BHEL TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW CUSTOMER No. : 1225 TO 1229

PG No. : 04 TO 07

P.G. NAME : DRUMS,HEADERS,WW PANELS PRESSURE PARTS
CIRCULATING SYSTEM COMPONENTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	ER 70S-A1	–	–	–	–	93.000	
02	E 7018-1	61900	10115	–	–	–	
03	E 7018-A1	2840	4645	12650	–	–	

NOTES:-

1. RESERVE 50% ADDED.
2. QUANTITY GIVEN IS PER BOILER
3. THIS ERECTION WELDING SCHEDULE IS FOR REFERENCE PURPOSE ONLY.

ENCL : ERECTION WELDING SCHEDULE SHEETS
4-07-992-05310 &
4-07-992-05311

CC : 1. PROJECT CO-ORDINATOR/COMMERCIAL(FB)
2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)
3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.11	4-07-992-05309	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 04 TO 07

PG NAME : DRUM,HEADERS, WW PANELS CIRCULATING SYSTEM COMPONENTS

PROJECT : NASIK 5x270 MW
CONTRACTOR : BHEL
PACKAGE :
SYSTEM : CIRCULATION SYSTEM
FWS NO. :

REV.NO. :
WELDING CODE : IBR/ASME
PAGE NO. : 1/2

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	WELD SPEC.	RECOMENDED ELEC./WIRE SPEC.	PROCESS ARC/TIG	SIZE (mm)	TOTAL LENGTH NO.OFF WELDS	ACT QTY GMS	WPS NO. REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
01	1-07-108-00588	DOWN COMER ASSY.	SA106GR.C + SA106GR.C	ø457.2	40	38 Ŵ	ER70S-A1	TIG	2.4	52 NOS	7540	1005/05	100	620 TO 650	100 mins	100% RT			
							E7018-A1	ARC	2.5 3.15 4.0	52 NOS	1768 2912 8060								
				ø406.4	40	37.40Ŵ	ER70S-A1	TIG	2.4	8 NOS	1008		100	620 TO 650	100 mins	100% RT			
							E7018-A1	ARC	2.5 3.15 4.0	8 NOS	240 400 1072								
02	1-07-108-00588	RING HDRS.	SA106GR.C + SA106GR.C	ø406.4	55	51 Ŵ	ER70S-A1	TIG	2.4	4 NOS	460	1005/05	100	620 TO 650	140 mins	100% RT			
							E7018-A1	ARC	2.5 3.15 4.0	4 NOS	120 200 916								
03	0-00-027-45672	WW PANEL	SA210GR.C + SA210GR.C	ø63.5	5.6 6.0 6.3	5.6V̂	ER70S-A1	TIG	2.4	3428	45935	1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							E7018-1	ARC	2.5	3428	37708								

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-07-992-05310	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 04 TO 07

PG NAME : DRUM,HEADERS, WW PANELS CIRCULATING SYSTEM COMPONENTS

PROJECT : NASIK 5x270 MW
CONTRACTOR : BHEL
PACKAGE :
SYSTEM : CIRCULATION SYSTEM
FWS NO. :

REV.NO. :
WELDING CODE : IBR/ASME
PAGE NO. : 2/2

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	WELD SPEC.	RECOMENDED ELEC./WIRE SPEC.	PROCESS ARC/TIG	SIZE (mm)	TOTAL LENGTH NO.OFF WELDS	ACT QTY GMS	WPS NO. REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD/ QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
04	0-00-027-45677	REAR ARCH SCREEN TUBE & HGR TUBE	SA210GR.C + SA106GR.C	ø76.1	7.1	7.1 V	ER70S-A1	TIG	2.4	358 NOS	5656	1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							E7018-1	ARC	2.5	358 NOS	6086								
05	0-00-027-45677	RISER PIPE ASSY.	SA106GR.C + SA106GR.C	ø127	11.5	11.5V	ER70S-A1	TIG	2.4	476 NOS	13328	1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			
							E7018-1	ARC	2.5 3.15	476 454 NOS	5712 8092								
06	1-10-184-01078	HAND HOLE PIPE ASSY.	SA106GR.C + SA234WPC	ø127	20	18.15V	ER70S-A1	TIG	2.4	12 NOS	420	1005/05	–	620 TO 650	50 mins	10% RT MIN 1 WELD PER WELDER			
							E7018-A1	ARC	2.5 3.15 4.0	12 NOS 12 NOS 12 NOS	144 204 72								

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-07-992-05311	00

BHEL TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW

CUSTOMER No. : 1225 TO 1229

PG No. : 12

P.G. NAME : SUPERHEATER

PRESSURE PARTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	E 7018-1	30000	1600	300	–	–	
02	E 8018-B2	17000	1300	4100	–	–	
03	E 9018-B3	17000	200	–	–	–	
04	E 7018	20	20	–	–	–	
05	E 7018-A1	200	300	600	–	–	
05	E 309	40	–	–	–	–	
05	ER70S-A1	–	–	–	–	45.000	
05	ER80S-B2	–	–	–	–	25.000	
05	ER90S-B3	–	–	–	–	15.000	

NOTES:-

1. RESERVE 25% ADDED.
2. QUANTITY GIVEN IS PER BOILER
3. THIS ERECTION WELDING SCHEDULE IS FOR REFERENCE PURPOSE ONLY.

ENCL : ERECTION WELDING SCHEDULE SHEETS
4-12-992-11633 TO
4-12-992-11646

CC : 1. PROJECT CO-ORDINATOR/COMMERCIAL(FB)
2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)
3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.2011	4-12-992-11632	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 1/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
01	0-12-850-01528	SH. CONN PIPES (SATURATED)	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	11.5 V / 66	ER70S-A1 / 1848	E 7018-1 792	792		1003/03	–	–	–	10 % RT MIN 2 WELD PER WELDER			
02	0-00-027-45667 0-00-027-45673	SH.ROOF INLET HDR NIPPLES+ SH.RADIANT ROOF TUBES	SA213T11 + SA213T11	ø51	5	TIG&ARC	5 V / 132	ER80S-B2 / 1400	E 8018-B2 1056			1009/02	150	–	–				
03	0-00-027-45667 0-00-027-45673	SH.RADIANT ROOF TUBES+ SH.RADIANT ROOF TUBES	SA213T11 + SA213T11	ø51	5	TIG&ARC	5 V / 132	ER80S-B2 / 1400	E 8018-B2 1056			1009/02	150	–	–	10 % RT MIN 1 WELD PER WELDER			
04	0-00-027-45667 0-00-027-45673	SH.RADIANT ROOF TUBES+ SH.RAD.ROOF OUTLET HDR NIPPLES	SA213T11 + SA213T11	ø51	5	TIG&ARC	5 V / 136	ER80S-B2 / 1442	E 8018-B2 1088			1009/02	150	–	–				
05	0-00-027-45668	SH. RAD ROOF OUTLER HDR ELBOW + SH. SIDE WALL INLET HDR	SA234WPC + SA106GR.C	ø323.9	40	TIG&ARC	35 W / 2	ER70S-A1 / 190	E 7018-1 48	78	210	1005/05	100	635 ±15	100 mins	100% RT			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11633	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 2/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS		PROCESS OF WELDING	TYPE OF WELD	ELECTRODE FILLER SPEC.				WPS NO.	MIN. PRE.	HEAT TREATMENT		NDT METHOD / QUANTUM	REF.		REMARKS
				SIZE	THICK			TIG	ARC SPEC. QTY								SPEC. NO.	ACC NORM REF	
							QTY	Wt.(gms)	ø2.5	ø3.15	ø4.0	REV. NO.	HEAT TEMP	TEMP. °C	HOLD. TIME				
06	0-00-027-45673	SH. SIDE WALL INLET HDR + SH.SIDE WALL TUBES	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V	ER70S-A1	E 7018-1			1002/03	-	-	-	10 % RT MIN 1 WELD PER WELDER			
							152	1399	1064										
07	0-00-027-45676	SH. SIDE WALL TUBES + SH. SIDE WALL TUBES	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V	ER70S-A1	E 7018-1			1002/03	-	-	-	10 % RT MIN 1 WELD PER WELDER			
							152	1399	1064										
08	0-00-027-45676	SH. SIDE WALL TUBES + SH. SIDE WALL OUT HDR.NIPPLE	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V	ER70S-A1	E 7018-1			1002/03	-	-	-	10 % RT MIN 1 WELD PER WELDER			
							152	1399	980										
09	0-00-027-45668 0-00-027-45678	SH.SIDE WALL OUTLET HDR ELBOW + FRONT WALL INLET HDR	SA234WPC SA106GR.C	ø273	40	TIG&ARC	29.25W	ER70S-A1	E 7018-A1			1005/05	100	620 TO 650	100 mins	100% RT			
							2	164	40	66	114								
10	0-00-027-45668 0-00-027-45678	SH. SIDE WALL OUTLER HDR ELBOW + SH.REAR WALL INLET HDR	SA234WPC + SA106GR.C	ø273	40	TIG&ARC	29.25W	ER70S-A1	E 7018-A1			1005/05	100	620 TO 650	100 mins	100% RT			
							2	164	40	66	114								

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11634	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW
CONTRACTOR : BHEL
PACKAGE :
SYSTEM : SUPERHEATER

FWS NO. :
REV.NO. :
WELDING CODE : IBR/ASME
PAGE NO. : 3/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
11	0-00-027-45676	SH.REAR WALL INLET HDR + SH.REAR WALL (LOWER)	SA210GR.C + SA210GR.C	ø44.5	5.0	TIG&ARC	5 V̂ / 108	ER70S-A1 / 972	E 7018-1 / 756			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
12	0-00-027-45676	SH.REAR WALL LOWER + LTSH INLET HDR. NIPPLE	SA210GR.C + SA210GR.C	ø44.5	5.0	TIG&ARC	5 V̂ / 108	ER70S-A1 / 972	E 7018-1 / 756			1002/03	–	–	–				
13	0-00-027-45676	SH. FRONT WALL INLET HDR NIPPLE+ SH.FRONT WALL	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V̂ / 108	ER70S-A1 / 994	E 7018-1 / 756			1002/03	–	–	–				
14	0-00-027-45676	SH. FRONT WALL + SH. FRONT HANGER TUBE	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V̂ / 108	ER70S-A1 / 994	E 7018-1 / 756			1002/03	–	–	–				
15	0-00-027-45668	SH. FRONT HANGER TUBE + SH.JUNCTION HDR. NIPPLE	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V̂ / 108	ER70S-A1 / 994	E 7018-1 / 756			1002/03	–	–	–				

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11635	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 4/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
16	0-10-687-01076	SH.JUNCTION HDR.H.H.PIPE+ H.H DISHED END COVER	SA106GR.C + SA234WPC	ø127	20	TIG&ARC	18.15W / 2	ER70S-A1 / 70	E 7018-1 24	34	10	1005/05	–	620 TO 650	50 mins	10% RT MIN 1 WELD PER WELDER			
17	0-00-027-45676	SH.JUNCTION HDR NIPPLE+ SH. REAR ROOF	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V / 132	ER70S-A1 / 1215	E 7018-1 924			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
18	0-00-027-45668 0-00-027-45676	SH. REAR ROOF + SH. REAR WALL (UPP)	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V / 132	ER70S-A1 / 1215	E 7018-1 924			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
19	0-00-027-45676	SH. REAR WALL (UPP) + LTSH INLET HDR. NIPPLE	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5V / 132	ER70S-A1 / 1215	E 7018-1 924			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
20	0-00-027-45678 1-12-184-01437	SH. FRONT WALL INLER HDR NOZZLE+ SH EXTD SIDE WALL SUP. PIPE	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	10.5V / 4	ER70S-A1 / 112	E 7018-1 48	48		1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11636	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 5/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
21	1-12-184-01437	SH.EXTD SW. SUPPLY PIPES +SH.EXTD SW SUPPLY PIPES	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	10.5 V	ER70S-A1	E 7018-1			1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			
							7	196	84	84									
22	0-00-027-45668 1-12-184-01437	SH.EXTD SW. SUPPLY PIPES +SH.EXTD SW INLET HDR NOZZLE	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	10.5 V	ER70S-A1	E 7018-1			1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			
							4	112	48	48									
23	0-00-027-45676	SH.EXTD SW INLET HDR NIPPLE + SH.EXTD SW BOTTOM PANEL	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5 V	ER70S-A1	E 7018-1			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							40	368	280										
24	0-00-027-45676	SH.EXTD SW BOTTOM PANEL + SH.EXTD SW BOTTOM PANEL LOOSE TUBES/ PANEL	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5 V	ER70S-A1	E 7018-1			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							80	736	560										
25	0-00-027-45676	SH. EXTD SIDE WALL PANEL + SH. EXTD SIDE WALL OUTLET HDR. NIPPLE	SA210GR.C + SA210GR.C	ø44.5	4.5	TIG&ARC	4.5 V	ER70S-A1	E 7018-1			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							42	387	294										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11637	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 6/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
26	1-12-187-01358	SH.EXTD.SW OUT.HDR NIPPLES+SH. REAR ROOF INLET PIPES	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	10.5 V ER70S-A1	E 7018-1				1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			
							4	112	48	48									
27	1-12-187-01358	SH.REAR ROOF INLET PIPES SH.REAR ROOF INLET PIPES	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	10.5V ER70S-A1	E 7018-1				1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			
							4	112	48	48									
28	0-00-027-45668	SH.REAR ROOF INLET PIPES + SH.REAR ROOF JUNCTION HDR	SA106GR.C + SA106GR.C	ø127	11.5	TIG&ARC	10.5V ER70S-A1	E 7018-1				1003/03	–	–	–	10% RT MIN 2 WELD PER WELDER			
							4	112	48	48									
29	0-00-027-45668	LTSH INLET HDR NIPPLE + LOOSE TUBES	SA210GR.C + SA210GR.C	ø47.63	5	TIG&ARC	5 V ER70S-A1	E 7018-1				1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							528	5122	3696										
30	0-00-027-45668	LOOSE TUBES + LTSH LOWER COILS	SA210GR.C + SA210GR.C	ø47.63	5	TIG&ARC	5 V ER70S-A1	E 7018-1				1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
							528	5122	3696										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11638	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : AMARAVATI 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 7/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
31	0-00-027-45668	LTSH LOWER COILS + LTSH UPPER COILS	SA210GR.C + SA213T11	ø47.63	5.0	TIG&ARC	5.0 V / 528	ER70S-A1 / 5122	E 7018-1 / 3696			1017/03	150	–	–	10% RT MIN 1 WELD PER WELDER			
32	0-00-027-45668	LTSH UPPER COILS + LTSH TERMINAL TUBES	SA213T11 + SA213T11	ø47.63	5.0	TIG&ARC	5.0 V / 528	ER80S-B2 / 5122	E 8018-B2 / 3696			1009/02	150	–	–	10% RT MIN 1 WELD PER WELDER			
33	0-00-027-45668	LTSH TERMINAL TUBES + LTSH OUTLET HDR. NIPPLES	SA213T11 + SA213T11	ø47.63	5.0	TIG&ARC	5.0 V / 528	ER80S-B2 / 5122	E 8018-B2 / 3696			1009/02	150	–	–	10% RT MIN 1 WELD PER WELDER			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11639	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 8/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
34	0-12-852-01541	SH. DESH STAGE-1 PIPE + T-PIECE	SA335P12 + SA335P22	ø368	40	TIG&ARC	35.0W ER80S-B2 / 2	224	E 8018-B2 56	90	240	1012/03	150	680 TO 720	100 mins	100% RT			
35	0-12-852-01541	PIPE + ELBOW	SA335P12 + SA234WP12 CL1	ø368	40	TIG&ARC	36.0W ER80S-B2 / 8	896	E 8018-B2 224	360	808	1010/05	150	640 TO 670	100 mins	100% RT			
36	0-12-852-01541	PIPE + T-PIECE	SA335P12 + SA234WPC	ø368	40	TIG&ARC	37.85W ER70S-A1 / 2	224	E 7018-A1 56	90	240	1018/02	100	640 TO 670	100 mins	100% RT			
37	0-12-852-01541	R.G PLUG + PIPE	SA182F22CL3 + SA335P12	ø368	40	ARC	7△ / 12		E 8018-B2 30			1102/00	200	–	–	10% MPI LPI			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11640	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 9/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
38	0-00-027-45667	SH.PLATEN IN. HDR NIPPLE+ SH.PLATEN COILS CIRCU.1	SA213T11 + SA213T22	ø47.63	10	TIG&ARC	10 V / 32	ER80S-B2 / 227	E 8018-B2 288	128	–	1012/03	150	680-720	30 mins	10% RT MIN 1 WELD PER WELDER			
39	0-00-027-45667	SH.PLATEN IN. HDR NIPPLE+ SH.PLATEN COILS CIRCU. 02-08	SA213T11 + SA213T22	ø47.63	5	TIG&ARC	5.0 V / 224	ER80S-B2 / 2173	E 8018-B2 1568			1011/01	150	–	–	10% RT MIN 1 WELD PER WELDER			
40	0-00-027-45667	SH.PLATEN COILS (CIRCU.-01) + SH.PLTN OUT. HDR NIPPLES	SA213T22 + SA213T22	ø47.63	10	TIG&ARC	10 V / 32	ER90SB3 / 227	E 9018-B3 288	128		1014/02	–	680-750	30 mins	10% RT MIN 1 WELD PER WELDER			
41	0-00-027-45667	SH.PLATEN COILS (CIRCUIT-02-08) + SH.PLATEN OUTLET HDR NIPPLES	SA 213 T22 + SA 213 T22	ø47.63	8.0	TIG&ARC	8.0V / 224	ER90SB3 / 1860	E 9018-B3 2912	–	–	1014/02	–	680-750	30 mins	10% RT MIN 1 WELD PER WELDER			
42	1-12-174-01366	FINAL SH. LINKS ELBOW + TEE PIECE	SA234WP12 + SA234WP12	ø406.4	65	TIG&ARC	56.85 W / 4	ER80S-B2 / 444	E 8018-B2 120	200	1084	1010/05	150	640-670	160 mins	100% RT			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11641	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 10/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
43	1-12-174-01366	PIPE + ELBOW	SA 335 P12 + SA234WP12 CL1	ø406.4	65	TIG&ARC	61.75 ER80S-B2	E 8018-B2				1010/03	150	640-670	160 mins	100% RT			
							4	444	120	200	1084								
44	1-12-174-01366	PIPE + RG-PLUG	SA 335 P12 + SA182F22CL3	ø406.4	65	ARC	7 △	-	E 8018-B2			1102/00	120	-	-	100% MPI/ LPI			
							8	-	20										
45	0-00-027-45667	FINAL SH INLET HDR NIPPLES + FINAL SH COIL	SA 213 T22 + SA 213 T22	ø47.63	8.0	TIG&ARC	8 V	ER90S-B3	E 9018-B3			1013/02	150	-	-	10% RT MIN 1 WELD PER WELDER			
							393	3262	5019										
46	0-00-027-45667	FINAL SH COIL + FINAL SH OUTLET HDR NIPPLES	SA 213 T22 + SA 213 T22	ø47.63	8	TIG&ARC	8 V	ER90S-B3	E 9018-B3			1013/02	150	-	-	10% RT MIN 1 WELD PER WELDER			
							393	3262	5019										
47	0-12-803-01567	SH. STEAM COOLED SPACER TUBE+ TUBE	SA 210 GR.C + SA 210 GR.C	ø44.5	4	TIG	4.0 V	ER70S-A1				1002/03	-	-	-	10% RT MIN 1 WELD PER WELDER			
							2	14											
48	0-12-803-01567	SH. STEAM COOLED SPACER TUBE+ TUBE	SA 213 T11 + SA 213 T11	ø44.5	5	TIG&ARC	5 V	ER80S-B2	E 8018-B2			1009/02	150	-	-	10% RT MIN 1 WELD PER WELDER			
							7	63	49										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11642	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 11/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
49	0-12-803-01567	SH STEAM COOLED SPACER TUBE + TUBE	SA 210 GR.C + SA 213 T11	ø44.5	4.0	TIG	4 V / 1	ER70S-A1 / 7				1017/03	125	–	–	10% RT MIN 1 WELD PER WELDER			
50	0-12-803-01567	SH STEAM COOLED SPACER TUBE + TUBE	SA 210 GRC + SA 210 GRC	ø44.5	4	TIG	4.0 V / 6	ER70S-A1 / 42				1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
51	0-12-803-01567	SH STEAM COOLED SPACER TUBE + COOLER TUBE	SA 213 T11 + SA 213 T11	ø51	5.6	TIG&ARC	5.6 V / 1	ER80S-B2 / 11	E 8018-B2 / 9			1009/02	150	–	–	10% RT MIN 1 WELD PER WELDER			
52	0-12-803-01567	TUBE + PLATE	SA 210 GRC + SA 387 GR.22 CL2	ø63.5	5.5 +10 THK	ARC	5 1/2 K / 0.208M	— / —	E 7018 / 3	5		1105/02	150	–	–	100% MPI/ LPI			
53	0-12-803-01567	TUBE + PLATE	SA 213 T11 + SA 387 GR.22 CL2	ø44.5	5 + 10 THK	ARC	5 1/2 K 125 (LONG) / 0.50M	— / —	E 8018-B2 / 5	12		1107/02	150	–	–	100% MPI/ LPI			
54	0-12-803-01567	TUBE + PLATE	SA 210 GRC + IS2062 FE410WA	ø44.5	4.0 6+ THK	ARC	3 △ / 0.20M	– / –	E 7018 / 1			1213/00	–	–	–	10% MPI/ LPI			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11643	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 12/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
55	0-12-803-01567	PLATE + PLATE	1S20262 FE410WA + 1S20262 FE410WA	–	6+8	ARC	3◺ / 0.30M	– / –	E 7018 / 2			1201/02	–	–	–				
56	0-12-803-01567	TUBE + ROD	SA 213 T11 + SA 182 F12 CL 2	ø44.5	5 + ø10	ARC	5 V̂ / 0.40M	– / –	E 8018-B2 / 8			1107/02	125	–	–	100% MPI / LPI			
57	0-12-803-01567	TUBE + PLATE	SA 213 T22 + SA240TP310S	ø47.63	6.1 + 10 THK	ARC	6◺ / 0.42M	— / —	E 309 / 10			1212/00	P5A SIDE 150	–	–	100% LPI			
58	0-12-803-01567	TUBE + FIN(PLATE)	SA213T11 + IS2062 FE410WA	ø44.5	5.0 + 6 THK	ARC	5◺ / 1.0m	— / —	E 8018-B2 / 14			1114/00	150	–	–	100% MPI / LPI			
59	0-12-803-01568	RH STEAM COOLED SPACER TUBE + TUBE	SA210GRC + SA210GRC	ø44.5	4.0	TIG	4.0 V̂ / 2	ER70SA1 / 14				1002/03		–	–	10% RT MIN 1 WELD PER WELDER			
60	0-12-803-01568	RH STEAM COOLED SPACER TUBE + TUBE	SA213T11 + SA213T11	ø44.5	5.0	TIG&ARC	5.0 V̂ / 7	ER80SB2 / 63	E 8018-B2 / 49			1009/02	150	–	–	10% RT MIN 1 WELD PER WELDER			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11644	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 13/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
61	0-12-803-01568	RH. STEAM COOLED SPACER TUBE + TUBE	SA210GR.C + SA 213 T11	ø44.5	4	TIG	4 V	ER70SA1				1017/03	125	–	–	10 % RT MIN 1 WELD PER WELDER			
							1	7											
62	0-12-803-01568	RH. STEAM COOLED SPACER TUBE + TUBE	SA210GRC + SA210GRC	ø44.5	4	TIG	4 V	ER70SA1				1002/03	–	–	–	10 % RT MIN 1 WELD PER WELDER			
							6	42											
63	0-12-803-01568	RH. STEAM COOLED SPACER TUBE + COOLER TUBE	SA213T11 + SA213T11	ø51.0	5.6	TIG & ARC	5.6 V	ER80SB2	E 8018-B2			1009/02	150	–	–	10 % RT MIN 1 WELD PER WELDER			
							1	11	9										
64	0-12-803-01568	TUBE + PLATE	SA210GR.C + SA387GR.22 CL2	ø63.5	5.5 + 10 THK	ARC	5 1/2 E	–	E 7018			1105/02	150	–	–	100% MPI / LPI			
							0.456M	–	5	11									
65	0-12-803-01568	TUBE + PLATE	SA213 T11 + SA387GR.22 CL2	ø44.5	5.0 + 10 THK	ARC	5 1/2 E (125 LONG)	–	E 8018-B2			1107/02	150	–	–	100% MPI / LPI			
							1 M	–	10	23									

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11645	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 14/14

SL. NO.	PPA DRG. DESCRIPTIONS	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
66	0-12-803-01568	TUBE + PLATE	SA210GR.C + IS2062 FE410WA	ø44.5	4.0 + 6 THK	ARC	3 ◺	–	E 7018			1213/00	–	–	–	10% MPI / LPI			
							0.20M	–	1										
67	0-12-803-01568	PLATE + PLATE	IS2062 FE410WA + IS2062 FE410WA	–	6 + 8	ARC	3 ◺	–	E 7018			1201/02	–	–	–	10% MPI / LPI			
							0.30M	–	2										
68	0-12-803-01568	TUBE + ROD	SA213T11 + SA182F12 CL2	ø44.5	5 + ø10	ARC	5.0 V (100LONG)	–	E 8018-B2			1205/02	125	–	–	100% MPI / LPI			
							0.40 M	–	8										
69	0-12-803-01568	TUBE + PLATE	SA213T11 / SA213T22 + SA240TP310	ø54.0	3.6 + 4.0 + 10 THK	ARC	6 ◺ (35 LONG)	–	E 309			1027/02	150 ON T11/22 SIDE	–	–	100% LPI			
							0.84 M	–	21										
70	0-12-803-01568	TUBE + FIN(PLATE)	SA213 T11 + IS2062 FE410WA	ø44.5	5.0 + 6 THK	ARC	5 ◺ (150 LONG)	–	E 8018-B2			1114/00	150	–	–	100% MPI / LPI			
							1 M	–	11										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11646	00

TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW

CUSTOMER No. : 1225 TO 1229

PG No. : 12

P.G. NAME : SUPERHEATER

NON PRESSURE PARTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	E 7018	370	112	–	–	–	
02	E 8018–B2	370	1050	–	–	–	
03	E 9018–B3	8700	8500	20	50	–	

NOTES: –

1. RESERVE 25% ADDED.
2. QUANTITY GIVEN IS PER BOILER
3. THIS ERECTION WELDING SCHEDULE IS FOR REFERENCE PURPOSE ONLY.

ENCL : ERECTION WELDING SCHEDULE SHEETS

4–12–992–11648
TO
4–12–992–11651

CC : 1. PROJECT CO–ORDINATOR/COMMERCIAL(FB)
2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)
3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.2011	4–12–992–11647	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATERS (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 1/4

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
01	1-12-917-01266	PLATE + PLATE	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	–	10 + 12/6	ARC	6 LC		E 8018 B2			1205 02	125°C	–	–	10%MPI (OR)LPI			
							11 M		165										
02	1-12-917-01266	PLATE + PLATE	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	–	6 + 6	ARC	6 V NLC		E 8018 B2			1205 02	125°C	–	–	10%MPI (OR)LPI/ SHIFT			
							4 M		60										
03	1-12-917-01266	PIPE + PLATE	SA 106 GR.B + IS2062 FE410WA	ø108	8 + 20	ARC	8 LC		E 7018			1213 00	–	–	–	–			
							7M		70	56									
04	1-12-917-01266	CHANNEL + PLATE	IS2062 FE410WA + IS2062 FE410WA	–	6+ 16	ARC	6 LC		E 7018			1201 02	–	–	–	–			
							6.4M		96										
05	1-12-927-01361	CHANNEL + TUBE	SA 387 GR.12 CL2 + SA 210 GR.C	ø44.5	6 + 5	ARC	5 LC		E 7018			1204 02	125°C	–	–	10%MPI (OR)LPI/ SHIFT			
							4.0M		44										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11648	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATERS (NON-PP)

PROJECT : NASIK 5X270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 2/4

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
06	1-12-927-01361	CHANNEL + PLATE	IS 206Gr.A + IS2062 FE410WA	–	6 + 12	ARC	6△ LC		E 7018			1201 02	–	–	–	10%MPI (OR)LPI			
							3 M		45										
07	1-12-927-01361	CHANNEL + PLATE (ST.WELD)	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	–	6 + 6	ARC	6△ LC		E 8018-B2			1205 02	125°C	–	–	10%MPI (OR)LPI			
							2.4M		36										
08	1-12-927-01361	CHANNEL + CHANNEL	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	–	6 + 6	ARC	6▽ LC		E 8018-B2			1205 02	125°C	–	–	10%MPI (OR)LPI			
							1.7M		33										
09	1-12-927-01361	TUBE + PLATE	SA 106 GR.B + IS2062 FE410WA	ø108	8+ 20	ARC	8△ LC		E 7018			1213 00	–	–	–	–			
							4.1M		41	33									
10	1-12-928-01269	PLATE + PLATE (ST.WELD)	SA 387 GR.12 CL2 + SA 387 GR.12 CL2		25+ 12	ARC	12△ LC		E 8018-B2			1205 02	125°C	–	–	10%MPI (OR)LPI			
							31M			834									

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11649	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATERS (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 3/4

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ELECTRODE FILLER SPEC. ARC SPEC. QTY ø2.5	ø3.15	ø4.0	ø5.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
11	0-12-968-01441	CROWN PLATE + SEAL BAND / SEAL PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	16 + 6	ARC	5 ◺ LC		E 9018-B3				120800	150°C	680 – 720	30 mins	10%MPI (OR)LPI			
							157M		1730											
12	0-12-968-01441	HANGER LUG + END BAR	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	10 + 32	ARC	6 ◺ 20 MM LONG LC		E 9018 B3				120800	150°C	680 – 720	30 mins	10%MPI (OR)LPI			
							11 M		165											
13	0-12-968-01441	END BAR + CROWN PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	32 + 16	ARC	10 ◺ LC		E 9018-B3				120800	150°C	680 – 720	30 mins	10%MPI (OR)LPI			
							50M			950										
14	0-12-968-01441	END BAR + FILLET PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	32 + 25	ARC	25 ◺ NLC		E 9018-B3				120800	150°C	680 – 720	60 mins	10%MPI (OR)LPI NON LOAD CARRYING			
							1.3M		ø2.5	ø3.15 13	ø4.0 13	ø5.0 30								
15	0-12-948-01478	CROWN PLATE + END BAR	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	10+ 32	ARC	6 ◺ LC		E 9018-B3				120800	150°C	680 – 720	30 mins	10%MPI (OR)LPI			
							300M			4500										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11650	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 12

PG NAME : SUPERHEATERS (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : SUPERHEATER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 4/4

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ELECTRODE FILLER SPEC. ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
16	0-12-948-01478	SEAL PLATE + CROWN PLATE END BAR	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	5 + 10/32	ARC	4 △ NLC		E 9018-B3			1215 01	150°C	–	–	10%MPI (OR)LPI			
							184M			1287									
17	0-12-948-01478	SEAL BAND + CROWN PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	6 + 10	ARC	6 △ LC		E 9018 B3			1208 00	150°C	680 – 720	30 mins	10%MPI (OR)LPI			
							330M		4950										
18	0-12-948-01478	END BAR + HGR LUG	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	32 + 12	ARC	5 △ LC		E 9018-B3			1208 00	150°C	680 – 720	30 mins	10%MPI (OR)LPI			
							2.4M		100										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-12-992-11651	00

BHEL TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW

CUSTOMER No. : 1225 TO 1229

PG No. : 17

P.G. NAME : REHEATER

PRESSURE PARTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	E 8018-B2	1300	–	–	–	–	
02	ER80S-B2	–	–	–	–	17.340	
03	ER90S-B3	–	–	–	–	26.500	
04	ER90S-B9	–	–	–	–	26.500	

NOTES:-

1. RESERVE 25% ADDED.
2. QUANTITY GIVEN IS PER BOILER
3. THIS ERECTION WELDING SCHEDULE IS FOR REFERENCE PURPOSE ONLY.

ENCL : ERECTION WELDING SCHEDULE SHEETS
4-17-992-02858

CC : 1. PROJECT CO-ORDINATOR/COMMERCIAL(FB)
2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)
3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.2011	4-17-992-02857	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 17

PG NAME : REHEATER (PP)

PROJECT : NASIK 5x270 MW
CONTRACTOR : BHEL
PACKAGE :
SYSTEM : REHEATER

FWS NO. :
REV.NO. :
WELDING CODE : IBR/ASME
PAGE NO. : 1/1

SL. NO.	PPA DRAWING DESCRIPTION	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG / Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
01	0-00-027-45667	RH .INLET HDR.INPPLES + RH FRONT COILS	SA 213 T11 + SA 213 T11	ø63.5	4.5	TIG	4 V	ER80S-B2	E 8018-B2			1009/02	150	–	–	10% RT MIN 1WELD PER WELDER			
							65	910	520	–	–								
02	0-00-027-45667	RH.INLET HDR.INPPLES + RH.FRONT COILS	SA 213 T11 + SA 213 T11	ø51.0	5	TIG	4 V	ER80S-B2	E 8018-B2			1009/02	150	–	–	10% RT MIN 1WELD PER WELDER			
							65	689	520	–	–								
03	0-00-027-45667	RH.INLET HDR. NIPPLES + RH.FRONT COILS	SA 213 T11 + SA 213 T11	ø47.63	4.0	TIG	4 V	ER80S-B2	–			1009/02	150	–	–	10% RT MIN 1WELD PER WELDER			
							260	12272	–	–	–								
04	0-00-027-45667	RH. FRONT COILS + RH REAR COILS	SA 213 T22 + SA 213 T22	ø54.0	4.0	TIG	4 V	ER90S-B3	–			1013/01	150	–	–	10% RT MIN 1WELD PER WELDER			
							390	20943	–	–	–								
05	0-00-027-45667	RH. OUTLET HDR. NIPPLES + RH REAR COILS	SA 213 T91 + SA 213 T91	ø54	4.0	TIG	4 V	ER90S-B9	–			1036/06	220	750 TO 770	30 mins	10% RT MIN 1WELD PER WELDER			
							390	20943	–	–	–								

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-17-992-02858	00

TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW

CUSTOMER No. : 1225 TO 1229

PG No. : 17

P.G. NAME : REHEATER

NON PRESSURE PARTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	E 8018-B2	4662	2138	–	–	–	
02	E 9018-B3	4382	2152	–	–	–	

NOTES: –

1. RESERVE 25% ADDED.
2. QUANTITY GIVEN IS PER BOILER
3. THIS ERECTION WELDING SCHEDULE IS FOR REFERENCE PURPOSE ONLY.

ENCL : ERECTION WELDING SCHEDULE SHEETS

4-17-992-02860

&

4-17-992-02861

CC : 1. PROJECT CO-ORDINATOR/COMMERCIAL(FB)
2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)
3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.2011	4-17-992-02859	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 17

PG NAME : REHEATER (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : REHEATER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 1/2

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
01	0-17-919-00210	END BAR + PLATE	SA 387 GR.12 CL2 + SA 387 GR.22 CL2	-	25 + 8	ARC	5 (LC) / 1.3M		E 8018-B2 / 15			1207 02	150°C	680 - 710	30 mins	10%LPI (OR)MPI			
02	0-17-919-00210	CROWN PLATE + END BAR	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	-	10 + 25	ARC	6 (LC) / 62M		E 8018-B2 / 930			1206 01	125°C	640 - 670	30 mins	10%LPI (OR)MPI			
03	0-17-919-00210	CROWN PLATE + ROOF SEAL BAND	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	-	10 + 6	ARC	6 (LC) / 156M		E 8018-B2 / 2340			1205 02	125°C	-	-	10%MPI (OR)LPI			
04	0-17-919-00210	CROWN PLATE + SEAL PLATE + END BAR	SA 387 GR.12 CL2 + SA 387 GR.22 CL2 + SA 387 GR.12 CL2	-	10 + 5 + 16	ARC	4 (NLC) / 63.31M		E 8018-B2 / 444			1216 00	150°C	-	-	10%LPI (OR)MPI			
05	0-17-929-00211	PLATE + END BAR	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	-	8 + 25	ARC	8 (LC) / 1.3M		E 9018-B3 / 13	11		1208 00	150°C	680 TO 720	30 mins	10%LPI (OR)MPI			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-17-992-02860	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 17

PG NAME : REHEATER (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : REHEATER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 2/2

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ELECTRODE FILLER SPEC. ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
06	0-17-929-00211	SEAL PLATE + END BAR PLATE + CROWN PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	5 + 25 + 12	ARC	4 △ (NLC)		E 9018-B3			1215 01	150°C	–	–	10%LPI /MPI			
							76.7M		537										
07	0-17-929-00211	CROWN PLATE + END BAR	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	12 + 25	ARC	10 △ (LC)		E 9018-B3			1208 00	150°C	680 TO 720	30 mins	10%LPI /MPI			
							90M			1710									
08	0-17-929-00211	CROWN PLATE + ROOF SEAL BAND	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	12 + 6	ARC	6 △ (LC)		E 9018-B3			1208 00	150°C	680 TO 720	30 mins	10%LPI /MPI			
							197M		2955										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-17-992-02861	00

BHEL TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW

CUSTOMER No. : 1225 TO 1229

PG No. : 19

P.G. NAME : ECONOMISER

NON PRESSURE PARTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	E 8018-B2	55	–	–	–	–	
02	E 7018	648	473	–	–	–	
03	E9018-B3	1663	1153	–	–	–	

NOTES: –

1. RESERVE 25% ADDED.
2. QUANTITY GIVEN IS PER BOILER

ENCL : ERECTION WELDING SCHEDULE SHEETS

4-19-992-06457
&
4-19-992-06458

CC : 1. PROJECT CO-ORDINATOR/COMMERCIAL(FB)
2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)
3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.2011	4-19-992-06456	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 19

PG NAME : ECONOMISER (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : ECONOMISER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 1/2

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
01	1-19-904-01837	PLATE + PLATE	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	–	12 + 12	ARC	6 V		E 8018-B2			1205 02	125°C	–	–	10%LPI (OR)MPI			
							1.32M		20										
02	1-19-904-01837	PLATE + TUBE (PR. PARTS)	SA 387 GR.12 CL2 + SA 210Gr.C	–	6 + 4.5	ARC	5 ◺		E 7018			1204 02	125°C	–	–	10%LPI (OR)MPI			
							3.3M		37										
03	1-19-904-01837	PLATE + PLATE	SA 387 GR.12 CL2 + SA 387 GR.12 CL2	–	6 + 12	ARC	6 ◺		E 8018-B2			1205 02	125°C	–	–	10%LPI (OR)MPI			
							1.6M		24										
04	1-19-904-01837	TIE ROD NUT + WASHER PLATE	SA 182 F12 CL2 + IS2062 FE410WA	–	36 + 16	ARC	6 ◺		E 7018			1114 00	150°C	–	–	10%LPI (OR)MPI			
							0.48M		8										
05	1-19-904-01838 3-19-904-03464	PLATE + PLATE	SA 515 GR.70 + SA 515 GR.70	–	25 + 12	ARC	8 ◺		E 7018			1213 00	150°C	–	–	–			
							47.3M		473	378									

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-19-992-06457	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 19

PG NAME : ECONOMISER (NON-PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : ECONOMISER SYSTEM

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 2/2

SL. NO.	DRG NO. FOR WELD LOCAION & IDENTIFICATION MARK	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG QTY	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	RE-MARKS
06	0-00-027-45671	PLATE + PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	12 + 12	ARC	8 ◺		E 9018-B3			1215 01	150°C	–	–	10%LPI (OR)MPI			
							110M		1100	880									
07	0-00-027-45671	PLATE + PLATE	SA 387 GR.22 CL2 + SA 387 GR.22 CL2	–	16 + 12	ARC	12◺		E 9018-B3			1215 01	150°C	–	–	10%LPI (OR)MPI			
							3M		30	42									
08	0-00-027-45671	WASHER PLATE + PIN	SA 387 GR.22 CL2 + SA 182 F22 CL3	–	6 + ø40	ARC	3 ◺		E 9018-B3			1215 01	150°C	–	–	10%LPI (OR)MPI			
							50M		200										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-19-992-06458	00

BHEL TIRUCHY

SUMMARY LIST OF SITE ELECTRODES

PROJECT : NASIK 5x270 MW

CUSTOMER No. : 1225 TO 1229

PG No. : 19

P.G. NAME : ECONOMISER

PRESSURE PARTS

SL. NO	TYPE OF ELECTRODE / WIRE	SIZE & QTY (Nos)				TIG WIRE WT (Kg)	REMARKS
		ø2.5	ø3.15	ø4.0	ø5.0		
01	ER70S-A1	-	-	-	-	19.8	
02	E7018-1	13255	128	50	-	-	
03	E7018-A1	545	893	1720	-	-	

NOTES:-

1. RESERVE 25% ADDED.
2. QUANTITY GIVEN IS PER BOILER

ENCL : ERECTION WELDING SCHEDULE SHEETS

4-19-992-06460

&

4-19-992-06461

CC : 1. PROJECT CO-ORDINATOR/COMMERCIAL(FB)

2. SR. MANAGER / WTC (Attn. Mr. S.SINGARAVELU)

3. WELDING SCHEDULE FILE

PREPARED	CHECKED(DESIGNS)	APPROVED(WTC)	DATE	DRAWING No.	REV.
NARASIMHA	S.A.K	G.S	19.07.2011	4-19-992-06459	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 19

PG NAME : ECONOMISER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : ECONOMISER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 2/2

SL. NO.	PPA DRAWING NO.	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HEAT TREATMENT HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
09	0-00-027-45668	ECO HGR TUBES + ECO HGR TUBES	SA210GR.C + SA210GR.C	ø44.5	5.0+ 4.5	TIG&ARC	4.5V / 396	ER70S-A1 / 3643	E 7018-1 / 2772			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
10		ECO HGR TUBES + ECO OUTLET NIPPLES	SA210GR.C + SA210GR.A1	ø44.5	4.5	TIG&ARC	4.5V / 198	ER70S-A1 / 1822	E 7018-1 / 1386			1002/03	–	–	–	10% RT MIN 1 WELD PER WELDER			
11	1-19-851-02060	ECO LINKS TO DRUM REDUCER + HDR TEE	SA 234 WPC + SA 234 WPC	ø323.9	36	TIG&ARC	31.45W / 2	ER70S-A1 / 196	E 7018-A1 / 48	78	140	1005/05	100	620-650	90 mins	100% RT			
12		PIPE + PIPE/ ELBOW, DRUM NOZZLE	SA 106 GR.C + SA 234 WPC + SA 105	ø273	32	TIG&ARC	29.25W / 6	ER70S-A1 / 492	E 7018-A1 / 120	198	342	1005/05	100	620-650	80 mins	100% RT			
13		PIPE + ELBOW REDUCER	SA 234 WPC + SA 106 GR.C	ø273	32	TIG&ARC	25W / 8	ER70S-A1 / 688	E 7018-A1 / 160	264	360	1005/05	100	620-650	80 mins	10% RT			
14		RG.PLUG + PIPE	SA 105 + SA 106 GR.C	ø273	32	TIG&ARC	7◺ / 32	– / –	E 7018-1 / 32			1101/00	100	–	–	10% MPI OR LPI			

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-19-992-06460	00

Name of Contractor/Subcontractor

FIELD WELDING SCHEDULE

PG(S) : 19

PG NAME : ECONOMISER (PP)

PROJECT : NASIK 5x270 MW

CONTRACTOR : BHEL

PACKAGE :

SYSTEM : ECONOMISER

FWS NO. :

REV.NO. :

WELDING CODE : IBR/ASME

PAGE NO. : 1/2

SL. NO.	PPA DRAWING NO.	DESCRIPTION OF PARTS TO BE WELDED	MATERIAL SPEC.	DIMENSIONS SIZE	DIMENSIONS THICK	PROCESS OF WELDING	TYPE OF WELD / QTY	ELECTRODE FILLER SPEC. TIG Wt.(gms)	ARC SPEC. QTY ø2.5	ø3.15	ø4.0	WPS NO. / REV. NO.	MIN. PRE. HEAT TEMP	HEAT TREATMENT TEMP. °C	HOLD. TIME	NDT METHOD / QUANTUM	REF. SPEC. NO.	ACC NORM REF	REMARKS
01	1-19-850-02035	ECO FEED PIPE + REDUCER VALVE	SA106GR.C + SA234WPC SA216WCB	ø368	48	TIG&ARC	43.4W	ER70S-A1	E 7018-A1			1005/05	100	620-650	120 mins	100% RT			
							2	216	56	90	344								
02		ECO FEED PIPE + ELBOW	SA106GR.C + SA234WPC	ø368	32	TIG&ARC	32 W	ER70S-A1	E 7018-A1			1005/05	100	620-650	80 mins	100% RT			
							1	117	28	45	82								
03		REDUCER + ECO INLET HEADER TEE	SA234WPC + SA234WPC	ø323.9	40	TIG&ARC	32.5W	ER70S-A1	E 7018-A1			1005/05	100	620-650	100 mins	100% RT			
							1	95	24	39	105								
04	0-00-027-45668	ECO INLET HEADER NIPPLE + ECO COILS/LOOSE TUBES	SA210GR.A1 + SA210GR.A1	ø44.5	4.5	TIG&ARC	4.5 V	ER70S-A1	E 7018-1			1003/03	-	-	-	10% RT MIN 1 WELD PER WELDER			
							177	1628	1239										
05		ECO. LOWER COILS + ECO.UPPER COILS	SA210GR.A1 + SA210GR.A1	ø44.5	4.5	TIG&ARC	4.5 V	ER70S-A1	E 7018-1			1003/03	-	-	-	10% RT MIN 1 WELD PER WELDER			
							177	1628	1239										
06	0-00-027-45668 0-19-753-00888	ECO UPPER COIL + ECO INTERN HDRS/ LOOSE TUBES	SA210GR.A1 + SA210GR.A1	ø44.5	5.0 + 4.5	TIG&ARC	4.5 V	ER70S-A1	E 7018-1			1003/03	-	-	-	10% RT MIN 1 WELD PER WELDER			
							354	3256	2478										
07	0-19-763-00889 0-19-783-00887	ECO INTERM HDR. HAND HOLE PIPE + DISHED END	SA 106 GR.B + SA 234 WP.C	ø127	20	TIG&ARC	18.15W	ER70S-A1	E 7018-1			1004/03	-	610 ±15	50 mins	10% RT MIN 1 WELD PER WELDER			
							6	210	72	102	36								
08	0-00-027-45668	ECO INTERM HDR. NIPPLES + ECO HGR TUBES	SA210GRC + SA210GRC	ø44.5	5.0	TIG&ARC	5 V	ER70S-A1	E 7018-1			1002/03	-	-	-	10% RT MIN 1 WELD PER WELDER			
							198	1782	1386										

PREPARED	CHECKED (DESIGN)	CHECKED (W.T.C)	APPROVED	DATE	DRAWING NO:	REV.NO.
NARASIMHA	S.A.K	G.S	S.A.K	19.07.2011	4-19-992-06461	00