V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE/FITTING	SA106GRB/WPB				5	660	150	235	-									
10	2-80-455-14147	PIPE/FITTING	SA106GRB/WPB	273	9.27	TIG & ARC	9.27V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				18	1566	360	540	-									
11	1-80-455-21313 2-80-455-14147	PIPE/FITTING	SA106GRB/WPB	60.3	5.54	TIG & ARC	5.54V	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		VALVE PIPE/FITTING	WCB SA106GRB/WPB				23	290	230	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 21.11.16	DRAWING NO. 4-80-455-80214	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-460

REV. NO. : 00

SYSTEM : SG AUX. COOLING WATER UNIT SYSTEM

WELDING CODE : - / ASME

PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME				
								QTY	Ø2.4										
01	---	PIPE	IS3589-410MPA	323.9	6	ARC	6 √	E7018-1				1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS3589-410MPA SA 234 WPB				~30	-	720	450	-								
02	---	PIPE	IS3589-410MPA	273	6	ARC	6 √	E7018-1				1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS3589-410MPA SA 234 WPB				~100	-	2000	900	-								
03	---	PIPE	IS3589-410MPA	219.1	6	ARC	6 √	E7018-1				1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS3589-410MPA SA 234 WPB				~70	-	2590	-	-								
04	---	PIPE	IS1239 BLACK	150	5.4	TIG&ARC	5.4 √	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239 BLACK IS1239 BLACK				~140	7560	3780	-	-								
05	---	PIPE	IS1239 BLACK	100	5.4	TIG&ARC	5.4 √	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239 BLACK IS1239 BLACK				~122	3246	2196	-	-								
06	---	PIPE	IS1239 BLACK	80	4.8	TIG&ARC	4.8 √	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239 BLACK IS1239 BLACK				~530	11130	6890	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-460-80578	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-460

REV. NO. : 00

SYSTEM : SG AUX. COOLING WATER UNIT SYSTEM

WELDING CODE : - / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME				
								QTY	Ø2.4										
07	---	PIPE	IS1239 BLACK	50	4.5	TIG&ARC	4.5 ∇	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239 BLACK				~130	1638	1300	-	-								
08	---	PIPE	IS1239 BLACK	25	4.0	TIG&ARC	4.0 ∇	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239 BLACK				~125	800	625	-	-								
09	---	PIPE	IS1239 BLACK	15	3.2	TIG&ARC	3.2 ∇	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239 BLACK				~140	896	700	-	-								
10	---	PIPE	IS1239 BLACK	50	4.5	ARC	4.5 ∇	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~500	-	778	-	-								
11	---	PIPE	IS1239 BLACK	25	4.0	ARC	4.0 ∇	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~160	-	112	-	-								
12	---	PIPE	IS1239 BLACK	15	3.2	ARC	3.2 ∇	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~360	-	126	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-460-80578	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-471	REV. NO. : 00
	SYSTEM : BOILER WATER WASH TO AND FROM UNIT	WELDING CODE : - / ASME
		PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	---	PIPE	IS 3589	406.4	6	ARC	6 \widehat{V}	-	E 7018			1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS 3589 SA234WPB				~85	-	2550	1785	-								
02	---	PIPE	IS 3589	273	6	ARC	6 \widehat{V}	-	E 7018			1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS 3589 SA234WPB				~30	-	600	270	-								
03	---	PIPE	IS1239BLACK	40	4.0	ARC	4.0 \widehat{V}	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~10	-	22	-	-								
04	---	PIPE	IS1239BLACK	25	4.0	ARC	4.0 \widehat{V}	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239BLACK IS1239BLACK				~110	-	130	-	-								
08	---	PIPE	IS1239BLACK	25	4.0	TIG & ARC	4.0 \widehat{V}	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239BLACK IS1239BLACK				~50	280	350	-	-								
06	---	PIPE	IS 3589	219.1	6.4	ARC	6.4 \widehat{V}	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA234WPB				~5	-	185	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-471-80174	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW	CUST. NO : 7266	DOC.NO. : NA
CONTRACTOR : M/S BHEL	PGMA : 80-471	REV. NO. : 00
	SYSTEM : BOILER WATER WASH TO AND FROM UNIT	WELDING CODE : - / ASME
		PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG		ARC SPEC.				TEMP. °C	HOLD TIME				
								QTY(gms)		QTY(NOS.)									
								QTY	Ø2.4	Ø2.5	Ø3.2								
06	--	PIPE	IS1239BLACK	150	6.4	TIG& ARC	6.4 ∇	E 6013	E 7018		1001 REV 01	-	-	-	RT 10%	*	*		
		PIPE FITTING	IS1239BLACK IS1239BLACK				~35	1890	1120	-	-								
07	--	PIPE	IS1239BLACK	100	6.4	TIG& ARC	6.4 ∇	E 6013	E 7018		1001 REV 01	-	-	-	RT 10%	*	*		
		PIPE FITTING	IS1239BLACK IS1239BLACK				~35	931	770	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-471-80174	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
CONTRACTOR : M/S BHEL

CUST. NO : 7266
PGMA : 80-480
SYSTEM : FIRE WATER-OTHER AREAS

DOC.NO. : NA
REV. NO. : 00
WELDING CODE : - / ASME
PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			TIG	ARC SPEC.					TEMP. °C	HOLD TIME				
								QTY(gms)	QTY(NOS.)										
01	---	PIPE	IS 3589	406.4	6	ARC	6 ∇	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS 3589 SA234WPB				~50	-	1500	1050	-								
02	---	PIPE	IS 3589	273	6	ARC	6 ∇	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS 3589 SA234WPB				~35	-	700	315	-								
03	---	PIPE	IS1239BLACK	40	4.0	TIG & ARC	4.0 ∇	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239BLACK				~65	644	520	-	-								
04	---	PIPE	IS1239BLACK	25	4.0	TIG & ARC	4.0 ∇	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239BLACK				~110	616	770	-	-								
05	---	PIPE	IS1239BLACK	50	4.5	TIG & ARC	4.5 ∇	E 6013	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239BLACK				~40	504	400	-	-								
06	---	PIPE	IS 3589	219.1	6.4	ARC	6.4 ∇	E 7018				1213 REV 00	-	-	-	RT 10%	*	*	
		FITTING	SA234WPB				~10	-	1080	1620	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-480-80190	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-480

SYSTEM : FIRE WATER-OTHER AREAS

DOC.NO. : NA

REV. NO. : 00

WELDING CODE : - / ASME

PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	ARC SPEC. QTY(NOS.)										
		PART-1	PART-1				QTY	Ø2.4	Ø2.5	Ø3.2	Ø4.0		°C						
06	--	PIPE	IS1239BLACK	50	4.5	ARC	5 √	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~80	-	167	-	-								
07	--	PIPE	IS1239BLACK	40	4.0	ARC	4 √	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~400	-	642	-	-								
08	--	PIPE	IS1239BLACK	25	4.0	ARC	4 √	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~275	-	248	-	-								
09	--	PIPE	IS1239BLACK	15	3.2	ARC	3 √	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~30	-	14	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-480-80190	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI-1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-545
 SYSTEM : CONDENSATE PUMP A AND B
 DISCHARGE TO HP FLASH TANK

DOC.NO. : NA
 REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	ARC SPEC. QTY(NOS.)										
01	2-80-545-14059	FITTING PIPE VALVE PIPE/FITTING	SA234WPB SA106GRB WCB SA106GRB/WPB	457.2	9.53	TIG & ARC	9.53V 36	ER70SA1 5400	Ø2.5 1224	Ø3.2 1908	Ø4.0 -	1003 REV 03	-	-	-	RT 10%	*	*	

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR S B	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 23.11.16	DRAWING NO. 4-80-545-30049	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
CONTRACTOR : M/S BHEL

CUST. NO : 7266
PGMA : 80-612
SYSTEM : SERVICE AIR PIPING

DOC.NO. : NA
REV. NO. : 00
WELDING CODE : - / ASME
PAGE NO : 01 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME				
								QTY	Ø2.4										
01	---	PIPE	IS1239 BLACK	150	5.4	ARC	5.4 ∇	E 6013 E 7018				1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239 BLACK IS1239 BLACK				~100	5400	3100	-	-								
02	---	PIPE	IS1239 BLACK	80	4.8	ARC	4.8 ∇	E 6013 E 7018				1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE FITTING	IS1239 BLACK IS1239 BLACK				~105	2058	1785	-	-								
03	---	PIPE	IS1239 BLACK	50	4.5	ARC	4.5 ∇	E 6013 E 7018				1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239 BLACK				~100	1260	1000	-	-								
04	---	PIPE	IS1239 BLACK	25	4.0	ARC	4.0 ∇	E 6013 E 7018				1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239 BLACK				~130	728	910	-	-								
05	---	PIPE	IS1239 BLACK	15	3.2	ARC	3.2 ∇	E 6013 E 7018				1001 REV 01	-	-	-	RT 10%	*	*	
		PIPE	IS1239 BLACK				~600	3360	4200	-	-								
06	---	PIPE	IS1239 BLACK	50	4.5	ARC	4.5 ∇	- E 7018				1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~140	-	291	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-612-80225	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW
 CONTRACTOR : M/S BHEL

CUST. NO : 7266
 PGMA : 80-612
 SYSTEM : SERVICE AIR PIPING

DOC.NO. : NA
 REV. NO. : 00
 WELDING CODE : - / ASME
 PAGE NO : 02 OF 02

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS
				SIZE OD mm	THICK mm			ARC SPEC.		TEMP. °C	HOLD TIME								
								TIG QTY(gms)	QTY(NOS.)										
07	--	PIPE	IS1239 BLACK	25	4.0	ARC	4.0 \hat{V}	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~250	-	225	-	-								
08	--	PIPE	IS1239 BLACK	15	3.2	ARC	3.2 \hat{V}	-	E 7018			1001 REV 01	-	-	-	RT 10%	*	*	
		FITTING	SA 105				~1270	-	540	-	-								

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-612-80225	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CUST. NO : 7266

DOC.NO. : NA

CONTRACTOR : M/S BHEL

PGMA : 80-616

REV. NO. : 00

SYSTEM : INSTRUMENT AIR PIPING

WELDING CODE : - / ASME

PAGE NO : 01 OF 01

SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								TIG	ARC SPEC.		QTY									Ø2.4
01	---	PIPE	SA312TP304H	114.3	3.05	TIG& ARC	3.05 \sqrt{V}	ER347	E316				1032 REV01	20	-	-	RT 100%	*	*	
		PIPE FITTING	SA312TP304H SA413WP304H				~180	4788	2880	-	-									
02	---	PIPE	SA312TP304H	88.9	3.05	TIG& ARC	3.05 \sqrt{V}	ER347	E316				1032 REV01	20	-	-	RT 100%	*	*	
		PIPE FITTING	SA312TP304H SA413WP304H				~110	2310	1430	-	-									
03	---	PIPE	SA312TP304H	60.3	3.91	TIG& ARC	3.91 \sqrt{V}	ER347	E316				1032 REV01	20	-	-	RT 100%	*	*	
		PIPE FITTING	SA312TP304H SA413WP304H				~225	13680	-	-	-									
04	---	PIPE	SA312TP304H	48.3	3.68	TIG& ARC	3.68 \sqrt{V}	ER347	E316				1032 REV01	20	-	-	RT 100%	*	*	
		PIPE FITTING	SA312TP304H SA413WP304H				~670	6633	5360	-	-									
05	---	PIPE	SA312TP304H	33.4	3.38	TIG& ARC	3.38 \sqrt{V}	ER347	E316				1032 REV01	20	-	-	RT 100%	*	*	
		PIPE FITTING	SA312TP304H SA413WP304H				~1460	9344	7300	-	-									
06	---	PIPE	SA312TP304H	21.3	3.73	TIG& ARC	3.73 \sqrt{V}	ER347	E316				1032 REV01	20	-	-	RT 100%	*	*	
		PIPE FITTING	SA312TP304H SA413WP304H				~4280	57780	-	-	-									

NOTES: 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-616-80243	REV . 00
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ERECTION / FIELD WELDING SCHEDULE

PROJECT : WANAKBORI 1X800MW

CONTRACTOR : M/S BHEL

CUST. NO : 7266

PGMA : 80-650

SYSTEM : FUEL OIL PIPING

REV. NO. : 00

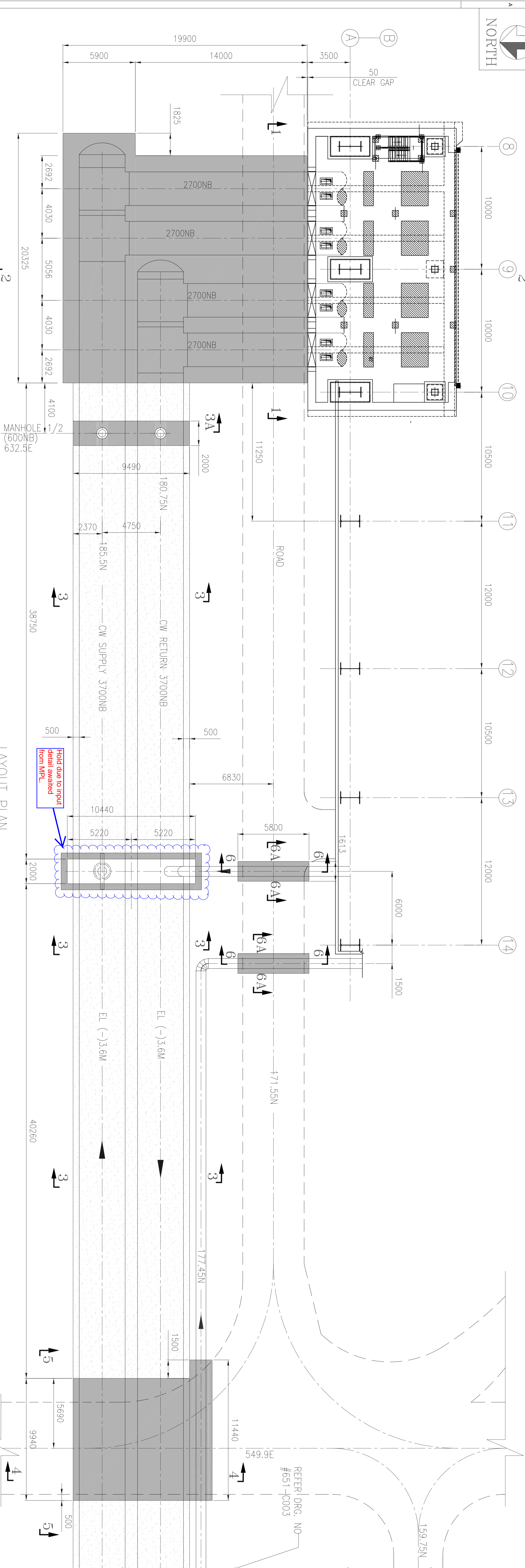
WELDING CODE : - / ASME

PAGE NO : 01 OF 01

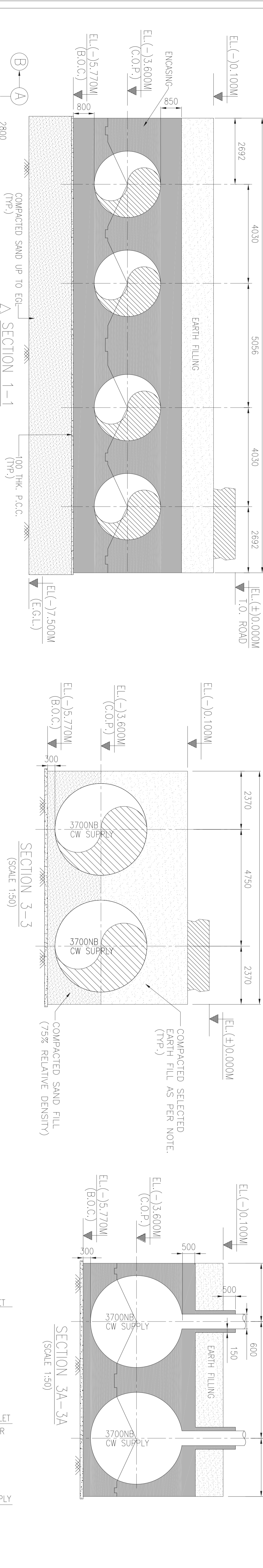
SL. NO.	DRG NO. FOR WELD LOCATION IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATL.SPEC. (ATT)	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC. (ATT)				W.P.S NO.	MIN. PRE HEAT TEMP. °C	HEAT TREATMENT		NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC. NORM REF.	REMARKS	
				SIZE OD mm	THICK mm			ARC SPEC.		QTY(gms)	QTY(NOS.)			TEMP. °C	HOLD TIME					
								QTY	Ø2.4											Ø2.5
01	---	PIPE FITTING	SA106GRB SA234WPB	406.3	9.53	TIG & ARC	9.53 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA106GRB SA234WPB				~5	660	150	235	--									
02	---	PIPE FITTING	SA106GRB SA234WPB	168.3	7.11	TIG & ARC	7.11 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB				~370	19610	5550	4070	--									
03	---	PIPE FITTING	SA106GRB SA234WPB	114.3	6.02	TIG & ARC	6.02 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB				~140	3724	2940	--	--									
04	---	PIPE FITTING	SA106GRB SA234WPB	88.9	5.49	TIG & ARC	5.49 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING/VALVE	SA106GRB SA234WPB/WCB				~50	980	750	--	--									
05	---	PIPE FITTING	SA106GRB SA234WPB	33.4	4.55	TIG & ARC	4.55 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA106GRB SA234WPB				~40	256	200	--	--									
06	---	PIPE FITTING	SA106GRB SA234WPB	48.3	5.08	TIG & ARC	5.08 ∇	ER70SA1	E7018-1				1003 REV 03	-	-	-	RT 10%	*	*	
		PIPE FITTING	SA106GRB SA234WPB				~70	693	560	--	--									

NOTES:
 01. * REFER NDE MANUAL DOC NO. PSQ-NDM-COM REV NO.R00/04-02/AMD-02.
 02. FOR WPS, HT & NDT REFER DRG NO. 4-80-999-93172/00 & 4-80-999-93173/00

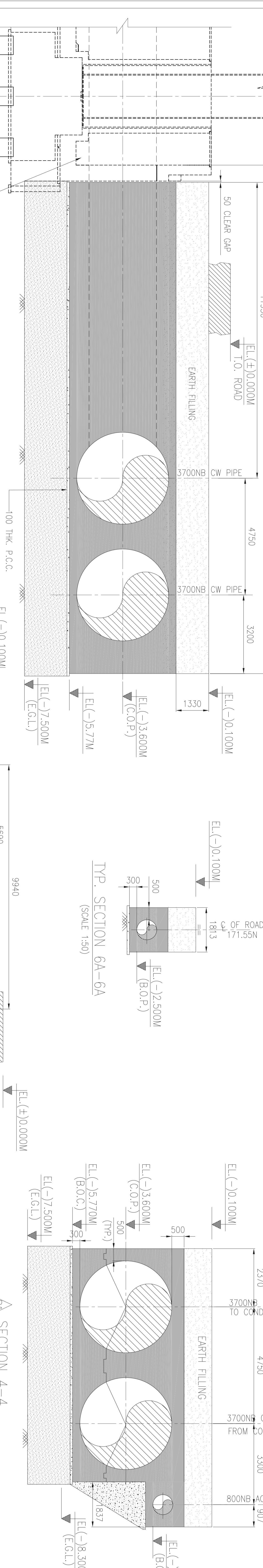
PREPARED KAMESH	DESIGN/CHD. BAHADUR	DESIGN/APPD. R.SESHAGIRI	CHD./APPD. - QA HARITHA.C	DATE 03.12.2016	DRAWING NO. 4-80-650-80051	REV . 00
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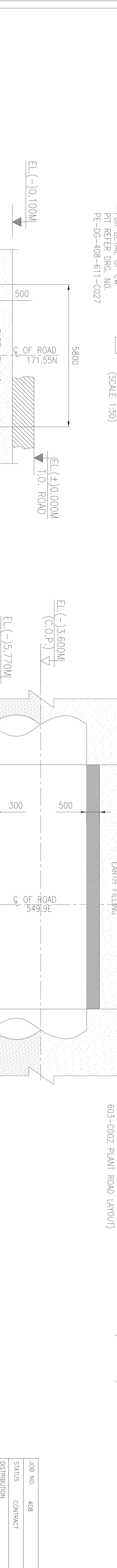
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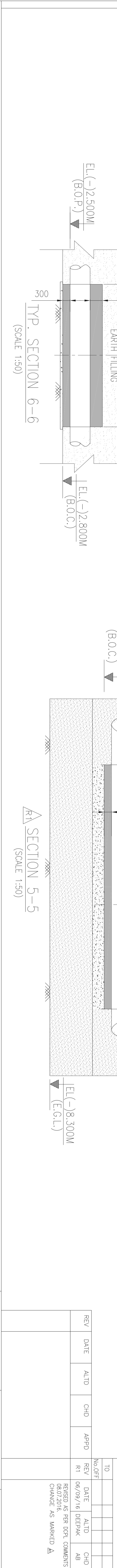
SECTION 1-1
 (SCALE 1:50)



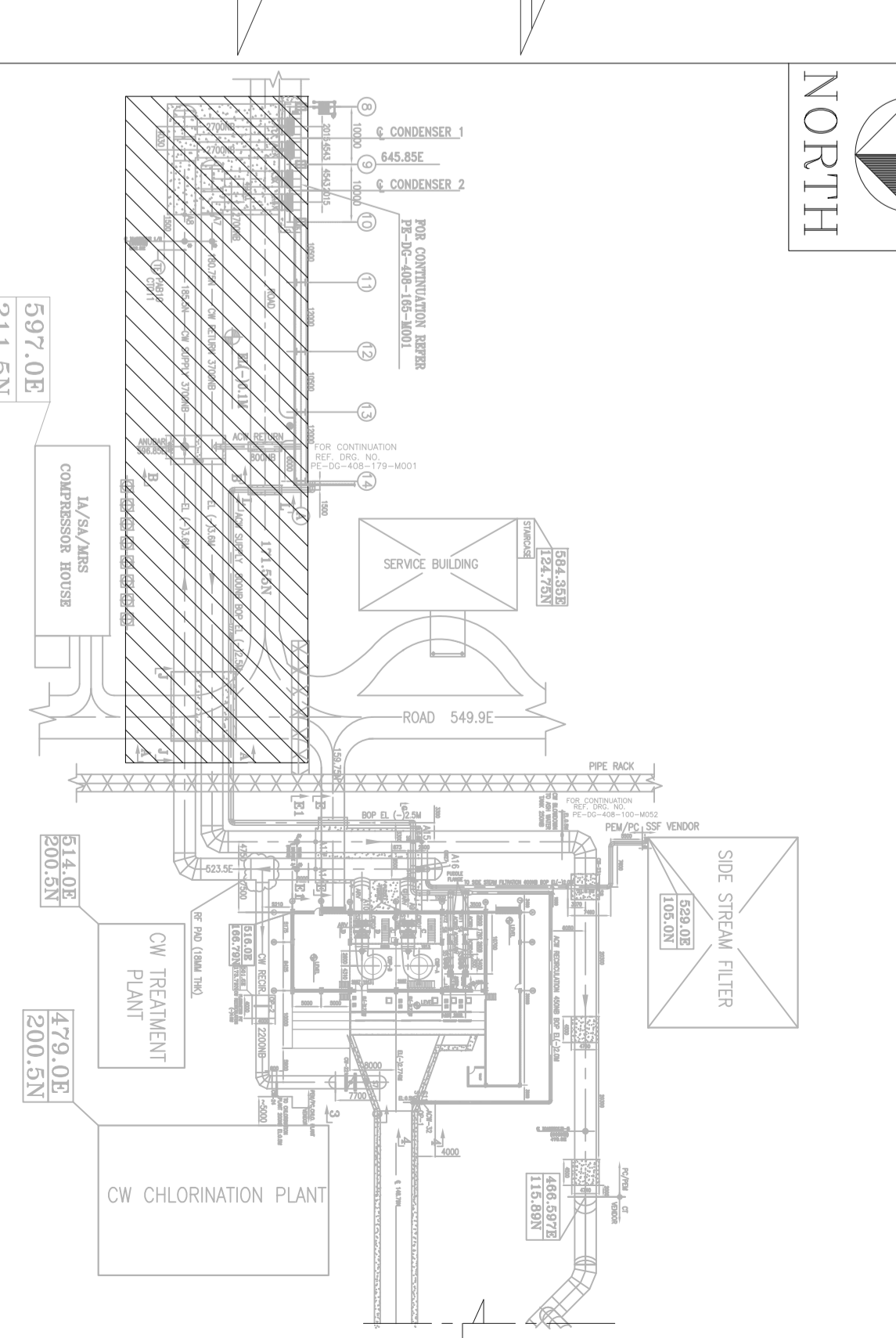
SECTION 2-2
 (SCALE 1:50)



SECTION 3-3
 (SCALE 1:50)



SECTION 4-4
 (SCALE 1:50)



NOTES

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS ARE REFERRED TO THE FINISHED GROUND FLOOR LEVEL OF POWER HOUSE BUILDING AS EL. 0.000 M WHICH CORRESPONDS TO RL 72.3 M ABOVE MEAN SEA LEVEL.
3. SITE SHOULD REFER THE COORDINATES OF CW PIPING FROM MECHANICAL DRG.
4. NECESSARY PRECAUTION TO AVOID UPLIFT OF PIPE DURING LAYING AND BEFORE BACKFILL SHALL BE TAKEN BY SITE.
5. ENGINEERING SHALL BE SUFFICIENTLY ACQUIRED AT SITE TO CLEAR PIPES ETC. AS APPROVED BY THE ENGINEER UNLESS SHOWN OTHERWISE IN THE DRAWINGS.
6. BACKFILLING SHALL BE DONE WITH APPROVED EXCAVATED EARTH AT SITE.
7. MATERIAL TO BE USED FOR BACKFILLING SHALL BE NON-EXPANSIVE, FREE FROM VEGETATION, ROOTS, SALTS, RUBBISH, LUMPS, ORGANIC MATTERS & ANY OTHER HARMFUL CHEMICALS ETC. AND SHALL BE GOT APPROVED BY THE ENGINEER-IN-CHARGE.
8. FILLING SHALL BE IN LAYERS NOT EXCEEDING 250MM THICKNESS AND EACH LAYER BE COMPACTED 50% TO ACHIEVE AT LEAST 90% OF MAXIMUM DRY DENSITY AS PER IS: 2720 PART-VIII.

REFERENCE DRGS. :-
 ENGINEERING DRGS. :-
 1. PE-DG-408-100-M001 PLOT PLAN
 2. PE-DG-408-165-M002 LAYOUT OF CW/ACW PIPING BETWEEN A ROW & PUMP HOUSE/COOLING TOWER

CONSTRUCTION DRGS. :-
 1. PE-DG-408-651-C004 CW DUCT - RC OF PIPE ENCASEMENT NEAR POWER HOUSE
 2. PE-DG-408-651-C008 CW PIPE - LAYOUT OF PIPE FROM MAIN POWER HOUSE TO CWPH AND CWPH TO COOLING TOWER
 3. PE-DG-408-611-C027 MAIN POWER HOUSE-CA OF CW PIT

LEGENDS

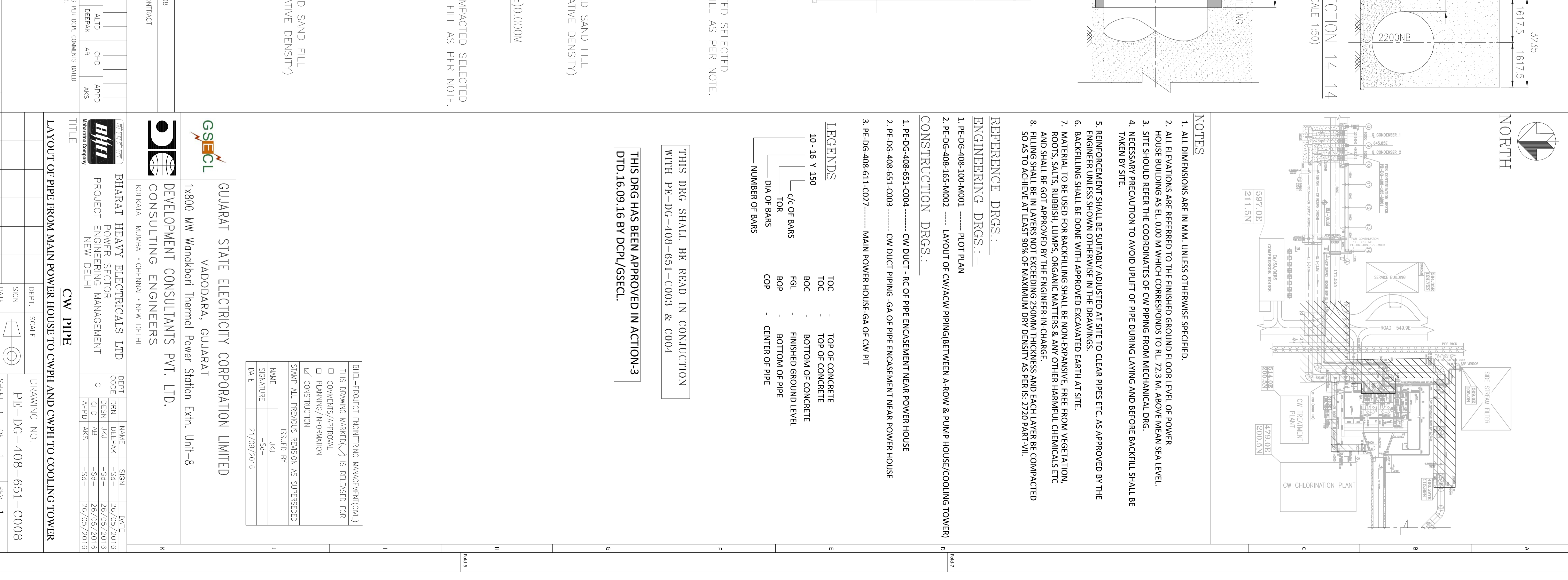
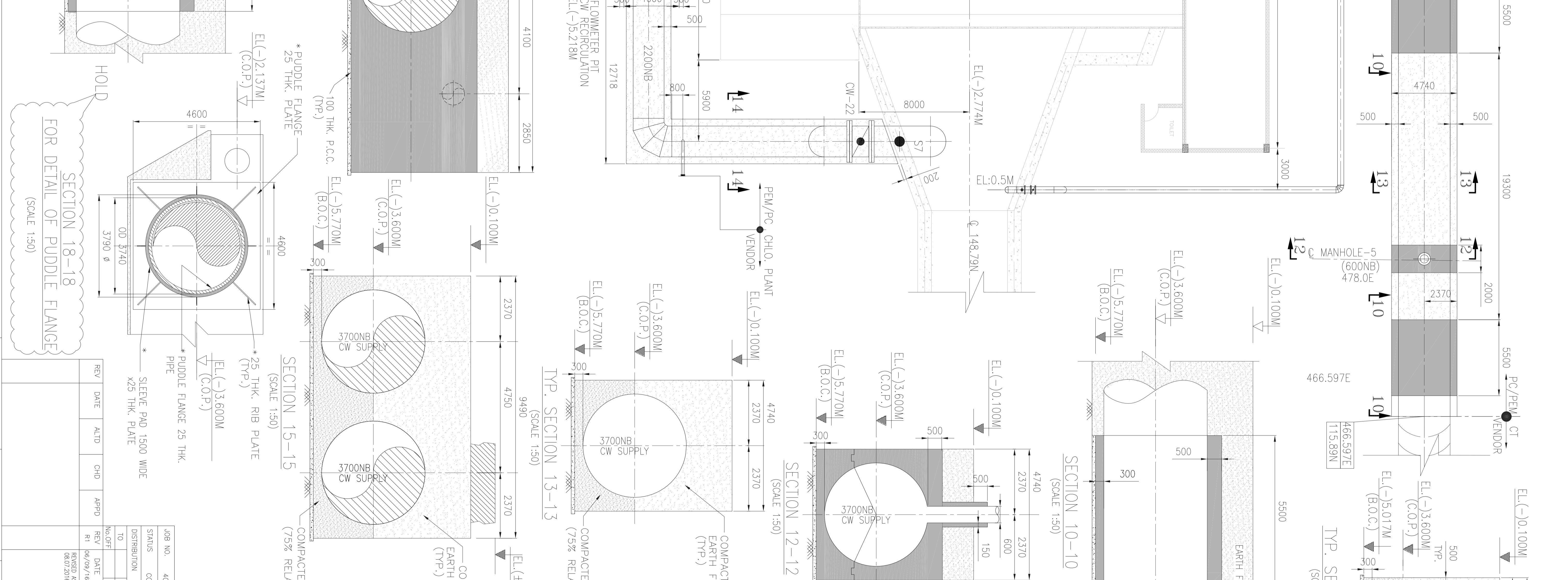
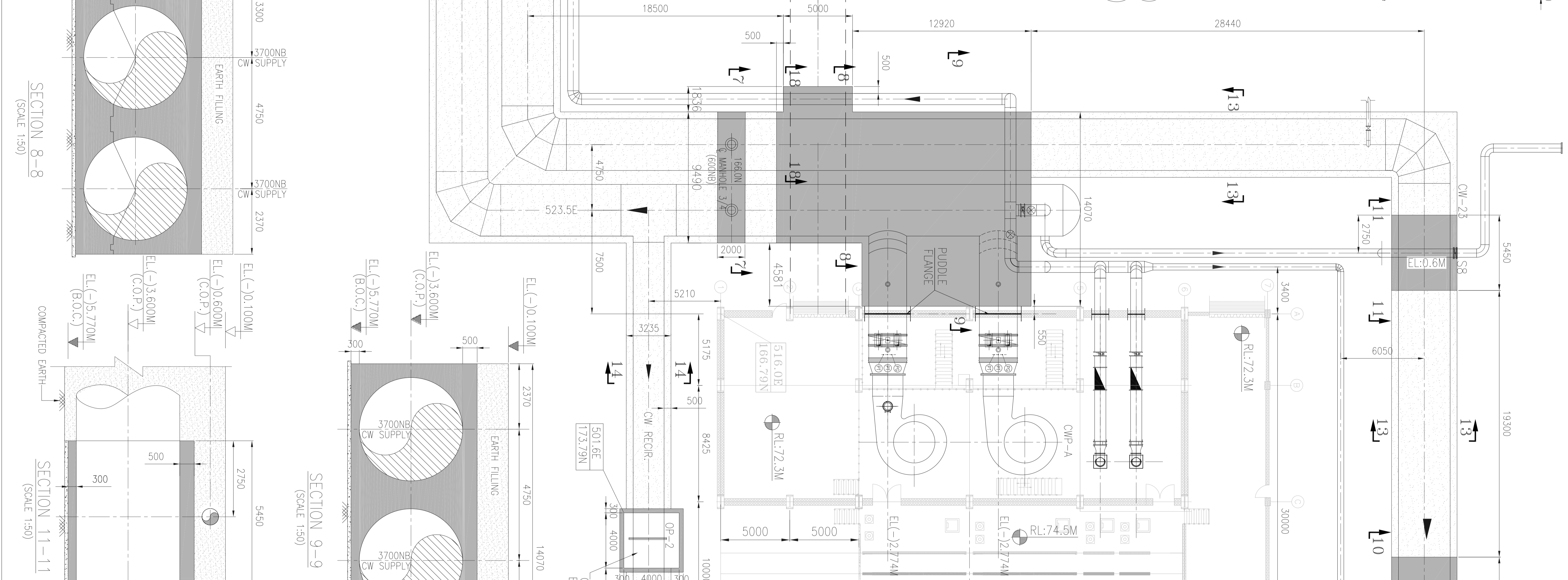
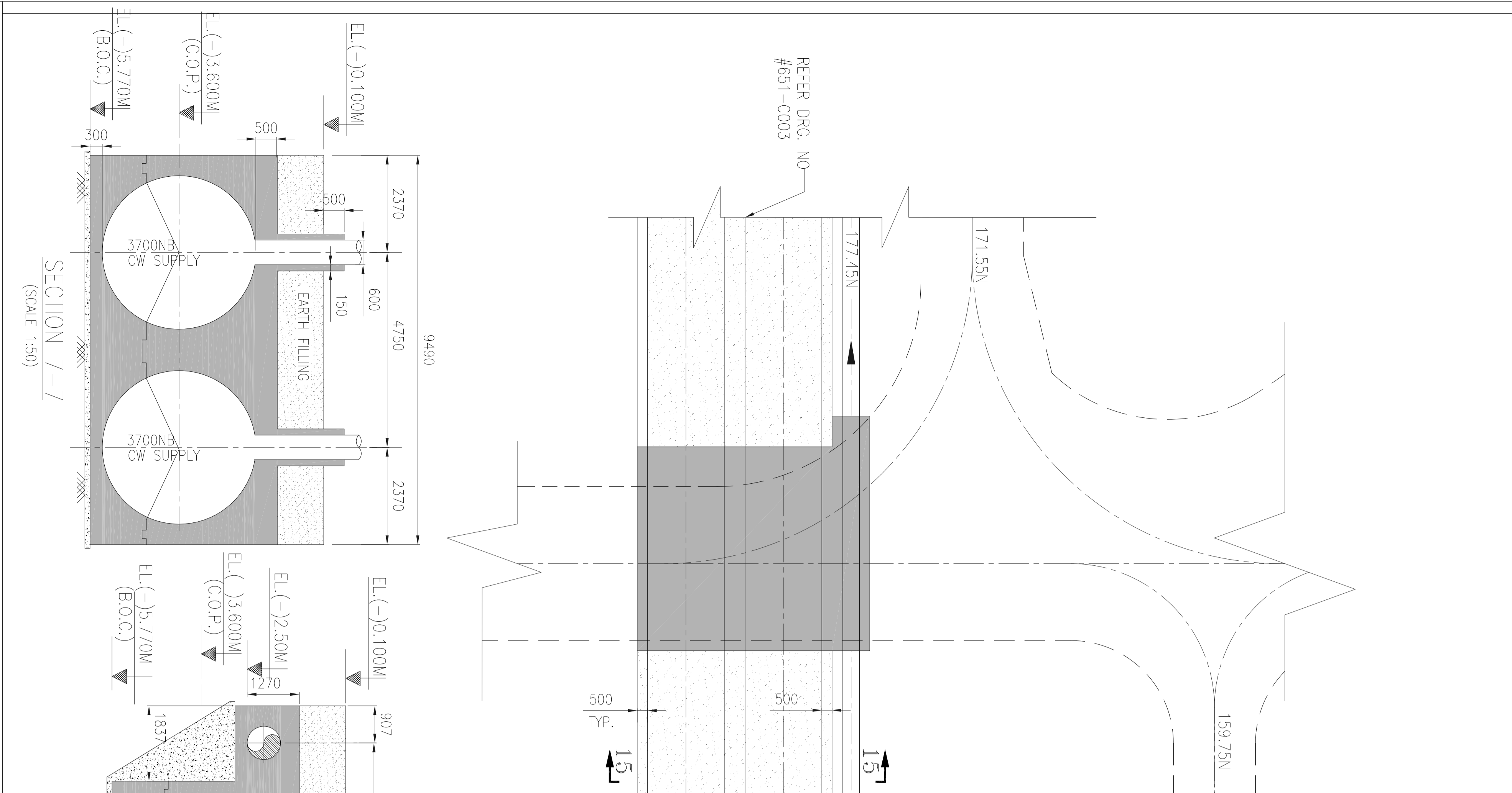
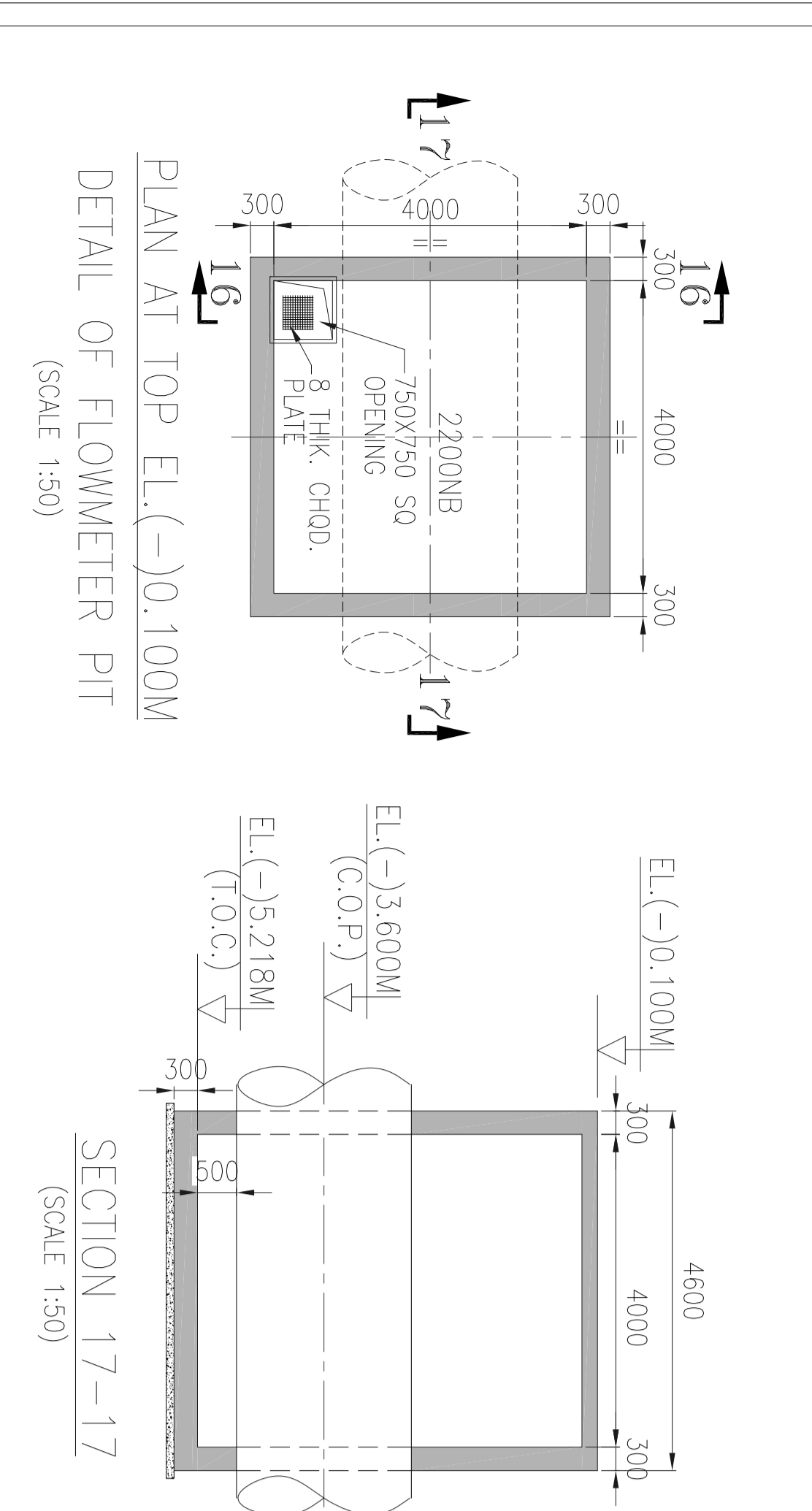
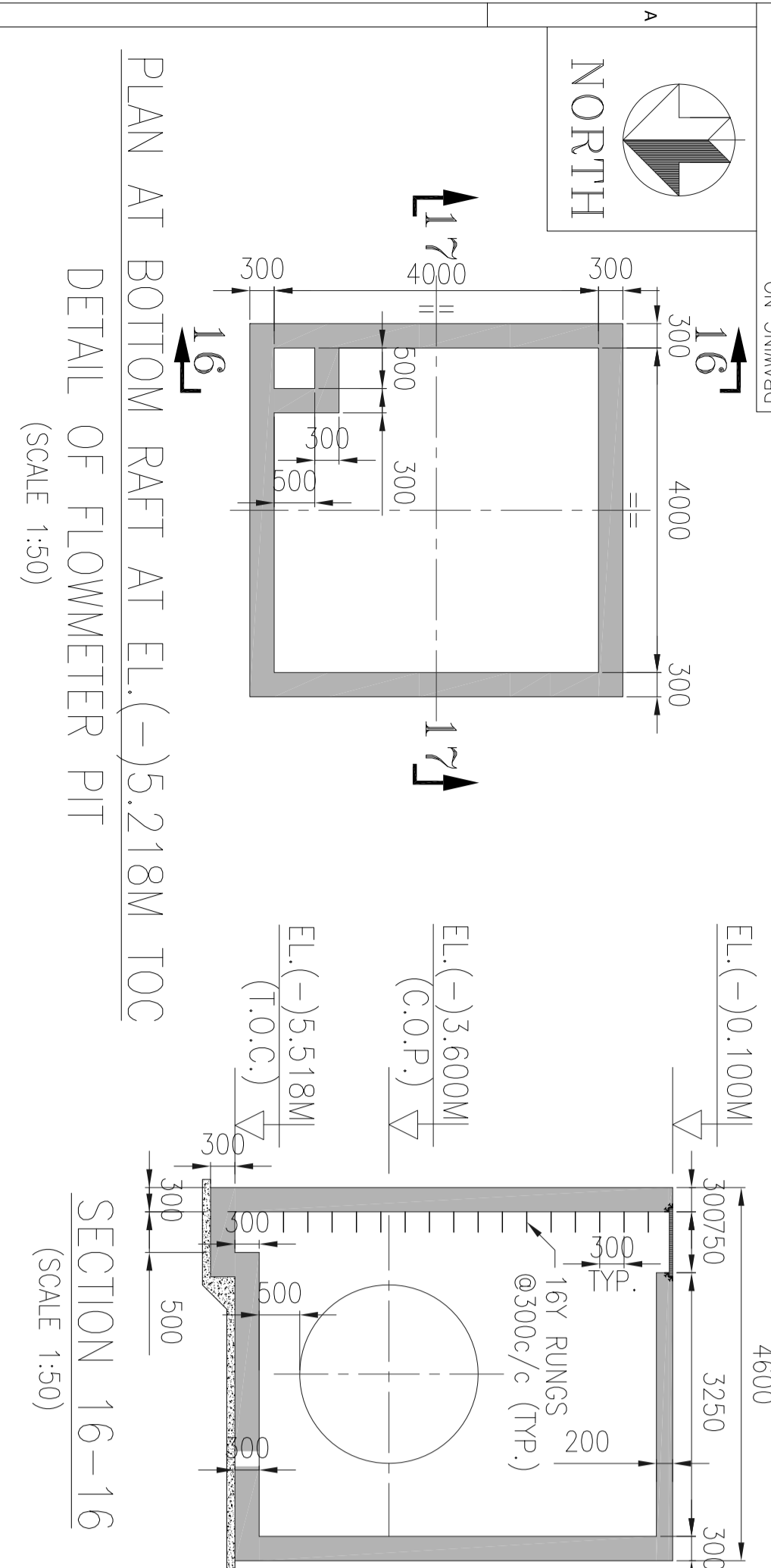
10-16 Y 150	TOC	TOP OF CONCRETE
d/c OF BARS	BOC	BOTTOM OF CONCRETE
TOR	Fgl.	FINISHED GROUND LEVEL
DN OF BARS	BOP	BOTTOM OF PIPE
NUMBER OF BARS	CP	CENTER OF PIPE

THIS DRG SHALL BE READ IN CONJUNCTION WITH PE-DG-408-651-C004 & C008
THIS DRG HAS BEEN APPROVED IN ACTION-6 DTD 16.09.16 BY DCP/GSECL.

REV	DATE	BY	CHKD	APPROD	REASON
R1	06/09/16	AB	AS	AS	REVISED AS PER DCP COMMENTS DATED CHANGE AS MARKED A

NO.	DATE	BY	CHKD	APPROD	REASON
1	26/05/2016	SS	SS	SS	PRELIMINARY
2	26/05/2016	SS	SS	SS	FOR PERMIT
3	26/05/2016	SS	SS	SS	FOR PERMIT
4	26/05/2016	SS	SS	SS	FOR PERMIT

GSECL
 GUJARAT STATE ELECTRICITY CORPORATION LIMITED
 VADODARA, GUJARAT
 14800 MW Wankaroti Thermal Power Station Extn. Unit-8
 DEVELOPMENT CONSULTANTS PVT. LTD.
 CONSULTING ENGINEERS
 KOLKATA, MUMBAI, CHENNAI, NEW DELHI
dhruv
 BHARATI HEAVY ELECTRICALS LTD
 POWER SECTOR
 PROJECT ENGINEERING MANAGEMENT
 NEW DELHI



REV	DATE	BY	CHKD	APPD	REASON
1	16/09/16	DEEPAK	AB	AMS	ISSUED AS PER OWNER COMMENTS DATED 09/02/2016

THIS DRG SHALL BE READ IN CONJUNCTION WITH PE-DG-408-651-C003 & C004

THIS DRG HAS BEEN APPROVED IN ACTION-3 DTD 16.09.16 BY DCP/GSSECL.

LEGENDS

10-16 V 150

TOP OF CONCRETE

BOTTOM OF CONCRETE

FINISHED GROUND LEVEL

BOTTOM OF PIPE

CENTER OF PIPE

REFERENCE DRGS :-

ENGINEERING DRGS :-

1. PE-DG-408-100-M001 PLOT PLAN

2. PE-DG-408-165-M002 LAYOUT OF CW/ACW PIPING BETWEEN A ROW & PUMP HOUSE/COOLING TOWER

CONSTRUCTION DRGS :-

1. PE-DG-408-651-C004 RC OF PIPE ENCASMENT NEAR POWER HOUSE

2. PE-DG-408-651-C003 CW DUCT PING-GA OF PIPE ENCASMENT NEAR POWER HOUSE

3. PE-DG-408-611-C027 MAIN POWER HOUSE-GA OF CW RT

NOTES

1. ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2. ALL ELEVATIONS ARE REFERRED TO THE FINISHED GROUND FLOOR LEVEL OF POWER HOUSE BUILDING AS EL. 0.00 M WHICH CORRESPONDS TO RL. 73.3 M ABOVE MEAN SEA LEVEL.

3. SITE SHOULD REFER THE COORDINATES OF CW PIPING FROM MECHANICAL DRG.

4. NECESSARY PRECAUTION TO AVOID UP/LIFT OF PIPE DURING LAYING AND BEFORE BACKFILL SHALL BE TAKEN AT SITE.

5. REINFORCEMENT SHALL BE SUTURALLY ANCHORED AT SITE TO CLEAR PIPES ETC. AS APPROVED BY THE ENGINEER UNLESS SHOWN OTHERWISE IN THE DRAWINGS.

6. BACKFILLING SHALL BE DONE WITH APPROVED EXCAVATED EARTH AT SITE.

7. MATERIAL TO BE USED FOR BACKFILLING SHALL BE NON-EXPANSIVE, FREE FROM VEGETATION, ROOTS, SALTS, RUBBISH, LUMPS, ORGANIC MATTERS & ANY OTHER HARMFUL CHEMICALS ETC. AND SHALL BE GOT APPROVED BY THE ENGINEER-IN-CHARGE.

8. FINING SHALL BE IN LAYERS NOT EXCEEDING 350MM THICKNESS AND EACH LAYER BE COMPACTED SO AS TO ACHIEVE AT LEAST 90% OF MAXIMUM DRY DENSITY AS PER IS 2720 PART-VII.

