

TENDER SPECIFICATION

SI No	E-Tender Specification Number	Description of Work
1	BHE:PW:NGP:PUR:BRM-BFG:3229	RENOVATION & MODERNIZATION OF RE-INTRODUCTION OF BLAST FURNACE GAS FIRING SYSTEM IN ALL 3 UNITS (2X30MW +1X14MW) AT PP-II, NSPCL BHILAI

VOLUME – I

FOR

VOLUME I – TECHNICAL BID

THIS TENDER SPECIFICATION CONSISTS OF:

Notice Inviting Tender	
Volume-IA	Technical Conditions of Contract
Volume-IB	Special conditions of Contract
Volume-IC	General conditions of Contract
Volume-ID	Forms & Procedures
Volume-IE	Technical Specifications
Volume II	Price Bid

Bharat Heavy Electricals Limited



(A Government of India Undertaking)
Power Sector - Western Region
345-Kingsway, Nagpur-440001

Registered Office: BHEL House, Siri Fort, New Delhi – 110 049, India Website: www.bhel.com

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Volume No	Description	Hosted in website bhel.com (Briefly) and detailed in BHEL e-Procurement Portal as files titled
NIL	Tender Specification Issue Details	(Part of Vol-IA-3229)
NIL	Notice Inviting Tender	(Part of Vol-IA-3229)
I-A	Technical Conditions of Contract	Vol-I-A-3229
I-B	Special Conditions of Contract	VOID
I-C	General Conditions of Contract	(Part of Vol-I-CD-3229)
I-D	Forms & Procedures	(Part of Vol-I-CD-3229)
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II	Price Bid Specification as specified in E-Procurement Portal	Volume-II- 3229

E-Tender Specification Issue Details

SI No	E-Tender Specification Number	Description of Work
1	BHE:PW:NGP:PUR:BRM-BFG:3229	RENOVATION & MODERNIZATION OF RE-INTRODUCTION OF BLAST FURNACE GAS FIRING SYSTEM IN ALL 3 UNITS (2X30MW +1X14MW) AT PP-II, NSPCL BHILAI

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR Refer Notice Inviting Tender
TENDER SUBMISSION

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II ARE ISSUED TO:

M/s.

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PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

GM (Purchase)

Place: Nagpur

Date:

ANNEXURE-1 Broad BOM for Section-A & B

DU NO		MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
						QTY.	WT. (KG.)	
001		SH. VERT.PLATEN I/L HDR. SHH1	2-10-178-U8007	01	NO	1.000	872.820	
NOTE: 1. Where item number is not available use mark number for identifying.				CREATED BY		S M G NAIDU		
2. When * is marked in Drawing Number column separate erection drawing will follow.				APPROVED & ISSUED BY		A N V KRANTHI KISHOR		

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST	
	PGMA	.10-278 HEADE	SUPERHEATER VERTICAL PLATEN OUTLET	
DPN-NS 059-1	JOB NOS	8122		REVISION '00'
	T. WT	1141.070 (KG) DU RANGE 1 - 1		NETWORK 6008212 PAGE 2/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SH. VERT.PLATEN O/L HDR. SHH2	2-10-278-U8008		01 NO	1.000	1141.070	

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	S M G NAIDU
	APPROVED & ISSUED BY	A N V KRANTHI KISHOR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.11-278 SH.VERTICAL PLATEN COIL ASSY WITH ATTACH	REVISION '01'
DPN-NS 039-1	JOB NOS	8122	NETWORK 6007965
	T. WT	14279.860 (KG) DU RANGE 1 - 3	PAGE 3/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SH. VERT.PLATEN COIL ASSY. WITH ATTACH	2-11-278-U8047	01	NO	16.000	14087.360	
002	PIPE D108X8	2-11-278-U8056	01	NO	14.000	135.380	
003	TUBE D63.5X5	2-11-278-U8056	02	NO	16.000	57.120	

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	S M G NAIDU
	APPROVED & ISSUED BY	A N V KRANTHI KISHOR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.32-010 FIXING COMPONENTS FOR INSULATION	REVISION '00'
DPN-NS 018-1	JOB NOS	8122	NETWORK 6007944
	T. WT	979.607 (KG) DU RANGE 1 - 17	PAGE 4/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SEALING COMPOUND			01	KG	20.000	20.000	
002	WIRE DIA 0.711 MM - GI - IS280			02	KG	16.000	16.000	
003	WIRE DIA 1.219 MM - GI - IS280			03	KG	16.000	16.000	
004	ASBCLOTH 3MM IS4687/1995-TP21597 GR.AAA			04	NO	50.000	48.000	
005	HEX HD SCRU-M10X45 -4.6-IS1363P2			05	NO	1330.000	51.870	
006	TAPSCREW-ST 4.2X13C DRG4-28-700-00627/00			06	NO	13300.000	13.300	
007	NUT -M10 -CL4-IS1363P3			07	NO	1330.000	13.300	
008	PUN WASHER-M10 -IS2016-A			08	NO	1330.000	13.300	
009	SNAP HD RIVET 3X8 GR 1 IS:2998			09	NO	1660.000	1.660	
010	SM CLAMP FOR DET INSLN TYPE A			10	NO	500.000	30.000	
011	SM CLAMP FOR DET INSLN TYPE B			11	NO	325.000	26.325	
012	AL CASING SUPPORT 04-850L			12	NO	1000.000	196.000	
013	CERAMIC FIBRE PAPER 3 X1000X500 MM AKLP			13	M2	30.000	20.700	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.32-010 FIXING COMPONENTS FOR INSULATION	REVISION '00'
DPN-NS 018-1	JOB NOS	8122	NETWORK 6007944
	T. WT	979.607 (KG) DU RANGE 1 - 17	PAGE 5/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	ROD 6 MM			14	NO	19.000	50.616	
015	ROD 10 MM			15	NO	1.000	8.060	
016	5 MM PLATE			16	NO	1.000	318.828	
017	1.6 MM SHEET			17	NO	3.000	135.648	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.33-021 WOOL FOR WIND BOX CONNECTING DUCT	REVISION '00'
DPN-NS 016-1	JOB NOS	8122	NETWORK 6007942
	T. WT	6000.000 (KG) DU RANGE 1 - 1	PAGE 6/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WOOL -100 KG/CU.M-50 MM-TWO SIDE GI WIRE			01 M2	6000.000	6000.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-010 FOUNDATION MATERIALS	REVISION '00'
DPN-NS 055-1	JOB NOS	8122	NETWORK 6008208
	T. WT	497.887 (KG) DU RANGE 1 - 6	PAGE 7/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	FOUNDATION TEMPLATE-1 FOR P1 TO P7	3-35-010-U0061	01	NO	7.000	17.171	
002	FOUNDATION TEMPLATE-2 FOR P8 & P9	3-35-010-U0061	02	NO	2.000	3.974	
003	FOUNDATION TEMPLATE-3 FOR P10 TO P12	3-35-010-U0061	03	NO	3.000	12.438	
004	ANCHOR BOLT M20X400		01	NO	28.000	82.320	
005	ANCHOR BOLT M30X925		02	NO	20.000	211.200	
006	SHIM STACK		03	NO	48.000	170.784	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 8 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	1BM-1 NPB250XI50X39.78	0-35-110-U0016	01	NO	2.000	274.700	
002	1BM-2 WPB300X300X100.84	0-35-110-U0016	05	NO	2.000	536.760	
003	1BM-3 NPB300X150X42.24	0-35-110-U0016	09	NO	1.000	124.090	
004	1BM-4 NPB300X150X42.24	0-35-110-U0016	15	NO	1.000	193.320	
005	1BM-5 NPB300X150X42.24	0-35-110-U0016	21	NO	1.000	182.310	
006	1BM-6 NPB300X150X42.24	0-35-110-U0016	28	NO	1.000	135.130	
007	1BM-7 NPB300X150X42.24	0-35-110-U0016	34	NO	1.000	146.130	
008	1BM-8 NPB300X150X42.24	0-35-110-U0016	39	NO	2.000	284.360	
009	1BM-9 NPB300X150X42.24	0-35-110-U0016	42	NO	1.000	196.170	
010	1BM-10 NPB300X150X42.24	0-35-110-U0016	49	NO	1.000	136.360	
011	1BM-11 NPB300X150X42.24	0-35-110-U0016	55	NO	1.000	217.550	
012	1BM-12 NPB300X150X42.24	0-35-110-U0016	59	NO	1.000	180.480	
013	1COL-1 ISMC200	0-35-110-U0016	64	NO	1.000	112.390	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 9/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	1COL-2 NPB300X150X42.24	0-35-110-U0016	74	NO	1.000	156.960	
015	1COL-3 NPB300X150X42.24	0-35-110-U0016	80	NO	1.000	177.330	
016	1COL-4 NPB300X150X42.24	0-35-110-U0016	87	NO	1.000	198.230	
017	1COL-5 NPB300X150X42.24	0-35-110-U0017	01	NO	1.000	198.230	
018	1COL-6 NPB300X150X42.24	0-35-110-U0017	10	NO	1.000	384.290	
019	1COL-7 NPB300X150X42.24	0-35-110-U0017	20	NO	1.000	368.270	
020	1COL-8 NPB300X150X42.24	0-35-110-U0017	28	NO	1.000	345.640	
021	1COL-9 ISMC200	0-35-110-U0017	34	NO	1.000	660.390	
022	1COL-10 ISMC200	0-35-110-U0017	49	NO	1.000	717.590	
023	1COL-11 NPB250XI50X39.78	0-35-110-U0017	63	NO	1.000	550.720	
024	1COL-12 NPB250XI50X39.78	0-35-110-U0017	72	NO	1.000	548.810	
025	1COL-13 ISMC200	0-35-110-U0018	01	NO	1.000	613.270	
026	1COL-14 ISMC200	0-35-110-U0018	09	NO	1.000	638.600	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 10/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	1COL-15 ISMC200	0-35-110-U0018	20	NO	1.000	572.810	
028	1COL-16 ISMC200	0-35-110-U0018	27	NO	1.000	71.370	
029	1FB-1 ISMB150	0-35-110-U0018	33	NO	1.000	47.380	
030	1FB-2 ISMB125	0-35-110-U0018	35	NO	2.000	24.260	
031	1FB-3 ISMB200	0-35-110-U0018	37	NO	1.000	92.940	
032	1FB-4 ISMB200	0-35-110-U0018	40	NO	1.000	120.770	
033	1FB-5 ISMB250	0-35-110-U0018	44	NO	2.000	164.140	
034	1FB-6 ISMB200	0-35-110-U0018	47	NO	1.000	73.620	
035	1FB-7 ISMB125	0-35-110-U0018	49	NO	3.000	67.140	
036	1FB-8 ISMB125	0-35-110-U0018	51	NO	2.000	24.820	
037	1FB-9 ISMB200	0-35-110-U0018	53	NO	1.000	115.570	
038	1FRM-1 ISMB150	0-35-110-U0018	57	NO	1.000	154.440	
039	1HBR-1 ISA75X75X6	0-35-110-U0018	62	NO	1.000	42.480	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 11/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	1HBR-2 ISA75X75X6	0-35-110-U0018	66	NO	1.000	40.340	
041	1PST-1 ISMB150	0-35-110-U0018	70	NO	2.000	106.700	
042	1PST-2 ISMB150	0-35-110-U0018	73	NO	2.000	104.420	
043	1TB-1 ISMC150	0-35-110-U0018	77	NO	1.000	107.500	
044	1TB-2 ISMC150	0-35-110-U0018	81	NO	1.000	239.000	
045	1TB-3 ISMC200	0-35-110-U0018	85	NO	1.000	312.600	
046	1TB-4 ISMC200	0-35-110-U0018	89	NO	1.000	313.900	
047	1VBR-1 ISA75X75X6	0-35-110-U0019	01	NO	2.000	70.480	
048	1VBR-2 ISA75X75X6	0-35-110-U0019	05	NO	2.000	70.480	
049	1VBR-3 ISA75X75X6	0-35-110-U0019	09	NO	2.000	69.440	
050	1VBR-4 ISA75X75X6	0-35-110-U0019	13	NO	2.000	69.440	
051	1VBR-5 ISA100X100X10	0-35-110-U0019	17	NO	1.000	141.300	
052	1VBR-6 ISA100X100X10	0-35-110-U0019	21	NO	1.000	155.100	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 12/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	1VBR-7 ISA100X100X10	0-35-110-U0019	25	NO	1.000	151.500	
054	1VBR-8 ISA75X75X6	0-35-110-U0019	30	NO	2.000	131.360	
055	1VBR-9 ISA100X100X10	0-35-110-U0019	35	NO	1.000	168.670	
056	1VBR-10 ISA75X75X6	0-35-110-U0019	39	NO	2.000	103.140	
057	1VBR-11 ISA75X75X6	0-35-110-U0019	44	NO	1.000	53.630	
058	1VBR-12 ISA75X75X6	0-35-110-U0019	49	NO	2.000	77.680	
059	1VBR-13 ISA75X75X6	0-35-110-U0019	53	NO	1.000	46.620	
060	1VBR-14 ISA75X75X6	0-35-110-U0019	57	NO	5.000	279.550	
061	1VBR-15 ISA75X75X6	0-35-110-U0019	62	NO	2.000	91.060	
062	1VBR-16 ISMC150	0-35-110-U0019	67	NO	1.000	176.940	
063	1VBR-17 ISA75X75X6	0-35-110-U0019	71	NO	1.000	39.000	
064	1VBR-18 ISA75X75X6	0-35-110-U0019	75	NO	4.000	201.600	
065	1VBR-19 ISA75X75X6	0-35-110-U0019	79	NO	1.000	56.000	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 13/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
066	1VBR-20 ISA75X75X6	0-35-110-U0019	83	NO	2.000	106.360	
067	1VBR-21 ISA75X75X6	0-35-110-U0019	87	NO	1.000	38.840	
068	1VBR-22 ISA75X75X6	0-35-110-U0019	91	NO	1.000	46.620	
069	1VBR-23 ISA75X75X6	0-35-110-U0019	95	NO	1.000	63.410	
070	1VBR-24 ISA75X75X6	0-35-110-U0020	01	NO	1.000	68.300	
071	1VBR-25 ISA75X75X6	0-35-110-U0020	05	NO	1.000	65.070	
072	1VBR-26 ISA75X75X6	0-35-110-U0020	10	NO	1.000	56.000	
073	1VBR-27 ISA75X75X6	0-35-110-U0020	14	NO	1.000	38.640	
074	1VBR-28 ISA75X75X6	0-35-110-U0020	18	NO	1.000	45.480	
075	1VBR-29 ISA75X75X6	0-35-110-U0020	22	NO	1.000	56.900	
076	1VBR-30 ISA75X75X6	0-35-110-U0020	26	NO	2.000	105.520	
077	1VBR-31 ISA75X75X6	0-35-110-U0020	30	NO	1.000	46.520	
078	1VBR-32 ISA75X75X6	0-35-110-U0020	34	NO	1.000	38.140	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.35-110 COMMON BFG LINE SUPPORT STRUCTURE	REVISION '00'
DPN-NS 001-1	JOB NOS	8122	NETWORK 6007928
	T. WT	15434.010 (KG) DU RANGE 1 - 89	PAGE 14/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
079	1VBR-33 ISMC150	0-35-110-U0020	38	NO	1.000	190.240	
080	1VBR-34 ISA100X100X10	0-35-110-U0020	42	NO	1.000	139.680	
081	1VBR-35 ISA75X75X6	0-35-110-U0020	46	NO	1.000	39.380	
082	1VBR-36 ISMC150	0-35-110-U0020	50	NO	1.000	168.580	
083	1VBR-37 ISA100X100X10	0-35-110-U0020	55	NO	1.000	165.910	
084	1VBR-38 ISMC150	0-35-110-U0020	59	NO	1.000	213.860	
085	1VBR-39 ISA75X75X6	0-35-110-U0020	63	NO	1.000	38.820	
086	1VBR-40 ISMC150	0-35-110-U0020	67	NO	1.000	158.510	
087	1VBR-41 ISA100X100X10	0-35-110-U0020	72	NO	1.000	108.400	
088	1VBR-42 ISMC150	0-35-110-U0020	76	NO	1.000	107.560	
089	1VBR-43 ISMC150	0-35-110-U0020	80	NO	1.000	100.000	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.36-810 COMMON BFG LINE PLATFORM FLOOR GRILLS	REVISION '00'
DPN-NS 003-1	JOB NOS	8122	NETWORK 6007930
	T. WT	987.290 (KG) DU RANGE 1 - 4	PAGE 15/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	EFFG 25X1000L X 995W DRG:1-36-810-U0278.			01	NO	5.000	204.750	
002	EFFG 25X6000L X 995W DRG: 1-36-810-U0278			02	NO	3.000	710.280	
003	EFFG 25X 750L X 995W DRG: 1-36-810-U0278			03	NO	2.000	61.860	
004	HDGALV 25X5 995MM DRG NO:1-36-810-U0278			04	NO	10.000	10.400	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.36-820 COMMON BFG LINE APPROACH LADDERS	REVISION '00'
DPN-NS 004-1	JOB NOS	8122	NETWORK 6007931
	T. WT	139.048 (KG) DU RANGE 1 - 2	PAGE 16 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	LADDER FROM EL+150 TO EL+3000	2-36-820-U0189	01	NO	1.000	69.184	
002	LADDER FROM EL+3000 TO EL+6000	2-36-820-U0189	01	NO	1.000	69.864	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST	
	PGMA	036-850	COMMON BFG LINE PLATFORMS HANDRAIL	
DPN-NS 005-1	JOB NOS	8122		REVISION '00'
	T. WT	442.878 (KG) DU RANGE 1 - 8		NETWORK 6007932 PAGE 17/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	1.5M HR ASSY FOR PLATFORM	0-36-850-U0054	01	NO	2.000	49.418	
002	3M HR ASSY FOR PLATFORM	0-36-850-U0054	01	NO	4.000	176.620	
003	6M HR ASSY FOR PLATFORM	0-36-850-U0054	01	NO	1.000	83.047	
004	PLATFORM MAKEUP SINGLE POST	0-36-850-U0054	01	NO	5.000	18.505	
005	PLATFORM HR 90 DEG BEND	0-36-850-U0054	27	NO	12.000	17.004	
006	PLATFORM HR RETURN BEND VAR-01	0-36-850-U0054	29	NO	8.000	20.184	
007	MAKEUP RAIL	0-36-850-U0054	61	M	10.000	31.000	
008	MAKEUP TOE GAURD	0-36-850-U0054	62	M	10.000	47.100	

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	N VASUDEVA REDDY
	APPROVED & ISSUED BY	N VASUDEVA REDDY

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA .37-810 DUCT	OUTERCASING FOR WIND BOX CONNECTING	REVISION '01'
DPN-NS 017-1	JOB NOS 8122		NETWORK 6007943
	T. WT 9477.000 (KG)	DU RANGE 1 - 1	PAGE 18 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	PLAINALUMINI SH 1.6 MM THK IS737/19000H2			01 NO	27.000	9477.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-005 GAS IGNITORS	REVISION '00'
DPN-NS 046-1	JOB NOS	8122	NETWORK 6007972
	T. WT	8.000 (KG) DU RANGE 1 - 1	PAGE 19/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	COKE OVEN GAS IGNITER WITH IFM			01	NO	8.000	8.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-200 BFG & COG VALVES	REVISION '00'
DPN-NS 051-1	JOB NOS	8122	NETWORK 6007977
	T. WT	176.000 (KG) DU RANGE 1 - 16	PAGE 20/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	ENCASED TYPE ROTARY GOOGLE VALVE ASSLY.			01	NO	1.000	1.000	
002	SPARES AS PER TDC: TOS:BFG:003			02	NO	1.000	1.000	
003	4"-C150-FL-HW-A216GRWCB-GLOBE VALVE			03	NO	1.000	62.000	
004	CS FLANGED GLOBE VALVE 3 (80NB), #150			04	NO	8.000	8.000	
005	CS FLANGED GLOBE VALVE 2 (50NB), #150			05	NO	8.000	8.000	
006	CS SW GLOBE VALVES 1 (25NB), #800			06	NO	4.000	4.000	
007	CS SW GLOBE VALVE 1/2 (15NB), #800			07	NO	1.000	1.000	
008	CS FLANGED GLOBE VALVES 6 (150NB), #150			08	NO	7.000	7.000	
009	CS FLANGED BALL VALVE 3 (80NB), #150			09	NO	1.000	1.000	
010	CS BALL VALVE 1 (25NB), #800			10	NO	14.000	14.000	
011	CS SW GATE VALVE 4 (100NB), #150			11	NO	1.000	1.000	
012	CS SW GATE VALVES 1 (25NB), #800			12	NO	55.000	55.000	
013	CS SW GATE VALVE 1/2 (15NB), #800			13	NO	9.000	9.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-200 BFG & COG VALVES	REVISION '00'
DPN-NS 051-1	JOB NOS	8122	NETWORK 6007977
	T. WT	176.000 (KG) DU RANGE 1 - 16	PAGE 21/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	CS FLANGED REGULATING VALVE 6 (150NB) #150			14	NO	1.000	1.000	
015	CS FLANGED BFV (BUTTERFLY VALVE) 500NB			15	NO	2.000	2.000	
016	CS FLANGED BFV (BUTTERFLY VALVE) 700NB			16	NO	1.000	1.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-516 BFG PIPING TO BOILER	REVISION '01'
DPN-NS 043-1	JOB NOS	8122	NETWORK 6007969
	T. WT	2100.000 (KG) DU RANGE 1 - 2	PAGE 22 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SCANNER AIR FANS WITH MOTOR DRIVE ASSLY			01	NO	2.000	2000.000	
002	MANDATORY SPARES - SCANNER AIR FAN			02	NO	1.000	100.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '05'
DPN-NS 045-1	JOB NOS	8122	NETWORK 6007971
	T. WT	98381.245 (KG) DU RANGE 6 - 59	PAGE 23 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
006	FAB PIPE RING FLG. OD 2220X10THK;L=2157	0-42-524-U6033	01	NO	1.000	2134.504	
007	FAB PIPE STIFF RING OD 2220X10THK;L=2490	0-42-524-U6033	01	NO	12.000	16965.948	
008	FAB PIPE STIFF RING OD 2220X10THK;L=1112	0-42-524-U6033	01	NO	1.000	762.044	
009	FAB PIPE STIFF RING OD 2220X10THK;L=2487	0-42-524-U6033	01	NO	1.000	2349.236	
010	FAB PIPE STIFF RING OD 2220X10THK;L=1195	0-42-524-U6033	01	NO	1.000	1345.455	
011	BRANCH CONNCTION OD2220 / OD1520	0-42-524-U6033	01	NO	1.000	1732.842	
012	FAB PIPE STIFF RING OD 2220X10THK;L=1390	0-42-524-U6033	01	NO	1.000	909.074	
013	FAB REDUCER OD2220 / OD1820 10THK;L=1070	0-42-524-U6033	01	NO	1.000	739.040	
014	FAB. PIPE ELBOE OD 1820X10THK	0-42-524-U6033	01	NO	1.000	1596.919	
015	FAB PIPE STIFF RING OD 1820X10THK;L=2490	0-42-524-U6033	01	NO	6.000	5192.844	
016	FAB PIPE STIFF RING OD 1820X10THK;L=1392	0-42-524-U6033	01	NO	1.000	1104.958	
017	FAB PIPE STIFF RING OD 2220X10THK;L=2482	0-42-524-U6033	01	NO	1.000	1688.292	
018	BRANCH CONNCTION OD1820 / OD1520	0-42-524-U6033	01	NO	1.000	1466.224	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '05'
DPN-NS 045-1	JOB NOS	8122	NETWORK 6007971
	T. WT	98381.245 (KG) DU RANGE 6 - 59	PAGE 24 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
019	FAB REDUCER OD1820 / OD1520 10THK;L=1070	0-42-524-U6033	01	NO	1.000	1321.684	
020	FAB PIPE STIFF RING OD 1520X10THK;L=2490	0-42-524-U6033	01	NO	5.000	6164.755	
021	FAB PIPE STIFF RING OD 1520X10THK;L=1120	0-42-524-U6033	01	NO	2.000	1557.204	
022	FABPIPE STIFF RING OD1520X10THK;L=1407.5	0-42-524-U6033	01	NO	2.000	1257.154	
023	FAB. TEE CONNECTION OD 1520 / OD 1520	0-42-524-U6033	01	NO	1.000	1331.771	
024	FAB PIPE STIFF RING OD1520X10THK;L=1330	0-42-524-U6033	01	NO	1.000	1150.147	
025	FAB. PIPE OD 1520/508 VENT CONN; L=2490	0-42-524-U6033	01	NO	1.000	1480.177	
026	FAB PIPE STIFF RING OD1820X10THK;L=2490	0-42-524-U6033	01	NO	1.000	1477.537	
027	FAB PIPE STIFF RING OD1820X10THK;L=2490	0-42-524-U6033	01	NO	1.000	1329.645	
028	FAB PIPE STIFF RING OD1520X10THK;L=2366	0-42-524-U6033	01	NO	1.000	979.002	
029	FAB PIPE ELBOW OD 2220	0-42-524-U6033	01	NO	4.000	7400.840	
030	FAB PIPE STIFF RING OD 2220X10THK;L=1841	0-42-524-U6033	01	NO	1.000	1692.625	
031	FAB PIPE STIFF RING OD 2220X10THK;L=760	0-42-524-U6033	01	NO	1.000	1103.483	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '05'
DPN-NS 045-1	JOB NOS	8122	NETWORK 6007971
	T. WT	98381.245 (KG) DU RANGE 6 - 59	PAGE 25 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
032	90°FAB MITER BEND ELBOW & PIPE OD 1520	1-42-524-U6034	01	NO	1.000	982.819	
033	FAB PIPE STIF RING OD1520X10THK;L=1580	1-42-524-U6034	01	NO	2.000	1386.802	
034	90°FAB METER BEND ELBOW OD1520	1-42-524-U6034	01	NO	3.000	2399.064	
035	FAB PIPE STIFF RING OD1520X10THK.;L=2490	1-42-524-U6034	01	NO	5.000	5141.545	
036	FAB PIPE RING FLANGEOD1520X10THK;L=1992	1-42-524-U6034	01	NO	1.000	790.656	
037	FAB PIPE RING FLANGEOD1520X10THK;L=2487	1-42-524-U6034	01	NO	1.000	1014.974	
038	FAB PIPE RING FLANGEOD1520X10THK;L=1692	1-42-524-U6034	01	NO	1.000	874.101	
039	FAB PIPE RING FLANGEOD1520X10THK;L=2019	1-42-524-U6034	01	NO	1.000	889.451	
040	FAB PIPE STIFF RING OD1520X10THK.;L=1709	1-42-524-U6034	01	NO	2.000	1407.148	
041	FAB PIPE STIFF RING OD1520X10THK.;L=1203	1-42-524-U6034	01	NO	1.000	496.172	
042	FAB PIPE STIFF RING OD1520X10THK.;L=1191	1-42-524-U6034	01	NO	1.000	498.547	
043	FAB PIPE STIFF RING OD1520X10THK; L=802	1-42-524-U6034	01	NO	1.000	360.561	
044	90°FAB PIPE ELBOW OD 1520	1-42-524-U6034	01	NO	1.000	804.341	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '05'
DPN-NS 045-1	JOB NOS	8122	NETWORK 6007971
	T. WT	98381.245 (KG) DU RANGE 6 - 59	PAGE 26 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
045	FAB PIPE BR CONN. OD1520X10 /1520X10	1-42-524-U6034	01	NO	1.000	1250.113	
046	FAB PIPE STIF RING OD1020X10THK;L=1291	1-42-524-U6034	01	NO	1.000	376.400	
047	FAB PIPE STIFF RING OD1020X10THK.;L=2490	1-42-524-U6034	01	NO	10.000	6904.320	
048	FAB PIPE STIFF RING OD1020X10THK.;L=2058	1-42-524-U6034	01	NO	2.000	1165.618	
049	90°FAB PIPE ELBOW OD1020	1-42-524-U6034	01	NO	2.000	776.358	
050	FAB.REDUCER OD 1520 OD 1020; L=911	1-42-524-U6034	01	NO	2.000	868.792	
051	FAB PIPE STIFF RING OD1020X10THK.;L=2490	1-42-524-U6034	01	NO	2.000	1456.672	
052	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6034	01	NO	2.000	1715.648	
053	FAB PIPE STIFF RING OD1020X10THK; L=386	1-42-524-U6034	01	NO	1.000	109.707	
054	U ROD D40	2-12-901-U8035	01	NO	4.000	163.600	
055	TIE ROD D50	2-12-901-U8035	02	NO	4.000	82.400	
056	WELD BEAM	2-12-901-U8035	01	NO	4.000	176.752	
057	WASHER PLATE	2-12-901-U8035	04	NO	4.000	40.192	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '05'
DPN-NS 045-1	JOB NOS	8122	NETWORK 6007971
	T. WT	98381.245 (KG) DU RANGE 6 - 59	PAGE 27 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
058	NUT M 45X3	2-12-901-U8035	05	NO	16.000	11.920	
059	NUT M 36X3	2-12-901-U8035	06	NO	8.000	3.168	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.45-823 BURNER WIND BOX	REVISION '00'
DPN-NS 040-1	JOB NOS	8122	NETWORK 6007966
	T. WT	5.000 (KG) DU RANGE 1 - 2	PAGE 28 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	WIND BOX ASSEMBLY			01	NO	4.000	4.000	
002	ACCESSORIES AS PER TDC:4-45-823-BUR-8122			02	SET	1.000	1.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.47-301 COAL PIPING COMPONENTS	REVISION '00'
DPN-NS 048-1	JOB NOS	8122	NETWORK 6007974
	T. WT	2839.916 (KG) DU RANGE 1 - 3	PAGE 29/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	CS PIPE SA106 GR.B 323.9X14.27			01	NO	4.000	1948.000	
002	CS ELBOW 90DEG 323.8X14.3TK			02	NO	16.000	832.000	
003	PLATE 12.0 MM - IS2062E250A (FE410W)			03	NO	12.000	59.916	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.48-015 SUPPORTS FOR WINDBOX CONNECTING DUCT	REVISION '00'
DPN-NS 019-1	JOB NOS	8122	NETWORK 6007945
	T. WT	2152.650 (KG) DU RANGE 1 - 2	PAGE 30 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	BOILER TOP FLOOR PLATE			01	NO	2.000	1483.650	
002	BOILER TOP FLOOR CHANNEL			02	NO	5.000	669.000	

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	S KUMARA MANIKYAM
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 014-1	JOB NOS	8122	NETWORK 6007940
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 31/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	TOP DUCT PLATE	1-48-212-U0320	01	NO	1.000	808.758	
002	BOTTOM DUCT PLATE	1-48-212-U0320	01	NO	1.000	326.598	
003	FRONT DUCT PLATE	1-48-212-U0320	02	NO	1.000	902.590	
004	BOLT WITH NUT	1-48-212-U0320	13	NO	32.000	80.448	
005	BOLT WITH NUT	1-48-212-U0320	14	NO	10.000	11.080	
006	BEAM WITH PLATE	1-48-212-U0320	20	NO	4.000	53.872	
007	BEAM WITH PLATE	1-48-212-U0320	21	NO	4.000	126.552	
008	PLATE 6MM	1-48-212-U0320	03	NO	2.000	237.008	
009	PLATE 6MM	1-48-212-U0320	04	NO	4.000	16.956	
010	PLATE 6MM	1-48-212-U0320	05	NO	2.000	43.238	
011	PLATE 6MM	1-48-212-U0320	06	NO	10.000	37.730	
012	PLATE 6MM	1-48-212-U0320	07	NO	10.000	22.480	
013	PLATE 6MM	1-48-212-U0320	08	NO	2.000	28.542	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 014-1	JOB NOS	8122	NETWORK 6007940
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 32/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	PLATE 6MM	1-48-212-U0320	09	NO	8.000	4.240	
015	PLATE 12 MM	1-48-212-U0320	10	NO	32.000	23.520	
016	PALTE 40 MM	1-48-212-U0320	11	NO	16.000	168.512	
017	ISMC 250	1-48-212-U0320	15	NO	2.000	81.396	
018	IAS 80X80X8	1-48-212-U0320	16	NO	1.000	33.600	
019	ISMC 150	1-48-212-U0320	17	NO	2.000	67.260	
020	ISMB 150	1-48-212-U0320	18	NO	4.000	196.680	
021	ISA 75X75X8	1-48-212-U0320	19	NO	4.000	23.460	
022	PIN 25 DIA	1-48-212-U0320	25	NO	4.000	1.696	
023	WASHER M27	1-48-212-U0320	26	NO	8.000	0.336	
024	ISMB 150	1-48-212-U0320	28	NO	2.000	67.260	
025	SQ TAPPER WASHER M16	1-48-212-U0320	29	NO	10.000	10.000	
026	PLATE 10 MM	1-48-212-U0320	30	NO	2.000	46.628	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 014-1	JOB NOS	8122	NETWORK 6007940
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 33 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	ERW TUBE OD 88.9 X 5.49 THK	1-48-212-U0320	31	NO	1.000	169.500	
028	DUCT	3-48-192-U0764	01	NO	1.000	172.512	
029	PLATE 6 MM	3-48-192-U0764	03	NO	1.000	17.088	
030	PLATE 6 MM	3-48-192-U0764	04	NO	2.000	4.710	
031	FLANGE	3-48-192-U0764	08	NO	1.000	18.496	
032	DUCT	3-48-192-U0767	01	NO	1.000	361.950	
033	TOP DUCT PLATE	1-48-212-U0320	01	NO	1.000	808.758	
034	BOTTOM DUCT PLATE	1-48-212-U0320	01	NO	1.000	326.598	
035	FRONT DUCT PLATE	1-48-212-U0320	02	NO	1.000	902.590	
036	BOLT WITH NUT	1-48-212-U0320	13	NO	32.000	80.448	
037	BOLT WITH NUT	1-48-212-U0320	14	NO	10.000	11.080	
038	BEAM WITH PALTE	1-48-212-U0320	20	NO	4.000	53.872	
039	BEAM WITH PALTE	1-48-212-U0320	21	NO	4.000	126.552	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 014-1	JOB NOS	8122	NETWORK 6007940
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 34/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	PLATE 6 MM	1-48-212-U0320	03	NO	2.000	237.008	
041	PLATE 6 MM	1-48-212-U0320	04	NO	4.000	16.956	
042	PLATE 6 MM	1-48-212-U0320	05	NO	2.000	43.238	
043	PLATE 6 MM	1-48-212-U0320	06	NO	10.000	37.730	
044	PLATE 6 MM	1-48-212-U0320	07	NO	10.000	22.480	
045	PLATE 6 MM	1-48-212-U0320	08	NO	2.000	28.542	
046	PLATE 6 MM	1-48-212-U0320	09	NO	8.000	4.240	
047	PLATE 12 MM	1-48-212-U0320	10	NO	32.000	23.520	
048	PLATE 40 MM	1-48-212-U0320	11	NO	16.000	168.512	
049	ISMC-250	1-48-212-U0320	15	NO	2.000	81.396	
050	ISA 80 X80XX8	1-48-212-U0320	16	NO	1.000	33.600	
051	ISMC-150	1-48-212-U0320	17	NO	2.000	67.260	
052	ISMB-150	1-48-212-U0320	18	NO	4.000	196.680	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 014-1	JOB NOS	8122	NETWORK 6007940
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 35 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	ISA75X75X8	1-48-212-U0320	19	NO	4.000	23.460	
054	PIN DIA 25	1-48-212-U0320	25	NO	4.000	1.696	
055	WASHER M 27	1-48-212-U0320	26	NO	8.000	0.336	
056	ISMB-150	1-48-212-U0320	28	NO	2.000	67.260	
057	SQ TAPPER WASHER M16	1-48-212-U0320	29	NO	10.000	10.000	
058	PLATE 10 MM	1-48-212-U0320	30	NO	2.000	46.628	
059	ERW TUBE OD 88.9 X 5.49 THK	1-48-212-U0320	31	NO	1.000	169.500	
060	DUCT	3-48-192-U0764	01	NO	1.000	172.512	
061	PLATE 6 MM	3-48-192-U0764	03	NO	1.000	17.088	
062	PLATE 6 MM	3-48-192-U0764	04	NO	2.000	4.710	
063	FLANGE	3-48-192-U0764	08	NO	1.000	18.496	
064	DUCT	3-48-192-U0767	01	NO	1.000	361.950	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.48-214 WINDBOX CONNECTING EXPANSION JOINT	REVISION '00'
DPN-NS 015-1	JOB NOS	8122	NETWORK 6007941
	T. WT	4.000 (KG) DU RANGE 1 - 1	PAGE 36 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WINDBOX CONNECTING DUCT EXPANSION JOINT			01 NO	4.000	4.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA .97-000	FIELD GAUGES	REVISION '00'
DPN-NS 020-1	JOB NOS 8122		NETWORK 6007946
	T. WT 40.000 (KG)	DU RANGE 1 - 4	PAGE 37/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	PRESSURE GAUGES,0 - 1000 MMWCG			01 NO	19.000	19.000	
002	PRESSURE GAUGES,0 - 400 MMWCG			02 NO	16.000	16.000	
003	PRESSURE GAUGES,0 - 16 KG/CM2G			03 NO	3.000	3.000	
004	PRESSURE GAUGES,0 - 2000 MMWCG			04 NO	2.000	2.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-010 FIELD TRANSMITTERS	REVISION '00'
DPN-NS 021-1	JOB NOS	8122	NETWORK 6007947
	T. WT	37.000 (KG) DU RANGE 1 - 3	PAGE 38 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	PRESSURE TRANSMITTER 0 - 2000 MMWCG			01	NO	16.000	16.000	
002	DIFF PRESSURE TRANSMITTERS - 0-400 MMWCG			02	NO	11.000	11.000	
003	TEMP TRANSMITTER 0 -600 DEG RANGE			03	NO	10.000	10.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-020 TEMPERATURE ELEMENTS	REVISION '00'
DPN-NS 022-1	JOB NOS	8122	NETWORK 6007948
	T. WT	11.000 (KG) DU RANGE 1 - 2	PAGE 39 / 57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	MTM THERMOCOUPLES TDC: INST-PR-97-020-00			01	NO	8.000	8.000	
002	K TYPE THERMOCOUPLE, DUPLEX SHEATH SS316			02	NO	3.000	3.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-030 FLOW ELEMENTS	REVISION '00'
DPN-NS 023-1	JOB NOS	8122	NETWORK 6007949
	T. WT	2.000 (KG) DU RANGE 1 - 2	PAGE 40 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	VENTURI TUBE ASSLY 1500MMOD X 10MMTHK			01	NO	1.000	1.000	
002	VENTURI METER 400MM OD X 10 MM THK			02	NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-050 PLC CONTROL SYSTEM	REVISION '00'
DPN-NS 024-1	JOB NOS	8122	NETWORK 6007950
	T. WT	1.000 (KG) DU RANGE 1 - 1	PAGE 41/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SIL-3 CERTIFIED BMS (PLC) FULLY REDUNDANT			01	NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-090 CABLES	REVISION '00'
DPN-NS 026-1	JOB NOS	8122	NETWORK 6007952
	T. WT	23800.000 (KG) DU RANGE 1 - 12	PAGE 42/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	6PX1.5MM2, FRLS, OUTER SHEATH BLACK			01 M	1000.000	1000.000	
002	12PX1.5MM2, FRLS, OUTER SHEATH BLACK			02 M	9000.000	9000.000	
003	12PX1.5MM2, FRLS, OUTER SHEATH L.BLUE			03 M	1000.000	1000.000	
004	2P KX X 16 AWG KX EXTENSION CABLE			04 M	500.000	500.000	
005	6PX2.5MM2, FRLS, OUTER SHEATH BLACK			05 M	1000.000	1000.000	
006	1PX2.5MM2, FRLS, OUTER SHEATH BLACK			06 M	500.000	500.000	
007	3CX2.5MM2, FRLS, OUTER SHEATH BLACK			07 M	2000.000	2000.000	
008	12CX2.5MM2, FRLS, OUTER SHEATH BLACK			08 M	1000.000	1000.000	
009	SINGLE TRIADX1, FRLS, OUTER SHEATH BLACK			09 M	500.000	500.000	
010	12CX1.5MM2, FRLS, OUTER SHEATH BLACK			10 M	300.000	300.000	
011	2PX1.5MM2, FRLS, OUTER SHEATH BLACK			11 M	1000.000	1000.000	
012	2PX1.5MM2, FRLS, OUTER SHEATH L.BLUE			12 M	6000.000	6000.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-091 FLAME SCANNERS	REVISION '00'
DPN-NS 027-1	JOB NOS	8122	NETWORK 6007953
	T. WT	16.000 (KG) DU RANGE 1 - 1	PAGE 43 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	FLAME SCANNER WITH ACCESSORIES		01	NO	16.000	16.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-100 CABLE TRAYS	REVISION '00'
DPN-NS 028-1	JOB NOS	8122	NETWORK 6007954
	T. WT	3090.000 (KG) DU RANGE 1 - 11	PAGE 44/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	600 MMWIDTH LADDER TYPE CABLE TRAY			01	M	400.000	400.000	
002	300 MMWIDTH LADDER TYPE CABLE TRAY			02	M	400.000	400.000	
003	150MM GI PERFORATED CABLE TRAY			03	M	400.000	400.000	
004	50MM GI PERFORATED CABLE TRAY			04	M	150.000	150.000	
005	CABLETRAY COVERS SUITABLE TO 300MM TRAY			05	M	300.000	300.000	
006	CABLETRAY COVERS SUITABLE TO 150MM TRAY			06	M	300.000	300.000	
007	CABLETRAY COVERS SUITABLE TO 50 MM TRAY			07	M	90.000	90.000	
008	COUPLER ASSY SUITABLE FOR 600MM TRAY			08	SET	300.000	300.000	
009	COUPLER ASSY SUITABLE FOR 300MM TRAY			09	SET	300.000	300.000	
010	COUPLER ASSY SUITABLE FOR 150MM TRAY			10	SET	300.000	300.000	
011	COUPLER ASSY SUITABLE FOR 50MM TRAY			11	SET	150.000	150.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-110 JUNCTION BOXES WITH ACCESSORIES	REVISION '00'
DPN-NS 029-1	JOB NOS	8122	NETWORK 6007955
	T. WT	952.000 (KG) DU RANGE 1 - 19	PAGE 45/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	DIE CAST AL.EX 48WAY JUNCTION BOX L.GREY		01	NO	38.000	38.000	
002	DIE CAST AL.EX 24WAY JUNCTION BOX L.GREY		02	NO	4.000	4.000	
003	DIE CAST AL.EX 48WAY JUNCTION BOX L.BLUE		03	NO	10.000	10.000	
004	DC CBL GLND NIPLTBR 1.5" NPTM - EXD		04	NO	20.000	20.000	
005	DC CBL GLND NIPLTBR 1 1/4" NPTM- EXD		05	NO	60.000	60.000	
006	DC CBL GLND NIPLTBR 1.5" ETM		06	NO	20.000	20.000	
007	DC CBL GLND NIPLTBR 1 1/4" ETM		07	NO	60.000	60.000	
008	DC CBL GLND NIPLTBR 1" NPTM- EXD		08	NO	40.000	40.000	
009	DC CBL GLND NIPLTBR 1" ETM		09	NO	30.000	30.000	
010	DC CBL GLND NIPLTBR 3/4" NPTM - EXD		10	NO	40.000	40.000	
011	DC CBL GLND NIPLTBR 3/4" ETM		11	NO	40.000	40.000	
012	DC CBL GLND NIPLTBR 1/2" NPTM - EXD		12	NO	350.000	350.000	
013	DC CBL GLND NIPLTBR 1/2" ETM		13	NO	20.000	20.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA .97-110	JUNCTION BOXES WITH ACCESSORIES	REVISION '00'
DPN-NS 029-1	JOB NOS 8122		NETWORK 6007955
	T. WT 952.000 (KG)	DU RANGE 1 - 19	PAGE 46/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	PLUGS SIZE: 1.0" NPT(M) EX PROOF			14	NO	40.000	40.000	
015	PLUGS SIZE: 0.5" NPT(M) EX PROOF			15	NO	100.000	100.000	
016	PLUGS SIZE: 3/4" NPT(M) EX PROOF			16	NO	20.000	20.000	
017	PLUGS SIZE: 1 1/4" NPT(M) EX PROOF			17	NO	20.000	20.000	
018	PLUGS SIZE: 1.5" NPT(M) EX PROOF			18	NO	20.000	20.000	
019	ADAPTORS SS 1/2"NPTM X 3/4"NPTF EXPROOF			19	NO	20.000	20.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 030-1	JOB NOS	8122	NETWORK 6007956
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 47/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	GATE VALVE 1/2" SW 800# SA105 NON-IBR		01	NO	160.000	160.000	
002	GATE VALVE 1/2" SW 800# SA105 IBR		02	NO	5.000	5.000	
003	GLOBE VALVES- SA105 1/2"X 800#		03	NO	20.000	20.000	
004	GLOBE VALVE 1/2" SW 800# SA105 IBR		04	NO	5.000	5.000	
005	PIPE OD 21.3 X 4.78 - SA106GRB(CERT)		05	NO	140.000	1638.000	
006	PLATE 6MM- IS2062E250A(FE410W)		06	NO	3.000	2119.500	
007	PIPE IS 1239 60.8 X 4.5		07	NO	42.000	1476.720	
008	PIPE OD 21.3 X 4.78 - SA106GRB		08	NO	9.000	105.300	
009	2"FL WN RF125AARH 150# A105 PTK:5.54MM		09	NO	60.000	150.000	
010	6"FL WN RF125AA 300# A105 PTHK:7.11MM		10	NO	30.000	573.000	
011	1.5"FL SW RF125AA 300# A105 PTHK:5.08 MM		11	NO	4.000	14.000	
012	SW GASKET 1.5" 300# SS316L OR+GRAFOIL+IR		12	NO	4.000	0.440	
013	SW GASKET 16" 150# SS316+GRAFOIL+IR		13	NO	50.000	50.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 030-1	JOB NOS	8122	NETWORK 6007956
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 48 / 57

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	SW GASKET 60" 150# SS316+GRAFOIL+IR			14 NO	10.000	10.000	
015	B+N, 5/8" 90LG, A193GR. B7/SA194GR .2H			15 NO	75.000	8.700	
016	B+N, 1/2" 65LG, A193GR. B7/SA194GR .2H			16 NO	250.000	28.500	
017	B+N, 1 7/8" 140LG, A193GR. B7/SA194GR R.2H			17 NO	380.000	33.440	
018	B+N, 1" 135LG, A193GR. B7/SA194GR R.2H			18 NO	750.000	64.500	
019	B+N, 3/4" 100LG, A193GR. B7/SA194GR R.2H			19 NO	210.000	17.640	
020	B+N, 3/4" 115LG, A193GR. B7/SA194GR R.2H			20 NO	140.000	18.480	
021	B+N, 3/4" 90LG, A193GR. B7/SA194GR .2H			21 NO	12.000	0.936	
022	B+N, 5/8" 85LG, A193GR. B7/SA194GR .2H			22 NO	240.000	30.240	
023	SPIRAL WOUND GASKET 6" 150#			23 NO	30.000	45.000	
024	6"FL WN RF125AA 150# A105 PTHK:6.02 MM			24 NO	20.000	40.000	
025	3"FL SW RF125AA 150# A105 PTHK:5.49 MM			25 NO	20.000	40.000	
026	SSTUBE 1/2"OD X 0.049"THK A269 TP316L			26 NO	150.000	315.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 030-1	JOB NOS	8122	NETWORK 6007956
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 49/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
027	SSTUBE 1/4"OD X 0.049"THK A269 TP316L			27	NO	250.000	262.500	
028	SPIRAL WOUND GASKET 3" 150#			28	NO	20.000	1.000	
029	SW GASKET 4" 300# SS316L OR+GRAFOIL+IR			29	NO	20.000	2.800	
030	0.5"FL SW RF125AA 300# A105 PTHK:3.73 MM			30	NO	120.000	82.800	
031	16"FL SW RF125AA 150# IS2062 PTHK:8.00 M			31	NO	50.000	10900.000	
032	1500NB"FL WN RF125AA 150#IS2062PTHK:10MM			32	NO	10.000	1700.000	
033	SPIRAL WOUND GASKET 2" 150# ASME B16.5			33	NO	60.000	5.400	
034	SW GASKET 0.5" 300# SS316L OR+GRAFOIL+IR			34	NO	60.000	6.000	
035	CHANNEL 100 X 50 - IS2062E250A (FE410W)			35	NO	20.000	1147.200	
036	ANGLE 65 X 65 X 6 -IS2062E250A (FE410W)			36	NO	45.000	1566.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-201 PIPE FITTINGS	REVISION '00'
DPN-NS 031-1	JOB NOS	8122	NETWORK 6007957
	T. WT	3372.000 (KG) DU RANGE 1 - 14	PAGE 50/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	ELBOW 1/2"X1/2"X1/2", 6000#, SA105, SWXSW		01	NO	450.000	450.000	
002	TEE 1/2"X1/2"X1/2", 6000#, SA105, SWXSWXSW		02	NO	450.000	450.000	
003	PIPE CAP 1/2", 6000#, SA105, NPT (F)		03	NO	450.000	450.000	
004	PIPE NPL 1/2"NB SCH160 150LG SA106GB		04	NO	540.000	540.000	
005	NIPPLE TOE 1/2"NPTMX150LG SCH160 A106GB		05	NO	750.000	750.000	
006	1"PLX0.5"SW RED-SWAGNPL ASTM A234 GR.WPB		06	NO	300.000	180.000	
007	COUP 1/2"SW X 1/2"SW A105 3000#		07	NO	450.000	450.000	
008	90DEG ELBOW 1/2"SW X1/2"SW A105 3000#		08	NO	15.000	9.000	
009	TEE 1/2"SWX1/2"SWX1/2"SW SA105		09	NO	15.000	15.000	
010	PIPE CAP 1/2", 6000#, SA105, NPT (F) IBR		10	NO	15.000	15.000	
011	PIPE NPL 1/2"NB SCH160 150LG SA106GB IBR		11	NO	15.000	15.000	
012	NIPPLE TOE 1/2"NPTMX 150LG SCH160 IBR		12	NO	24.000	24.000	
013	1"PLX0.5"SW REDUCER ASTM A105 IBR		13	NO	15.000	9.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-201 PIPE FITTINGS	REVISION '00'
DPN-NS 031-1	JOB NOS	8122	NETWORK 6007957
	T. WT	3372.000 (KG) DU RANGE 1 - 14	PAGE 51/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	COUPLING 1/2"SWX1/2"SW SA105 3000#			14 NO	15.000	15.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-202 TUBE FITTINGS	REVISION '00'
DPN-NS 032-1	JOB NOS	8122	NETWORK 6007958
	T. WT	178.000 (KG) DU RANGE 1 - 10	PAGE 52/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	MALE CONNECTORS SS316 1/4"NPTM X 1/4" OD			01	NO	150.000	15.000	
002	MALE CONNECTORS SS316 1/4"NPTM X 1/2" OD			02	NO	150.000	22.500	
003	MALE CONNECTORS SS316 1/2"NPTM X 1/2"OD			03	NO	260.000	52.000	
004	MALE CONNECTORS SS316 1/2"NPTM X 1/4"OD			04	NO	150.000	30.000	
005	FMALE CONNECTORS SS316 1/2"NPTF X 1/2"OD			05	NO	50.000	10.000	
006	TUBE UNIONS SS316 1/4" OD X 1/4" OD			06	NO	200.000	20.000	
007	TUBE UNIONS SS316 1/2" OD X 1/2" OD			07	NO	80.000	8.000	
008	TEEUNIONS SS316 1/2"OD X 1/2"OD X 1/2"OD			08	NO	30.000	7.500	
009	TEEUNIONS SS316 1/4"OD X 1/4"OD X 1/4"OD			09	NO	80.000	8.000	
010	TUBE CAPS, SS304, SUITABLE TO 1/2"OD SSTUBE			10	NO	50.000	5.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-300 FRP CANOPIES	REVISION '00'
DPN-NS 033-1	JOB NOS	8122	NETWORK 6007959
	T. WT	570.000 (KG) DU RANGE 1 - 2	PAGE 53/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	WP FRP CANOPIES SUITABLE TO JB			01	NO	55.000	330.000	
002	WP FRP CANOPIES SUITABLE TO TRANSMITTER			02	NO	40.000	240.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-400 AIR SUB HEADERS	REVISION '00'
DPN-NS 034-1	JOB NOS	8122	NETWORK 6007960
	T. WT	600.000 (KG) DU RANGE 1 - 2	PAGE 54/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	12 WAY AIR SUB HEADER WITH BALL VALVES			01	NO	10.000	350.000	
002	6 WAY AIR SUB HEADER WITH BALL VALVES			02	NO	10.000	250.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-500 CONTROL /ON-OFF/SELF ACTUATED VALVES	REVISION '01'
DPN-NS 035-1	JOB NOS	8122	NETWORK 6007961
	T. WT	65.000 (KG) DU RANGE 1 - 44	PAGE 55/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	BUTTERFLY TYPE CONTROL VALVE NB1500 #150		01	NO	1.000	1.000	
002	BUTTERFLY TYPE CONTROL VALVE NB400 #150		02	NO	1.000	1.000	
003	COMMISSIONING SPARES FOR BG-41 & COG-41		03	SET	1.000	1.000	
004	ON/OFF TRIP VALVES BALL TYPE 6"CLASS 150		04	NO	1.000	1.000	
005	ON/OFF TRIP VALVES BALL TYPE 3"CLASS 150		05	NO	1.000	1.000	
006	ON/OFF TRIP VALVES BALL TYPE 6"CLASS 150		06	NO	4.000	4.000	
007	ON/OFF TRIP VALVES BALL TYPE 6"CLASS 150		07	NO	4.000	4.000	
008	ON/OFF TRIP VALVES BALL TYPE 3"CLASS 150		08	NO	4.000	4.000	
009	ON/OFF TRIP VALVES BALL TYPE 3"CLASS 150		09	NO	2.000	2.000	
010	ON/OFF TRIP VALVES BALL TYPE 4"CLASS 150		10	NO	4.000	4.000	
011	ON/OFF TRIP VALVES BALL TYPE 4"CLASS 150		11	NO	4.000	4.000	
012	ON/OFF TRIP VALVES BALL TYPE 2"CLASS 150		12	NO	12.000	12.000	
013	MANDATORY SPARES FOR BALL VALVES		13	NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA	.97-500 CONTROL /ON-OFF/SELF ACTUATED VALVES	REVISION '01'
DPN-NS 035-1	JOB NOS	8122	NETWORK 6007961
	T. WT	65.000 (KG) DU RANGE 1 - 44	PAGE 56/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	COMMISSIONING SPARES AS PER CLAUSE 29			14	NO	1.000	1.000	
037	PRESSURE CNTRL VLV 6" 300# SELF ACTUATED			37	NO	1.000	1.000	
038	MANDATORY SPARES PRESSURE CONTROL VALVE			38	LOT	1.000	1.000	
039	BFG TRIP VALVE 1500NB 150#			39	NO	1.000	1.000	
040	COG TRIP VALVE NB400 150#			40	NO	1.000	1.000	
041	BFG HEADER VENT VALVES NB400 150#			41	NO	2.000	2.000	
042	BFG BURNER TRIP VALVES 400NB 150#			42	NO	16.000	16.000	
043	MANDATORY SPARES TDC INST-PR-97-500-006C			43	LOT	1.000	1.000	
044	COMMISSIONING SPARES INST-PR-97-500-006C			44	LOT	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8122 R&M OF NSPCL BHILAI UNIT-1		SHIPPING LIST
	PGMA .97-599	PNUEMATIC ACUATORS	
DPN-NS 036-1	JOB NOS	8122	REVISION '00'
	T. WT	41.000 (KG) DU RANGE 1 - 3	NETWORK 6007962 PAGE 57/57

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SADC ACTUATOR FOR WINDBOX4"X4"WITH VALVE			01	NO	32.000	32.000	
002	I/P CONVERTER ALONG WITH AIR FILTER REG.			02	SET	8.000	8.000	
003	COMMISSIONING SPARES AS PER SADC REV.01			03	SET	1.000	1.000	
***** 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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	10-178 SUPERHEATER VERTICAL PLATEN INLET HEADER	REVISION '00'
DPN-NS 051-1	JOB NOS	8123	NETWORK 6008216
	T. WT	872.820 (KG) DU RANGE 1 - 1	PAGE 1/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SH. VERT.PLATEN I/L HDR. SHH1	2-10-178-U8007	01	NO	1.000	872.820	

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	S M G NAIDU
	APPROVED & ISSUED BY	A N V KRANTHI KISHOR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	10-278 SUPERHEATER VERTICAL PLATEN OUTLET HEADE	REVISION '00'
DPN-NS 052-1	JOB NOS	8123	NETWORK 6008217
	T. WT	1141.070 (KG) DU RANGE 1 - 1	PAGE 2 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SH. VERT. PLATEN O/L HDR. SHH2	2-10-278-U8008	01	NO	1.000	1141.070	

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	S M G NAIDU
	APPROVED & ISSUED BY	A N V KRANTHI KISHOR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	11-278 SH.VERTICAL PLATEN COIL ASSY WITH ATTACH	REVISION '01'
DPN-NS 032-1	JOB NOS	8123	NETWORK 6007997
	T. WT	14279.860 (KG) DU RANGE 1 - 3	PAGE 3/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SH. VERT.PLATEN COIL ASSY. WITH ATTACH	2-11-278-U8047	01	NO	16.000	14087.360	
002	PIPE D108X8	2-11-278-U8056	01	NO	14.000	135.380	
003	TUBE D63.5X5	2-11-278-U8056	02	NO	16.000	57.120	

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	S M G NAIDU
	APPROVED & ISSUED BY	A N V KRANTHI KISHOR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	32-010 FIXING COMPONENTS FOR INSULATION	REVISION '00'
DPN-NS 010-1	JOB NOS	8123	NETWORK 6008019
	T. WT	979.607 (KG) DU RANGE 1 - 17	PAGE 4 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SEALING COMPOUND			01	KG	20.000	20.000	
002	WIRE DIA 0.711 MM - GI - IS280			02	KG	16.000	16.000	
003	WIRE DIA 1.219 MM - GI - IS280			03	KG	16.000	16.000	
004	ASBCLOTH 3MM IS4687/1995-TP21597 GR.AAA			04	NO	50.000	48.000	
005	HEX HD SCR-U-M10X45 -4.6-IS1363P2			05	NO	1330.000	51.870	
006	TAPSCREW-ST 4.2X13C DRG4-28-700-00627/00			06	NO	13300.000	13.300	
007	NUT -M10 -CL4-IS1363P3			07	NO	1330.000	13.300	
008	PUN WASHER-M10 -IS2016-A			08	NO	1330.000	13.300	
009	SNAP HD RIVET 3X8 GR 1 IS:2998			09	NO	1660.000	1.660	
010	SM CLAMP FOR DET INSLN TYPE A			10	NO	500.000	30.000	
011	SM CLAMP FOR DET INSLN TYPE B			11	NO	325.000	26.325	
012	AL CASING SUPPORT 04-850L			12	NO	1000.000	196.000	
013	CERAMIC FIBRE PAPER 3 X1000X500 MM AKLP			13	M2	30.000	20.700	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	32-010 FIXING COMPONENTS FOR INSULATION	REVISION '00'
DPN-NS 010-1	JOB NOS	8123	NETWORK 6008019
	T. WT	979.607 (KG) DU RANGE 1 - 17	PAGE 5 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	ROD 6 MM			14	NO	19.000	50.616	
015	ROD 10 MM			15	NO	1.000	8.060	
016	5 MM PLATE			16	NO	1.000	318.828	
017	1.6 MM SHEET			17	NO	3.000	135.648	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-005 GAS IGNITORS	REVISION '00'
DPN-NS 036-1	JOB NOS	8123	NETWORK 6007993
	T. WT	8.000 (KG) DU RANGE 1 - 1	PAGE 6 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	COKE OVEN GAS IGNITER WITH IFM		01	NO	8.000	8.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-200 BFG & COG VALVES	REVISION '00'
DPN-NS 033-1	JOB NOS	8123	NETWORK 6007996
	T. WT	175.000 (KG) DU RANGE 1 - 16	PAGE 7/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	ENCASED TYPE ROTARY GOOGLE VALVE ASSLY.		01	NO	1.000	1.000	
002	SPARES AS PER TDC: TOS:BFG:003		02	NO	1.000	1.000	
003	4"-C150-FL-HW-A216GRWCB-GLOBE VALVE		03	NO	1.000	62.000	
004	CS FLANGED GLOBE VALVE 3 (80NB), #150		04	NO	8.000	8.000	
005	CS FLANGED GLOBE VALVE 2 (50NB), #150		05	NO	8.000	8.000	
006	CS SW GLOBE VALVES 1 (25NB), #800		06	NO	4.000	4.000	
007	CS SW GLOBE VALVE 1/2 (15NB), #800		07	NO	1.000	1.000	
008	CS FLANGED GLOBE VALVES 6 (150NB), #150		08	NO	7.000	7.000	
009	CS FLANGED BALL VALVE 3 (80NB), #150		09	NO	1.000	1.000	
010	CS BALL VALVE 1 (25NB), #800		10	NO	14.000	14.000	
011	CS SW GATE VALVE 4 (100NB), #150		11	NO	1.000	1.000	
012	CS SW GATE VALVES 1 (25NB), #800		12	NO	55.000	55.000	
013	CS SW GATE VALVE 1/2 (15NB), #800		13	NO	9.000	9.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-200 BFG & COG VALVES	REVISION '00'
DPN-NS 033-1	JOB NOS	8123	NETWORK 6007996
	T. WT	175.000 (KG) DU RANGE 1 - 16	PAGE 8/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	CS FLANGED REGULATING VALVE 6 (150NB) #150			14	NO	1.000	1.000	
015	CS FLANGED BFV (BUTTERFLY VALVE) 500NB			15	NO	1.000	1.000	
016	CS FLANGED BFV (BUTTERFLY VALVE) 700NB			16	NO	1.000	1.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-516 BFG PIPING TO BOILER	REVISION '01'
DPN-NS 034-1	JOB NOS	8123	NETWORK 6007995
	T. WT	2100.000 (KG) DU RANGE 1 - 2	PAGE 9/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SCANNER AIR FANS WITH MOTOR DRIVE ASSLY		01	NO	2.000	2000.000	
002	MANDATORY SPARES - SCANNER AIR FAN		02	NO	1.000	100.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8123	NETWORK 6007982
	T. WT	34532.085 (KG) DU RANGE 1 - 67	PAGE 10 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	90° FAB MITRE BEND ELBOW& PIPE OD 1520	1-42-524-U6035	01	NO	1.000	850.206	
002	FAB PIPE RING FLANGEOD1520X10 THK;L=2479	1-42-524-U6035	01	NO	1.000	1021.412	
003	FAB PIPE STIF RING OD1520X10THK;L=1680	1-42-524-U6035	01	NO	1.000	810.501	
004	FAB PIPE RING FLG OD1520X10THK;L=2490	1-42-524-U6035	01	NO	1.000	2.802	
005	FAB PIPE RING FLANGEOD1520X10 THK;L=2011	1-42-524-U6035	01	NO	1.000	943.938	
006	90° FAB MITRE BEND ELBOW OD1520	1-42-524-U6035	01	NO	2.000	1608.298	
007	FAB PIPE STIFF RING OD1520X10THK; L=1623	1-42-524-U6035	01	NO	2.000	1338.130	
008	FAB PIPE STIFF RING OD1520X10THK; L=1203	1-42-524-U6035	01	NO	1.000	499.153	
009	FAB PIPE STIF RING OD1520X10THK;L=1175	1-42-524-U6035	01	NO	1.000	501.348	
010	FAB PIPE STIF RING&STUB OD1520X10T L=802	1-42-524-U6035	01	NO	1.000	362.757	
011	90° FAB MITRE BEND WITH STUB OD 1520	1-42-524-U6035	01	NO	1.000	804.439	
012	FAB PIPE STIFF RING OD1520X10THK; L=2490	1-42-524-U6035	01	NO	2.000	2068.458	
013	FAB PIPE WITH BRANCH CONN. OD1520/OD1520	1-42-524-U6035	01	NO	1.000	1489.397	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8123	NETWORK 6007982
	T. WT	34532.085 (KG) DU RANGE 1 - 67	PAGE 11/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	FAB REDU OD1520X10/OD 1020X10 THK;L=911	1-42-524-U6035	01	NO	2.000	868.188	
015	FAB PIPE STIF RING OD1020X10THK;L=2490	1-42-524-U6035	01	NO	3.000	2083.191	
016	FAB PIPE STIF RING OD1020X10THK;L=1992	1-42-524-U6035	01	NO	1.000	776.684	
017	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6035	01	NO	2.000	1837.102	
018	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6035	01	NO	2.000	1429.832	
019	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6035	01	NO	6.000	4166.382	
020	FAB PIPE STIF RING OD1020X10THK;L=2078	1-42-524-U6035	01	NO	1.000	563.725	
021	90° FAB MITRE BEND ELBOW OD 1020	1-42-524-U6035	01	NO	2.000	780.430	
022	FAB PIPE STIFF RING OD1520X10THK; L=2451	1-42-524-U6035	01	NO	1.000	1257.764	
023	U ROD D40	2-12-901-U8035	01	NO	4.000	163.600	
024	TIE ROD D50	2-12-901-U8035	02	NO	4.000	82.400	
025	WELD BEAM	2-12-901-U8035	01	NO	4.000	176.752	
026	WASHER PLATE	2-12-901-U8035	04	NO	4.000	40.192	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8123	NETWORK 6007982
	T. WT	34532.085 (KG) DU RANGE 1 - 67	PAGE 12 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	NUT M 45X3	2-12-901-U8035	05	NO	16.000	11.920	
028	NUT M 36X3	2-12-901-U8035	06	NO	8.000	3.168	
029	FAB PIPE STIFF RING OD1020X10THK; L=2078	1-42-524-U6035	01	NO	1.000	686.484	
030	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6035	01	NO	1.000	702.808	
031	FAB PIPE STIFF RING OD1020X10THK; L=390	1-42-524-U6035	01	NO	1.000	37.723	
032	TC NIPPLE MADE FROM DIA 63 ROD M33X2	1-42-524-U6035	26	NO	1.000	1.346	
033	SPARE FAB PIPE OD 1520X10 THK;L=2490	1-42-524-U6035	01	NO	1.000	1097.456	
034	SPARE FAB PIPE OD 1020X10 THK;L=2490	1-42-524-U6035	01	NO	1.000	735.042	
035	CS PIPE 60.3X3.91 THK	1-42-524-U6043	01	NO	1.000	760.200	
036	CS PIPE 88.9X5.49 THK	1-42-524-U6043	02	NO	1.000	903.200	
037	BW LR 90 DEG ELBOW	1-42-524-U6043	03	NO	15.000	30.450	
038	CS 90° LR ELBOW	1-42-524-U6043	04	NO	105.000	105.000	
039	CS EQ TEE	1-42-524-U6043	05	NO	2.000	7.600	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8123	NETWORK 6007982
	T. WT	34532.085 (KG) DU RANGE 1 - 67	PAGE 13 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	BW UN EQ TEE	1-42-524-U6043	06	NO	18.000	38.520	
041	WNRF FLANGE	1-42-524-U6043	07	NO	100.000	400.000	
042	SPW GASKET	1-42-524-U6043	08	NO	200.000	31.000	
043	STUD+2 HEAVY HEX NUTS	1-42-524-U6043	09	NO	800.000	187.200	
044	WNRF FLANGE	1-42-524-U6043	10	NO	2.000	14.000	
045	SPW GASKET	1-42-524-U6043	11	NO	4.000	1.000	
046	STUD+2 HEAVY HEX NUT	1-42-524-U6043	12	SET	16.000	16.000	
047	BLIND FLANGE	1-42-524-U6043	13	NO	2.000	14.000	
048	2" SS FLEXIBLE HOSE	1-42-524-U6043	15	NO	17.000	170.000	
049	STEAM PURGING PG HEADER	1-42-524-U6043	16	NO	1.000	9.096	
050	STEAM PURGING PG HEADER	1-42-524-U6043	17	NO	1.000	5.133	
051	CS PIPE 33.4X3.38 THK	2-42-524-U6014	18	NO	1.000	194.400	
052	ISMB-200	2-42-524-U6014	19	NO	1.000	254.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8123	NETWORK 6007982
	T. WT	34532.085 (KG) DU RANGE 1 - 67	PAGE 14 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	ISMB-125	2-42-524-U6014	20	NO	1.000	670.000	
054	PLATE 12 THK	2-42-524-U6014	21	NO	1.000	47.100	
055	ISMC-100	2-42-524-U6014	22	NO	1.000	768.000	
056	EYE HANGER	2-42-524-U6014	23	NO	60.000	4.800	
057	ROUND DIA 10	2-42-524-U6014	24	NO	1.000	24.680	
058	SUSPENSION PLATE 3"	2-42-524-U6014	25	NO	15.000	0.120	
059	PIPE CLAM ROD	2-42-524-U6014	26	NO	15.000	6.750	
060	SUSPENSION PLATE 2"	2-42-524-U6014	27	NO	12.000	0.096	
061	PIPE CLAM ROD	2-42-524-U6014	28	NO	12.000	5.400	
062	U-BOLT	2-42-524-U6014	29	NO	15.000	20.100	
063	GUIDE PLATE 2"	2-42-524-U6014	30	NO	40.000	0.360	
064	SUPPORT PLATE 2"	2-42-524-U6014	31	NO	15.000	25.710	
065	CS 90 DEG ELBOW	2-42-524-U6014	32	NO	24.000	12.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8123	NETWORK 6007982
	T. WT	34532.085 (KG) DU RANGE 1 - 67	PAGE 15 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
066	SW EQ. TEE	2-42-524-U6014	33	NO	1.000	0.652	
067	PIPE CLAM ROD	2-42-524-U6014	34	NO	30.000	2.490	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 16 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	CS PIPE OD 355.6X9.53 THK	1-43-001-U6006	01	NO	1.000	487.980	
002	SCANNER AIR PIPING HEADER 350NB(BOILER-2	1-43-001-U6006	02	NO	1.000	407.230	
003	CS BW 90 DEG LR ELBOW 355.6X9.53 THK.	1-43-001-U6006	03	NO	3.000	204.300	
004	CS BW EQUAL TEE OD.355.6X9.53 THK	1-43-001-U6006	04	NO	2.000	186.000	
005	CS BW ECCENT RED OD355.6X9.53TH/273X9.27	1-43-001-U6006	05	NO	2.000	53.800	
006	CS PIPE OD 273 X 9.27 THK	1-43-001-U6006	06	NO	1.000	180.900	
007	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6006	07	NO	2.000	572.940	
008	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6006	08	NO	2.000	616.970	
009	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6006	09	NO	2.000	603.100	
010	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6006	10	NO	1.000	285.380	
011	CS BW 90° LR ELBOW OD 273X9.27 THK	1-43-001-U6006	11	NO	2.000	74.000	
012	CS BW UN EQUAL TEE OD273X9.53/219.1X8.18	1-43-001-U6006	12	NO	4.000	164.000	
013	CS PLATE DIA 305 X 12 THK.	1-43-001-U6006	13	NO	2.000	13.760	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 17 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	CS PIPE OD 219.1X8.18 THK	1-43-001-U6006	14	NO	1.000	42.550	
015	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6006	15	NO	1.000	123.400	
016	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6006	16	NO	1.000	129.780	
017	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6006	17	NO	1.000	208.400	
018	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6006	18	NO	1.000	202.000	
019	CS BW 90° LR ELBOW OD 219.1X8.18 THK	1-43-001-U6006	19	NO	4.000	81.200	
020	CS PIPE OD 33.4X3.38THK.	1-43-001-U6006	20	NO	1.000	2.500	
021	HALF COUPLING (SPARE) 1"X3000 #	1-43-001-U6006	21	NO	3.000	0.870	
022	SCANN AIR PIPING CORN-1 HEADER (BOILER-2)	1-43-001-U6007	01	NO	1.000	99.955	
023	CS PIPE OD88.9X5.49 THK.	1-43-001-U6007	02	NO	1.000	112.900	
024	CS PIPE OD 33.4 X 3.38 THK.	1-43-001-U6007	03	NO	1.000	30.000	
025	CS BW 90° LR ELBOW OD219.1 X 8.18THK.	1-43-001-U6007	04	NO	1.000	20.300	
026	CS BW 90° LR ELBOW OD88.9 X 5.49 THK.	1-43-001-U6007	05	NO	8.000	16.240	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 18 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	CS SW 90° ELBOW 1" 3000#	1-43-001-U6007	06	NO	8.000	3.808	
028	SLIP ON FLANGE 200NB, 150#	1-43-001-U6007	07	NO	1.000	13.500	
029	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6007	08	NO	1.000	20.000	
030	CNAF GASKET OD 269.9X ID221.5	1-43-001-U6007	09	NO	2.000	0.948	
031	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6007	10	NO	8.000	3.096	
032	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6007	11	NO	1.000	2.830	
033	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6007	12	NO	1.000	3.670	
034	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6007	13	NO	4.000	4.404	
035	SLIP ON FLANGE 80NB, 150#	1-43-001-U6007	14	NO	2.000	8.400	
036	CNAF GASKET OD 127XID 90.7	1-43-001-U6007	15	NO	4.000	0.420	
037	STUD WITH 2 NUTS M16X 90 LG	1-43-001-U6007	16	NO	8.000	1.568	
038	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6007	17	NO	2.000	2.000	
039	SCANN AIR PIPING CORN-2 HEADER (BOILER-2)	1-43-001-U6008	01	NO	1.000	105.790	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 19 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	CS PIPE OD88.9X5.49 THK.	1-43-001-U6008	02	NO	1.000	135.480	
041	CS PIPE OD 33.4 X 3.38 THK.	1-43-001-U6008	03	NO	1.000	25.000	
042	CS BW 90° LR ELBOW OD219.1 X 8.18 THK	1-43-001-U6008	04	NO	1.000	20.030	
043	CS BW 90° LR ELBOW OD88.9 X 5.49 THK	1-43-001-U6008	05	NO	5.000	10.150	
044	CS SW 90° ELBOW 1" 3000#	1-43-001-U6008	06	NO	8.000	3.808	
045	SLIP ON FLANGE 200NB, 150#	1-43-001-U6008	07	NO	1.000	13.500	
046	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6008	08	NO	1.000	20.000	
047	CNAF GASKET OD.269.9X ID.221.5	1-43-001-U6008	09	NO	2.000	0.948	
048	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6008	10	NO	8.000	3.096	
049	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6008	11	NO	1.000	2.540	
050	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6008	12	NO	1.000	3.670	
051	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6008	13	NO	4.000	0.880	
052	SLIP ON FLANGE 80NB,, 150#	1-43-001-U6008	14	NO	2.000	8.400	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 20 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	CNAF GASKET OD.127 ID.90.7	1-43-001-U6008	15	NO	4.000	0.420	
054	STUD WITH 2 NUTS M16X 90 LG.	1-43-001-U6008	16	NO	8.000	1.568	
055	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6008	17	NO	2.000	2.000	
056	SCANN AIR PIPING CORN-3 HEADER (BOILER-2)	1-43-001-U6009	01	NO	1.000	105.790	
057	CS PIPE OD88.9X5.49 THK.	1-43-001-U6009	02	NO	1.000	135.480	
058	CS PIPE OD 33.4 X 3.38THK.	1-43-001-U6009	03	NO	1.000	25.000	
059	CS BW 90° LR ELBOW OD.219.1 X 8.18THK.	1-43-001-U6009	04	NO	1.000	20.300	
060	CS BW 90° LR ELBOW OD.88.9 X 5.49THK.	1-43-001-U6009	05	NO	5.000	10.150	
061	CS SW 90° ELBOW 1", 3000#	1-43-001-U6009	06	NO	8.000	3.808	
062	SLIP ON FLANGE 200NB, 150#	1-43-001-U6009	07	NO	1.000	13.500	
063	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6009	08	NO	1.000	20.000	
064	CNAF GASKET OD.269.9X ID.221.5	1-43-001-U6009	09	NO	2.000	0.948	
065	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6009	10	NO	8.000	3.096	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 21/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
066	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6009	11	NO	1.000	2.540	
067	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6009	12	NO	1.000	3.670	
068	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6009	13	NO	4.000	0.880	
069	SLIP ON FLANGE 80NB , 150#	1-43-001-U6009	14	NO	2.000	8.400	
070	CNAF GASKET OD.127 ID.90.7	1-43-001-U6009	15	NO	4.000	0.420	
071	STUD WITH 2 NUTS M16X 90 LG.	1-43-001-U6009	16	NO	8.000	1.568	
072	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6009	17	NO	2.000	2.000	
073	SCANN AIR PIPING CORN-4 HEADER (BOILER-2)	1-43-001-U6010	01	NO	1.000	99.945	
074	CS PIPE OD88.9X5.49 THK	1-43-001-U6010	02	NO	1.000	112.900	
075	CS PIPE OD 33.4 X 3.38THK.	1-43-001-U6010	03	NO	1.000	25.000	
076	CS BW 90° LR ELBOW OD219.1 X 8.18 THK.	1-43-001-U6010	04	NO	1.000	20.030	
077	CS BW 90° LR ELBOW OD88.9 X 5.49 THK.	1-43-001-U6010	05	NO	8.000	16.240	
078	CS SW 90° ELBOW 1", 3000#	1-43-001-U6010	06	NO	8.000	3.808	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8123	NETWORK 6007991
	T. WT	6035.164 (KG) DU RANGE 1 - 89	PAGE 22 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
079	SLIP ON FLANGE 200NB, 150#	1-43-001-U6010	07	NO	1.000	13.500	
080	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6010	08	NO	1.000	20.000	
081	CNAF GASKET OD.269.9X ID.221.5	1-43-001-U6010	09	NO	2.000	0.948	
082	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6010	10	NO	8.000	3.096	
083	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6010	11	NO	1.000	2.830	
084	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6010	12	NO	1.000	3.670	
085	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6010	13	NO	4.000	0.880	
086	SLIP ON FLANGE 80NB , 150#	1-43-001-U6010	14	NO	2.000	8.400	
087	CNAF GASKET OD.127XID.90.7	1-43-001-U6010	15	NO	4.000	0.420	
088	STUD WITH 2 NUTS M16X 90 LG	1-43-001-U6010	16	NO	8.000	1.568	
089	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6010	17	NO	2.000	2.000	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	45-823 BURNER WIND BOX	REVISION '00'
DPN-NS 042-1	JOB NOS	8123	NETWORK 6007987
	T. WT	5.000 (KG) DU RANGE 1 - 2	PAGE 23 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WIND BOX ASSEMBLY		01	NO	4.000	4.000	
002	ACCESSORIES AS PER TDC:4-45-823-BUR-8122		02	SET	1.000	1.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	47-301 COAL PIPING COMPONENTS	REVISION '00'
DPN-NS 043-1	JOB NOS	8123	NETWORK 6007986
	T. WT	2839.916 (KG) DU RANGE 1 - 3	PAGE 24 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	CS PIPE SA106 GR.B 323.9X14.27			01	NO	4.000	1948.000	
002	CS ELBOW 90DEG 323.8X14.3TK			02	NO	16.000	832.000	
003	PLATE 12.0 MM - IS2062E250A (FE410W)			03	NO	12.000	59.916	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8123	NETWORK 6008022
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 25 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	TOP DUCT PLATE	1-48-212-U0320	01	NO	1.000	808.758	
002	BOTTOM DUCT PLATE	1-48-212-U0320	01	NO	1.000	326.598	
003	FRONT DUCT PLATE	1-48-212-U0320	02	NO	1.000	902.590	
004	BOLT WITH NUT	1-48-212-U0320	13	NO	32.000	80.448	
005	BOLT WITH NUT	1-48-212-U0320	14	NO	10.000	11.080	
006	BEAM WITH PLATE	1-48-212-U0320	20	NO	4.000	53.872	
007	BEAM WITH PLATE	1-48-212-U0320	21	NO	4.000	126.552	
008	PLATE 6MM	1-48-212-U0320	03	NO	2.000	237.008	
009	PLATE 6MM	1-48-212-U0320	04	NO	4.000	16.956	
010	PLATE 6MM	1-48-212-U0320	05	NO	2.000	43.238	
011	PLATE 6MM	1-48-212-U0320	06	NO	10.000	37.730	
012	PLATE 6MM	1-48-212-U0320	07	NO	10.000	22.480	
013	PLATE 6MM	1-48-212-U0320	08	NO	2.000	28.542	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8123	NETWORK 6008022
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 26 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	PLATE 6MM	1-48-212-U0320	09	NO	8.000	4.240	
015	PLATE 12 MM	1-48-212-U0320	10	NO	32.000	23.520	
016	PALTE 40 MM	1-48-212-U0320	11	NO	16.000	168.512	
017	ISMC 250	1-48-212-U0320	15	NO	2.000	81.396	
018	IAS 80X80X8	1-48-212-U0320	16	NO	1.000	33.600	
019	ISMC 150	1-48-212-U0320	17	NO	2.000	67.260	
020	ISMB 150	1-48-212-U0320	18	NO	4.000	196.680	
021	ISA 75X75X8	1-48-212-U0320	19	NO	4.000	23.460	
022	PIN 25 DIA	1-48-212-U0320	25	NO	4.000	1.696	
023	WASHER M27	1-48-212-U0320	26	NO	8.000	0.336	
024	ISMB 150	1-48-212-U0320	28	NO	2.000	67.260	
025	SQ TAPPER WASHER M16	1-48-212-U0320	29	NO	10.000	10.000	
026	PLATE 10 MM	1-48-212-U0320	30	NO	2.000	46.628	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8123	NETWORK 6008022
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 27 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	ERW TUBE OD 88.9 X 5.49 THK	1-48-212-U0320	31	NO	1.000	169.500	
028	DUCT	3-48-192-U0764	01	NO	1.000	172.512	
029	PLATE 6 MM	3-48-192-U0764	03	NO	1.000	17.088	
030	PLATE 6 MM	3-48-192-U0764	04	NO	2.000	4.710	
031	FLANGE	3-48-192-U0764	08	NO	1.000	18.496	
032	DUCT	3-48-192-U0767	01	NO	1.000	361.950	
033	TOP DUCT PLATE	1-48-212-U0320	01	NO	1.000	808.758	
034	BOTTOM DUCT PLATE	1-48-212-U0320	01	NO	1.000	326.598	
035	FRONT DUCT PLATE	1-48-212-U0320	02	NO	1.000	902.590	
036	BOLT WITH NUT	1-48-212-U0320	13	NO	32.000	80.448	
037	BOLT WITH NUT	1-48-212-U0320	14	NO	10.000	11.080	
038	BEAM WITH PALTE	1-48-212-U0320	20	NO	4.000	53.872	
039	BEAM WITH PALTE	1-48-212-U0320	21	NO	4.000	126.552	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8123	NETWORK 6008022
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 28 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	PLATE 6 MM	1-48-212-U0320	03	NO	2.000	237.008	
041	PLATE 6 MM	1-48-212-U0320	04	NO	4.000	16.956	
042	PLATE 6 MM	1-48-212-U0320	05	NO	2.000	43.238	
043	PLATE 6 MM	1-48-212-U0320	06	NO	10.000	37.730	
044	PLATE 6 MM	1-48-212-U0320	07	NO	10.000	22.480	
045	PLATE 6 MM	1-48-212-U0320	08	NO	2.000	28.542	
046	PLATE 6 MM	1-48-212-U0320	09	NO	8.000	4.240	
047	PLATE 12 MM	1-48-212-U0320	10	NO	32.000	23.520	
048	PLATE 40 MM	1-48-212-U0320	11	NO	16.000	168.512	
049	ISMC-250	1-48-212-U0320	15	NO	2.000	81.396	
050	ISA 80 X80XX8	1-48-212-U0320	16	NO	1.000	33.600	
051	ISMB-150	1-48-212-U0320	17	NO	2.000	67.260	
052	ISMB-150	1-48-212-U0320	18	NO	4.000	196.680	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8123	NETWORK 6008022
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 29 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
054	PIN DIA 25	1-48-212-U0320	19	NO	4.000	25.156	
055	WASHER M 27	1-48-212-U0320	26	NO	8.000	0.336	
056	ISMB-150	1-48-212-U0320	28	NO	2.000	67.260	
057	SQ TAPPER WASHER M16	1-48-212-U0320	29	NO	10.000	10.000	
058	PLATE 10 MM	1-48-212-U0320	30	NO	2.000	46.628	
059	ERW TUBE OD 88.9 X 5.49 THK	1-48-212-U0320	31	NO	1.000	169.500	
060	DUCT	3-48-192-U0764	01	NO	1.000	172.512	
061	PLATE 6 MM	3-48-192-U0764	03	NO	1.000	17.088	
062	PLATE 6 MM	3-48-192-U0764	04	NO	2.000	4.710	
063	FLANGE	3-48-192-U0764	08	NO	1.000	18.496	
064	DUCT	3-48-192-U0767	01	NO	1.000	361.950	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	48-214 WINDBOX CONNECTING EXPANSION JOINT	REVISION '00'
DPN-NS 008-1	JOB NOS	8123	NETWORK 6008021
	T. WT	4.000 (KG) DU RANGE 1 - 1	PAGE 30 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WINDBOX CONNECTING DUCT EXPANSION JOINT			01 NO	4.000	4.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-000 FIELD GAUGES	REVISION '00'
DPN-NS 024-1	JOB NOS	8123	NETWORK 6008005
	T. WT	40.000 (KG) DU RANGE 1 - 4	PAGE 31 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	PRESSURE GAUGES, 0 - 1000 MMWCG			01 NO	19.000	19.000	
002	PRESSURE GAUGES, 0 - 400 MMWCG			02 NO	16.000	16.000	
003	PRESSURE GAUGES, 0 - 16 KG/CM2G			03 NO	3.000	3.000	
004	PRESSURE GAUGES, 0 - 2000 MMWCG			04 NO	2.000	2.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-010 FIELD TRANSMITTERS	REVISION '00'
DPN-NS 025-1	JOB NOS	8123	NETWORK 6008004
	T. WT	37.000 (KG) DU RANGE 1 - 3	PAGE 32 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	PRESSURE TRANSMITTER 0 - 2000 MMWCG			01	NO	16.000	16.000	
002	DIFF PRESSURE TRANSMITTERS - 0-400 MMWCG			02	NO	11.000	11.000	
003	TEMP TRANSMITTER 0 -600 DEG RANGE			03	NO	10.000	10.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-020 TEMPERATURE ELEMENTS	REVISION '00'
DPN-NS 026-1	JOB NOS	8123	NETWORK 6008003
	T. WT	11.000 (KG) DU RANGE 1 - 2	PAGE 33 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	MTM THERMOCOUPLES TDC: INST-PR-97-020-00			01	NO	8.000	8.000	
002	K TYPE THERMOCOUPLE, DUPLEX SHEATH SS316			02	NO	3.000	3.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-030 FLOW ELEMENTS	REVISION '00'
DPN-NS 027-1	JOB NOS	8123	NETWORK 6008002
	T. WT	2.000 (KG) DU RANGE 1 - 2	PAGE 34 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	VENTURI TUBE ASSLY 1500MMOD X 10MMTHK			01 NO	1.000	1.000	
002	VENTURI METER 400MM OD X 10 MM THK			02 NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-050 PLC CONTROL SYSTEM	REVISION '00'
DPN-NS 028-1	JOB NOS	8123	NETWORK 6008001
	T. WT	1.000 (KG) DU RANGE 1 - 1	PAGE 35 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SIL-3 CERTIFIED BMS (PLC) FULLY REDUNDANT			01 NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-090 CABLES	REVISION '00'
DPN-NS 030-1	JOB NOS	8123	NETWORK 6007999
	T. WT	20000.000 (KG)	DU RANGE 1 - 7
			PAGE 36 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	6PX1.5MM2, FRLS, OUTER SHEATH BLACK			01	M	1000.000	1000.000	
002	12PX1.5MM2, FRLS, OUTER SHEATH BLACK			02	M	8000.000	8000.000	
003	12PX1.5MM2, FRLS, OUTER SHEATH L.BLUE			03	M	1000.000	1000.000	
004	3CX2.5MM2, FRLS, OUTER SHEATH BLACK			04	M	2000.000	2000.000	
005	12CX2.5MM2, FRLS, OUTER SHEATH BLACK			05	M	1000.000	1000.000	
006	2PX1.5MM2, FRLS, OUTER SHEATH BLACK			06	M	1000.000	1000.000	
007	2PX1.5MM2, FRLS, OUTER SHEATH L.BLUE			07	M	6000.000	6000.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-091 FLAME SCANNERS	REVISION '00'
DPN-NS 031-1	JOB NOS	8123	NETWORK 6007998
	T. WT	16.000 (KG) DU RANGE 1 - 1	PAGE 37 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	FLAME SCANNER WITH ACCESSORIES			01 NO	16.000	16.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-100 CABLE TRAYS	REVISION '00'
DPN-NS 015-1	JOB NOS	8123	NETWORK 6008014
	T. WT	2830.000 (KG) DU RANGE 1 - 11	PAGE 38 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	600 MMWIDTH LADDER TYPE CABLE TRAY			01 M	300.000	300.000	
002	300 MMWIDTH LADDER TYPE CABLE TRAY			02 M	400.000	400.000	
003	150MM GI PERFORATED CABLE TRAY			03 M	400.000	400.000	
004	50MM GI PERFORATED CABLE TRAY			04 M	150.000	150.000	
005	CABLETRAY COVERS SUITABLE TO 300MM TRAY			05 M	300.000	300.000	
006	CABLETRAY COVERS SUITABLE TO 150MM TRAY			06 M	300.000	300.000	
007	CABLETRAY COVERS SUITABLE TO 50 MM TRAY			07 M	80.000	80.000	
008	COUPLER ASSY SUITABLE FOR 600MM TRAY			08 SET	200.000	200.000	
009	COUPLER ASSY SUITABLE FOR 300MM TRAY			09 SET	250.000	250.000	
010	COUPLER ASSY SUITABLE FOR 150MM TRAY			10 SET	300.000	300.000	
011	COUPLER ASSY SUITABLE FOR 50MM TRAY			11 SET	150.000	150.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-110 JUNCTION BOXES WITH ACCESSORIES	REVISION '00'
DPN-NS 016-1	JOB NOS	8123	NETWORK 6008013
	T. WT	952.000 (KG) DU RANGE 1 - 19	PAGE 39 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	DIE CAST AL.EX 48WAY JUNCTION BOX L.GREY		01	NO	38.000	38.000	
002	DIE CAST AL.EX 24WAY JUNCTION BOX L.GREY		02	NO	4.000	4.000	
003	DIE CAST AL.EX 48WAY JUNCTION BOX L.BLUE		03	NO	10.000	10.000	
004	DC CBL GLND NIPLTBR 1.5" NPTM - EXD		04	NO	20.000	20.000	
005	DC CBL GLND NIPLTBR 1 1/4" NPTM- EXD		05	NO	60.000	60.000	
006	DC CBL GLND NIPLTBR 1.5" ETM		06	NO	20.000	20.000	
007	DC CBL GLND NIPLTBR 1 1/4" ETM		07	NO	60.000	60.000	
008	DC CBL GLND NIPLTBR 1" NPTM- EXD		08	NO	40.000	40.000	
009	DC CBL GLND NIPLTBR 1" ETM		09	NO	30.000	30.000	
010	DC CBL GLND NIPLTBR 3/4" NPTM - EXD		10	NO	40.000	40.000	
011	DC CBL GLND NIPLTBR 3/4" ETM		11	NO	40.000	40.000	
012	DC CBL GLND NIPLTBR 1/2" NPTM - EXD		12	NO	350.000	350.000	
013	DC CBL GLND NIPLTBR 1/2" ETM		13	NO	20.000	20.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-110 JUNCTION BOXES WITH ACCESSORIES	REVISION '00'
DPN-NS 016-1	JOB NOS	8123	NETWORK 6008013
	T. WT	952.000 (KG) DU RANGE 1 - 19	PAGE 40 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	PLUGS SIZE: 1.0" NPT(M) EX PROOF			14	NO	40.000	40.000	
015	PLUGS SIZE: 0.5" NPT(M) EX PROOF			15	NO	100.000	100.000	
016	PLUGS SIZE: 3/4" NPT(M) EX PROOF			16	NO	20.000	20.000	
017	PLUGS SIZE: 1 1/4" NPT(M) EX PROOF			17	NO	20.000	20.000	
018	PLUGS SIZE: 1.5" NPT(M) EX PROOF			18	NO	20.000	20.000	
019	ADAPTORS SS 1/2"NPTM X 3/4"NPTF EXPROOF			19	NO	20.000	20.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 017-1	JOB NOS	8123	NETWORK 6008012
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 41/49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	GATE VALVE 1/2" SW 800# SA105 NON-IBR		01	NO	160.000	160.000	
002	GATE VALVE 1/2" SW 800# SA105 IBR		02	NO	5.000	5.000	
003	GLOBE VALVES- SA105 1/2"X 800#		03	NO	20.000	20.000	
004	GLOBE VALVE 1/2" SW 800# SA105 IBR		04	NO	5.000	5.000	
005	PIPE OD 21.3 X 4.78 - SA106GRB(CERT)		05	NO	140.000	1638.000	
006	PLATE 6MM- IS2062E250A(FE410W)		06	NO	3.000	2119.500	
007	PIPE IS 1239 60.8 X 4.5		07	NO	42.000	1476.720	
008	PIPE OD 21.3 X 4.78 - SA106GRB		08	NO	9.000	105.300	
009	2"FL WN RF125AARH 150# A105 PTK:5.54MM		09	NO	60.000	150.000	
010	6"FL WN RF125AA 300# A105 PTHK:7.11MM		10	NO	30.000	573.000	
011	1.5"FL SW RF125AA 300# A105 PTHK:5.08 MM		11	NO	4.000	14.000	
012	SW GASKET 1.5" 300# SS316L OR+GRAFOIL+IR		12	NO	4.000	0.440	
013	SW GASKET 16" 150# SS316+GRAFOIL+IR		13	NO	50.000	50.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 017-1	JOB NOS	8123	NETWORK 6008012
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 42 / 49

DU NO	MARK NO. / DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	SW GASKET 60" 150# SS316+GRAFOIL+IR			14 NO	10.000	10.000	
015	B+N, 5/8" 90LG, A193GR. B7/SA194GR .2H			15 NO	75.000	8.700	
016	B+N, 1/2" 65LG, A193GR. B7/SA194GR .2H			16 NO	250.000	28.500	
017	B+N, 1 7/8" 140LG, A193GR. B7/SA194G R.2H			17 NO	380.000	33.440	
018	B+N, 1" 135LG, A193GR. B7/SA194G R.2H			18 NO	750.000	64.500	
019	B+N, 3/4" 100LG, A193GR. B7/SA194G R.2H			19 NO	210.000	17.640	
020	B+N, 3/4" 115LG, A193GR. B7/SA194G R.2H			20 NO	140.000	18.480	
021	B+N, 3/4" 90LG, A193GR. B7/SA194GR .2H			21 NO	12.000	0.936	
022	B+N, 5/8" 85LG, A193GR. B7/SA194GR .2H			22 NO	240.000	30.240	
023	SPIRAL WOUND GASKET 6" 150#			23 NO	30.000	45.000	
024	6"FL WN RF125AA 150# A105 PTHK:6.02 MM			24 NO	20.000	40.000	
025	3"FL SW RF125AA 150# A105 PTHK:5.49 MM			25 NO	20.000	40.000	
026	SSTUBE 1/2"OD X 0.049"THK A269 TP316L			26 NO	150.000	315.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 017-1	JOB NOS	8123	NETWORK 6008012
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 43 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
027	SSTUBE 1/4"OD X 0.049"THK A269 TP316L			27	NO	250.000	262.500	
028	SPIRAL WOUND GASKET 3" 150#			28	NO	20.000	1.000	
029	SW GASKET 4" 300# SS316L OR+GRAFOIL+IR			29	NO	20.000	2.800	
030	0.5"FL SW RF125AA 300# A105 PTHK:3.73 MM			30	NO	120.000	82.800	
031	16"FL SW RF125AA 150# IS2062 PTHK:8.00 M			31	NO	50.000	10900.000	
032	1500NB"FL WN RF125AA 150#IS2062PTHK:10MM			32	NO	10.000	1700.000	
033	SPIRAL WOUND GASKET 2" 150# ASME B16.5			33	NO	60.000	5.400	
034	SW GASKET 0.5" 300# SS316L OR+GRAFOIL+IR			34	NO	60.000	6.000	
035	CHANNEL 100 X 50 - IS2062E250A (FE410W)			35	NO	20.000	1147.200	
036	ANGLE 65 X 65 X 6 -IS2062E250A (FE410W)			36	NO	45.000	1566.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-202 TUBE FITTINGS	REVISION '00'
DPN-NS 019-1	JOB NOS	8123	NETWORK 6008010
	T. WT	178.000 (KG) DU RANGE 1 - 10	PAGE 44 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	MALE CONNECTORS SS316 1/4"NPTM X 1/4" OD			01 NO	150.000	15.000	
002	MALE CONNECTORS SS316 1/4"NPTM X 1/2" OD			02 NO	150.000	22.500	
003	MALE CONNECTORS SS316 1/2"NPTM X 1/2"OD			03 NO	260.000	52.000	
004	MALE CONNECTORS SS316 1/2"NPTM X 1/4"OD			04 NO	150.000	30.000	
005	FMALE CONNECTORS SS316 1/2"NPTF X 1/2"OD			05 NO	50.000	10.000	
006	TUBE UNIONS SS316 1/4" OD X 1/4" OD			06 NO	200.000	20.000	
007	TUBE UNIONS SS316 1/2" OD X 1/2" OD			07 NO	80.000	8.000	
008	TEEUNIONS SS316 1/2"OD X 1/2"OD X 1/2"OD			08 NO	30.000	7.500	
009	TEEUNIONS SS316 1/4"OD X 1/4"OD X 1/4"OD			09 NO	80.000	8.000	
010	TUBE CAPS,SS304,SUITABLETO 1/2"OD SSTUBE			10 NO	50.000	5.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-300 FRP CANOPIES	REVISION '00'
DPN-NS 020-1	JOB NOS	8123	NETWORK 6008009
	T. WT	570.000 (KG) DU RANGE 1 - 2	PAGE 45 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WP FRP CANOPIES SUITABLE TO JB			01 NO	55.000	330.000	
002	WP FRP CANOPIES SUITABLE TO TRANSMITTER			02 NO	40.000	240.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-400 AIR SUB HEADERS	REVISION '00'
DPN-NS 021-1	JOB NOS	8123	NETWORK 6008008
	T. WT	600.000 (KG) DU RANGE 1 - 2	PAGE 46 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	12 WAY AIR SUB HEADER WITH BALL VALVES		01	NO	10.000	350.000	
002	6 WAY AIR SUB HEADER WITH BALL VALVES		02	NO	10.000	250.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-500 CONTROL /ON-OFF/SELF ACTUATED VALVES	REVISION '01'
DPN-NS 022-1	JOB NOS	8123	NETWORK 6008007
	T. WT	61.000 (KG) DU RANGE 1 - 18	PAGE 47 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	BUTTERFLY TYPE CONTROL VALVE NB1500 #150		01	NO	1.000	1.000	
002	BUTTERFLY TYPE CONTROL VALVE NB400 #150		02	NO	1.000	1.000	
003	PRESSURE CNTRL VLV 6" 300# SELF ACTUATED		03	NO	1.000	1.000	
004	BFG TRIP VALVE 1500NB 150#		04	NO	1.000	1.000	
005	COG TRIP VALVE NB400 150#		05	NO	1.000	1.000	
006	BFG HEADER VENT VALVES NB400 150#		06	NO	2.000	2.000	
007	BFG BURNER TRIP VALVES 400NB 150#		07	NO	16.000	16.000	
008	ON/OFF TRIP VALVES BALL TYPE 6"CLASS 150		08	NO	1.000	1.000	
009	ON/OFF TRIP VALVES BALL TYPE 3"CLASS 150		09	NO	1.000	1.000	
010	ON/OFF TRIP VALVES BALL TYPE 6"CLASS 150		10	NO	4.000	4.000	
011	ON/OFF TRIP VALVES BALL TYPE 6"CLASS 150		11	NO	4.000	4.000	
012	ON/OFF TRIP VALVES BALL TYPE 3"CLASS 150		12	NO	4.000	4.000	
013	ON/OFF TRIP VALVES BALL TYPE 3"CLASS 150		13	NO	2.000	2.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	97-500 CONTROL /ON-OFF/SELF ACTUATED VALVES	REVISION '01'
DPN-NS 022-1	JOB NOS	8123	NETWORK 6008007
	T. WT	61.000 (KG) DU RANGE 1 - 18	PAGE 48 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	ON/OFF TRIP VALVES BALL TYPE 4"CLASS 150			14	NO	4.000	4.000	
015	ON/OFF TRIP VALVES BALL TYPE 4"CLASS 150			15	NO	4.000	4.000	
016	ON/OFF TRIP VALVES BALL TYPE 2"CLASS 150			16	NO	12.000	12.000	
017	MANDATORY SPARES FOR BALL VALVES			17	NO	1.000	1.000	
018	COMMISSIONING SPARES AS PER CLAUSE 29			18	NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8123 R&M OF NSPCL BHILAI UNIT-2		SHIPPING LIST
	PGMA	.97-599 PNUEMATIC ACUATORS	REVISION '00'
DPN-NS 023-1	JOB NOS	8123	NETWORK 6008006
	T. WT	40.000 (KG) DU RANGE 1 - 2	PAGE 49 / 49

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SADC ACTUATOR FOR WINDBOX4"X4"WITH VALVE			01	NO	32.000	32.000	
002	I/P CONVERTER ALONG WITH AIR FILTER REG.			02	SET	8.000	8.000	
***** 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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	11-278 SH.VERTICAL PLATEN COIL ASSY WITH ATTACH	REVISION '01'
DPN-NS 032-1	JOB NOS	8124	NETWORK 6008043
	T. WT	14279.860 (KG) DU RANGE 1 - 3	PAGE 1/45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SH. VERT.PLATEN COIL ASSY. WITH ATTACH	2-11-278-U8047	01	NO	16.000	14087.360	
002	PIPE D108X8	2-11-278-U8056	01	NO	14.000	135.380	
003	TUBE D63.5X5	2-11-278-U8056	02	NO	16.000	57.120	

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	S M G NAIDU
	APPROVED & ISSUED BY	A N V KRANTHI KISHOR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	32-010 FIXING COMPONENTS FOR INSULATION	REVISION '00'
DPN-NS 010-1	JOB NOS	8124	NETWORK 6008065
	T. WT	990.032 (KG) DU RANGE 1 - 17	PAGE 2 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SEALING COMPOUND			01	KG	20.000	20.000	
002	WIRE DIA 0.711 MM - GI - IS280			02	KG	18.000	18.000	
003	WIRE DIA 1.219 MM - GI - IS280			03	KG	18.000	18.000	
004	ASBCLOTH 3MM IS4687/1995-TP21597 GR.AAA			04	NO	50.000	48.000	
005	HEX HD SCR-U-M10X45 -4.6-IS1363P2			05	NO	1340.000	52.260	
006	TAPSCREW-ST 4.2X13C DRG4-28-700-00627/00			06	NO	13400.000	13.400	
007	NUT -M10 -CL4-IS1363P3			07	NO	1340.000	13.400	
008	PUN WASHER-M10 -IS2016-A			08	NO	1340.000	13.400	
009	SNAP HD RIVET 3X8 GR 1 IS:2998			09	NO	1680.000	1.680	
010	SM CLAMP FOR DET INSLN TYPE A			10	NO	500.000	30.000	
011	SM CLAMP FOR DET INSLN TYPE B			11	NO	350.000	28.350	
012	AL CASING SUPPORT 04-850L			12	NO	1000.000	196.000	
013	CERAMIC FIBRE PAPER 3 X1000X500 MM AKLP			13	M2	34.000	23.460	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	32-010 FIXING COMPONENTS FOR INSULATION	REVISION '00'
DPN-NS 010-1	JOB NOS	8124	NETWORK 6008065
	T. WT	990.032 (KG) DU RANGE 1 - 17	PAGE 3 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	ROD 6 MM			14	NO	19.000	50.616	
015	ROD 10 MM			15	NO	1.000	8.990	
016	5 MM PLATE			16	NO	1.000	318.828	
017	1.6 MM SHEET			17	NO	3.000	135.648	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-005 GAS IGNITORS	REVISION '00'
DPN-NS 036-1	JOB NOS	8124	NETWORK 6008039
	T. WT	8.000 (KG) DU RANGE 1 - 1	PAGE 4 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	COKE OVEN GAS IGNITER WITH IFM		01	NO	8.000	8.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-200 BFG & COG VALVES	REVISION '00'
DPN-NS 033-1	JOB NOS	8124	NETWORK 6008042
	T. WT	173.000 (KG) DU RANGE 1 - 14	PAGE 5 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	ENCASED TYPE ROTARY GOOGLE VALVE ASSLY.		01	NO	1.000	1.000	
002	SPARES AS PER TDC: TOS:BFG:003		02	NO	1.000	1.000	
003	4"-C150-FL-HW-A216GRWCB-GLOBE VALVE		03	NO	1.000	62.000	
004	CS FLANGED GLOBE VALVE 3 (80NB), #150		04	NO	8.000	8.000	
005	CS FLANGED GLOBE VALVE 2 (50NB), #150		05	NO	8.000	8.000	
006	CS SW GLOBE VALVES 1 (25NB), #800		06	NO	4.000	4.000	
007	CS SW GLOBE VALVE 1/2 (15NB), #800		07	NO	1.000	1.000	
008	CS FLANGED GLOBE VALVES 6 (150NB), #150		08	NO	7.000	7.000	
009	CS FLANGED BALL VALVE 3 (80NB), #150		09	NO	1.000	1.000	
010	CS BALL VALVE 1 (25NB), #800		10	NO	14.000	14.000	
011	CS SW GATE VALVE 4 (100NB), #150		11	NO	1.000	1.000	
012	CS SW GATE VALVES 1 (25NB), #800		12	NO	55.000	55.000	
013	CS SW GATE VALVE 1/2 (15NB), #800		13	NO	9.000	9.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-200 BFG & COG VALVES	REVISION '00'
DPN-NS 033-1	JOB NOS	8124	NETWORK 6008042
	T. WT	173.000 (KG) DU RANGE 1 - 14	PAGE 6 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	CS FLANGED REGULATING VALVE 6 (150NB) #150			14 NO	1.000	1.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-516 BFG PIPING TO BOILER	REVISION '01'
DPN-NS 034-1	JOB NOS	8124	NETWORK 6008041
	T. WT	2100.000 (KG) DU RANGE 1 - 2	PAGE 7/45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SCANNER AIR FANS WITH MOTOR DRIVE ASSLY			01	NO	2.000	2000.000	
002	MANDATORY SPARES - SCANNER AIR FAN			02	NO	1.000	100.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8124	NETWORK 6008701
	T. WT	35123.008 (KG) DU RANGE 1 - 67	PAGE 8/45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	90° FAB MITRE BEND WITH PIPE OD 1520	1-42-524-U6036	01	NO	1.000	850.206	
002	FAB PIPE STIF RING OD1520X10THK;L=2479	1-42-524-U6036	01	NO	1.000	1021.412	
003	FAB PIPE STIFF RING OD1520X10THK; L=2490	1-42-524-U6036	01	NO	1.000	1034.229	
004	DUMMMY DU NO. 4 (NOTREQUIRED)	1-42-524-U6036	01	NO	1.000	2.740	
005	FAB PIPE RING FLANG OD1520X10THK; L=2207	1-42-524-U6036	01	NO	1.000	1012.661	
006	90° FAB MITRE BEND ELBOW OD 1520	1-42-524-U6036	01	NO	2.000	1608.298	
007	FAB PIPE STIF RING OD1520X10THK;L=1595	1-42-524-U6036	01	NO	2.000	1317.116	
008	FAB PIPE STIFF RING OD1520X10THK; L=1203	1-42-524-U6036	01	NO	1.000	499.153	
009	FAB PIPE STIF RING OD1520X10THK;L=1175	1-42-524-U6036	01	NO	1.000	501.348	
010	FAB PIPE STIF RING&STUB OD1520X10T;L=802	1-42-524-U6036	01	NO	1.000	362.757	
011	90° FAB MITRE BEND WITH STUB OD 1520	1-42-524-U6036	01	NO	1.000	804.439	
012	FAB PIPE STIFF RING OD1520X10THK; L=2490	1-42-524-U6036	01	NO	2.000	2068.458	
013	FAB PIPE WITH BRANCH CONN. OD1520/OD1520	1-42-524-U6036	01	NO	1.000	1492.399	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8124	NETWORK 6008701
	T. WT	35123.008 (KG) DU RANGE 1 - 67	PAGE 9/45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	FAB REDU OD1520X10THK/OD1020X10THK;L=911	1-42-524-U6036	01	NO	2.000	868.188	
015	FAB PIPE STIF RING OD1020X10THK;L=2490	1-42-524-U6036	01	NO	2.000	1388.794	
016	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6036	01	NO	2.000	1953.954	
017	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6036	01	NO	2.000	1463.568	
018	FAB PIPE STIFF RING OD1020X10THK; L=2490	1-42-524-U6036	01	NO	6.000	4166.382	
019	FAB PIPE STIF RING OD1020X10THK;L=2138	1-42-524-U6036	01	NO	2.000	1321.884	
020	90° FAB MITRE BEND ELBOW OD 1020	1-42-524-U6036	01	NO	2.000	780.430	
021	FAB PIPE STIFF RING OD1020X10THK; L=386	1-42-524-U6036	01	NO	1.000	110.326	
022	FAB PIPE STIF RING OD1520X10THK;L=1445	1-42-524-U6036	01	NO	1.000	840.697	
023	FAB PIPE STIFF RING OD1020X10THK; L=1296	1-42-524-U6036	01	NO	1.000	395.066	
024	U ROD DIA 40MM-SA105	2-12-901-U8035	01	NO	4.000	163.600	
025	TIE ROD DIA 50.0 MM - SA105	2-12-901-U8035	02	NO	4.000	82.400	
026	WELDED BEAM	2-12-901-U8035	03	NO	4.000	176.752	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8124	NETWORK 6008701
	T. WT	35123.008 (KG) DU RANGE 1 - 67	PAGE 10 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	WASHER PLATE 32.0 MM -IS2062E250BR	2-12-901-U8035	04	NO	4.000	40.192	
028	HEX NUT M45X3-14H IS:3138	2-12-901-U8035	05	NO	16.000	11.920	
029	HEX NUT M36X3-4 IS:1363(P-3) BPS 41304	2-12-901-U8035	06	NO	8.000	3.168	
030	FAB PIPE STIFF RING OD1520X10THK; L=1444	1-42-524-U6036	01	NO	1.000	602.138	
031	FAB PIPE STIF RING OD1020X10THK;L=2490	1-42-524-U6036	01	NO	2.000	1693.402	
032	TC NIPPLE MADE FROM DIA 63 ROD M33X2	1-42-524-U6036	26	NO	1.000	1.346	
033	FAB SPARE PIPE,STIFF OD1520X10;L=2490	1-42-524-U6036	01	NO	1.000	1097.456	
034	FAB SPARE PIPE,STIFF OD1020X10;L=2490	1-42-524-U6036	01	NO	1.000	735.042	
035	CS PIPE 60.3X3.91 THK	1-42-524-U6047	01	NO	1.000	760.200	
036	CS PIPE 88.9X5.49 THK	1-42-524-U6047	02	NO	1.000	812.880	
037	CS 90 DEG ELBOW	1-42-524-U6047	03	NO	10.000	20.300	
038	CS 90 DEG ELBOW	1-42-524-U6047	04	NO	105.000	105.000	
039	CS EQ TEE	1-42-524-U6047	05	NO	2.000	7.600	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8124	NETWORK 6008701
	T. WT	35123.008 (KG) DU RANGE 1 - 67	PAGE 11/45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	BW UN EQ TEE	1-42-524-U6047	06	NO	18.000	38.520	
041	WNRF FLANGE	1-42-524-U6047	07	NO	100.000	400.000	
042	SPW GASKET	1-42-524-U6047	08	NO	200.000	31.000	
043	STUD+2 HEAVY HEX NUT	1-42-524-U6047	09	NO	800.000	187.200	
044	WNRF FLANGE	1-42-524-U6047	10	NO	3.000	21.000	
045	SPW GASKET	1-42-524-U6047	11	NO	6.000	1.500	
046	STUD+2 HEAVY HEX NUT	1-42-524-U6047	12	SET	24.000	24.000	
047	BLIND FLANGE	1-42-524-U6047	13	NO	3.000	21.000	
048	2" SS FLEXIBLE HOSE	1-42-524-U6047	15	NO	17.000	170.000	
049	STEAM PURGING PG HEADER	1-42-524-U6047	16	NO	1.000	9.096	
050	STEAM PURGING PG HEADER	1-42-524-U6047	17	NO	1.000	5.133	
051	CS PIPE 33.4X3.38 THK	2-42-524-U6015	18	NO	1.000	194.400	
052	ISMB-200	2-42-524-U6015	19	NO	1.000	254.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8124	NETWORK 6008701
	T. WT	35123.008 (KG) DU RANGE 1 - 67	PAGE 12 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	ISMB-125	2-42-524-U6015	20	NO	1.000	670.000	
054	PLATE 12 THK.	2-42-524-U6015	21	NO	1.000	47.100	
055	ISMC-100	2-42-524-U6015	22	NO	1.000	768.000	
056	EYE HANGER	2-42-524-U6015	23	NO	60.000	4.800	
057	ROUND DIA 10	2-42-524-U6015	24	NO	1.000	24.680	
058	SUSPENSION PLATE 3"	2-42-524-U6015	25	NO	15.000	0.120	
059	PIPE CLAM ROD	2-42-524-U6015	26	NO	15.000	6.750	
060	SUSPENSION PLATE 2"	2-42-524-U6015	27	NO	12.000	0.096	
061	PIPE CLAM ROD	2-42-524-U6015	28	NO	12.000	5.400	
062	U-BOLT	2-42-524-U6015	29	NO	15.000	20.100	
063	GUIDE PLATE 2"	2-42-524-U6015	30	NO	40.000	0.360	
064	SUPPORT PLATE 2"	2-42-524-U6015	31	NO	15.000	25.710	
065	CS 90 DEG ELBOW	2-42-524-U6015	32	NO	24.000	12.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	42-524 BFG MAIN HEADER (COMMON TO 3 BOILERS)	REVISION '04'
DPN-NS 046-1	JOB NOS	8124	NETWORK 6008701
	T. WT	35123.008 (KG) DU RANGE 1 - 67	PAGE 13 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
066	SW EQ. TEE	2-42-524-U6015	33	NO	1.000	0.652	
067	PIPE CLAM ROD	2-42-524-U6015	34	NO	30.000	2.490	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 14 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	CS PIPE OD 355.6X9.53 THK	1-43-001-U6011	01	NO	1.000	487.980	
002	SCANNER AIR PIPING HEADER 350NB(BOILER-3	1-43-001-U6011	02	NO	1.000	407.230	
003	CS BW 90 DEG LR ELBOW 355.6X9.53 THK.	1-43-001-U6011	03	NO	3.000	204.300	
004	CS BW EQUAL TEE OD.355.6X9.53 THK	1-43-001-U6011	04	NO	2.000	186.000	
005	CS BW ECCENT RED OD355.6X9.53TH/273X9.27	1-43-001-U6011	05	NO	2.000	53.800	
006	CS PIPE OD 273 X 9.27 THK	1-43-001-U6011	06	NO	1.000	180.900	
007	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6011	07	NO	2.000	572.940	
008	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6011	08	NO	2.000	616.970	
009	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6011	09	NO	2.000	603.100	
010	CS PIPE OD 273X9.27 THK. WITH BEVEL ENDS	1-43-001-U6011	10	NO	1.000	252.210	
011	CS BW 90° LR ELBOW OD 273X9.27 THK	1-43-001-U6011	11	NO	2.000	74.000	
012	CS BW UN EQUAL TEE OD273X9.53/219.1X8.18	1-43-001-U6011	12	NO	4.000	164.000	
013	CS PLATE DIA 305 X 12 THK.	1-43-001-U6011	13	NO	2.000	13.760	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 15 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	CS PIPE OD 219.1X8.18 THK	1-43-001-U6011	14	NO	1.000	42.550	
015	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6011	15	NO	1.000	123.400	
016	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6011	16	NO	1.000	129.780	
017	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6011	17	NO	1.000	184.960	
018	CS PIPE OD219.1X8.18THK. WITH B8VEL ENDS	1-43-001-U6011	18	NO	1.000	178.620	
019	CS BW 90° LR ELBOW OD 219.1X8.18 THK	1-43-001-U6011	19	NO	4.000	81.200	
020	CS PIPE OD 33.4X3.38THK.	1-43-001-U6011	20	NO	1.000	2.500	
021	HALF COUPLING (SPARE) 1"X3000 #	1-43-001-U6011	21	NO	3.000	0.870	
022	SCANN AIR PIPING CORN-1 HEADER (BOILER-3)	1-43-001-U6012	01	NO	1.000	99.955	
023	CS PIPE OD88.9X5.49 THK.	1-43-001-U6012	02	NO	1.000	112.900	
024	CS PIPE OD 33.4 X 3.38 THK.	1-43-001-U6012	03	NO	1.000	30.000	
025	CS BW 90° LR ELBOW OD219.1 X 8.18THK.	1-43-001-U6012	04	NO	1.000	20.300	
026	CS BW 90° LR ELBOW OD88.9 X 5.49 THK.	1-43-001-U6012	05	NO	8.000	16.240	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 16 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	CS SW 90° ELBOW 1" 3000#	1-43-001-U6012	06	NO	8.000	3.808	
028	SLIP ON FLANGE 200NB, 150#	1-43-001-U6012	07	NO	1.000	13.500	
029	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6012	08	NO	1.000	20.000	
030	CNAF GASKET OD 269.9X ID221.5	1-43-001-U6012	09	NO	2.000	0.948	
031	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6012	10	NO	8.000	3.096	
032	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6012	11	NO	1.000	2.830	
033	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6012	12	NO	1.000	3.670	
034	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6012	13	NO	4.000	4.404	
035	SLIP ON FLANGE 80NB, 150#	1-43-001-U6012	14	NO	2.000	8.400	
036	CNAF GASKET OD 127XID 90.7	1-43-001-U6012	15	NO	4.000	0.420	
037	STUD WITH 2 NUTS M16X 90 LG	1-43-001-U6012	16	NO	8.000	1.568	
038	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6012	17	NO	2.000	2.000	
039	SCANN AIR PIPING CORN-2 HEADER (BOILER-3)	1-43-001-U6013	01	NO	1.000	105.790	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 17 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	CS PIPE OD88.9X5.49 THK.	1-43-001-U6013	02	NO	1.000	135.480	
041	CS PIPE OD 33.4 X 3.38 THK.	1-43-001-U6013	03	NO	1.000	25.000	
042	CS BW 90° LR ELBOW OD219.1 X 8.18 THK	1-43-001-U6013	04	NO	1.000	20.030	
043	CS BW 90° LR ELBOW OD88.9 X 5.49 THK	1-43-001-U6013	05	NO	5.000	10.150	
044	CS SW 90° ELBOW 1" 3000#	1-43-001-U6013	06	NO	8.000	3.808	
045	SLIP ON FLANGE 200NB, 150#	1-43-001-U6013	07	NO	1.000	13.500	
046	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6013	08	NO	1.000	20.000	
047	CNAF GASKET OD.269.9X ID.221.5	1-43-001-U6013	09	NO	2.000	0.948	
048	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6013	10	NO	8.000	3.096	
049	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6013	11	NO	1.000	2.540	
050	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6013	12	NO	1.000	3.670	
051	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6013	13	NO	4.000	0.880	
052	SLIP ON FLANGE 80NB,, 150#	1-43-001-U6013	14	NO	2.000	8.400	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 18 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	CNAF GASKET OD.127 ID.90.7	1-43-001-U6013	15	NO	4.000	0.420	
054	STUD WITH 2 NUTS M16X 90 LG.	1-43-001-U6013	16	NO	8.000	1.568	
055	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6013	17	NO	2.000	2.000	
056	SCANN AIR PIPING CORN-3 HEADER (BOILER-3)	1-43-001-U6014	01	NO	1.000	105.790	
057	CS PIPE OD88.9X5.49 THK.	1-43-001-U6014	02	NO	1.000	135.480	
058	CS PIPE OD 33.4 X 3.38THK.	1-43-001-U6014	03	NO	1.000	25.000	
059	CS BW 90° LR ELBOW OD.219.1 X 8.18THK.	1-43-001-U6014	04	NO	1.000	20.300	
060	CS BW 90° LR ELBOW OD.88.9 X 5.49THK.	1-43-001-U6014	05	NO	5.000	10.150	
061	CS SW 90° ELBOW 1", 3000#	1-43-001-U6014	06	NO	8.000	3.808	
062	SLIP ON FLANGE 200NB, 150#	1-43-001-U6014	07	NO	1.000	13.500	
063	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6014	08	NO	1.000	20.000	
064	CNAF GASKET OD.269.9X ID.221.5	1-43-001-U6014	09	NO	2.000	0.948	
065	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6014	10	NO	8.000	3.096	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 19/45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
066	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6014	11	NO	1.000	2.540	
067	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6014	12	NO	1.000	3.670	
068	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6014	13	NO	4.000	0.880	
069	SLIP ON FLANGE 80NB , 150#	1-43-001-U6014	14	NO	2.000	8.400	
070	CNAF GASKET OD.127 ID.90.7	1-43-001-U6014	15	NO	4.000	0.420	
071	STUD WITH 2 NUTS M16X 90 LG.	1-43-001-U6014	16	NO	8.000	1.568	
072	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6014	17	NO	2.000	2.000	
073	SCANN AIR PIPING CORN-4 HEADER (BOILER-3)	1-43-001-U6015	01	NO	1.000	99.945	
074	CS PIPE OD88.9X5.49 THK	1-43-001-U6015	02	NO	1.000	112.900	
075	CS PIPE OD 33.4 X 3.38THK.	1-43-001-U6015	03	NO	1.000	25.000	
076	CS BW 90° LR ELBOW OD219.1 X 8.18 THK.	1-43-001-U6015	04	NO	1.000	20.030	
077	CS BW 90° LR ELBOW OD88.9 X 5.49 THK.	1-43-001-U6015	05	NO	8.000	16.240	
078	CS SW 90° ELBOW 1", 3000#	1-43-001-U6015	06	NO	8.000	3.808	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	43-001 SCANNER AIR PIPING	REVISION '00'
DPN-NS 038-1	JOB NOS	8124	NETWORK 6008037
	T. WT	5955.174 (KG) DU RANGE 1 - 89	PAGE 20 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
079	SLIP ON FLANGE 200NB, 150#	1-43-001-U6015	07	NO	1.000	13.500	
080	CS BLIND FLANGE 200 NB, 150#	1-43-001-U6015	08	NO	1.000	20.000	
081	CNAF GASKET OD.269.9X ID.221.5	1-43-001-U6015	09	NO	2.000	0.948	
082	STUD WITH 2 NUTS M20X 110 LG.	1-43-001-U6015	10	NO	8.000	3.096	
083	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6015	11	NO	1.000	2.830	
084	SCANNER AIR PIPING HEADER FOR IGNITOR	1-43-001-U6015	12	NO	1.000	3.670	
085	ADAPTOR 1"SW X 1/2 NPT (M)	1-43-001-U6015	13	NO	4.000	0.880	
086	SLIP ON FLANGE 80NB , 150#	1-43-001-U6015	14	NO	2.000	8.400	
087	CNAF GASKET OD.127XID.90.7	1-43-001-U6015	15	NO	4.000	0.420	
088	STUD WITH 2 NUTS M16X 90 LG	1-43-001-U6015	16	NO	8.000	1.568	
089	HOSE PIPE WITH 3" FLANGE CONNECTION	1-43-001-U6015	17	NO	2.000	2.000	

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	G DEMUDU
	APPROVED & ISSUED BY	TARAKESH KANAKALA

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	45-823 BURNER WIND BOX	REVISION '00'
DPN-NS 042-1	JOB NOS	8124	NETWORK 6008033
	T. WT	5.000 (KG) DU RANGE 1 - 2	PAGE 21 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WIND BOX ASSEMBLY		01	NO	4.000	4.000	
002	ACCESSORIES AS PER TDC:4-45-823-BUR-8122		02	SET	1.000	1.000	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	47-301 COAL PIPING COMPONENTS	REVISION '00'
DPN-NS 043-1	JOB NOS	8124	NETWORK 6008032
	T. WT	2839.916 (KG) DU RANGE 1 - 3	PAGE 22 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	CS PIPE SA106 GR.B 323.9X14.27			01	NO	4.000	1948.000	
002	CS ELBOW 90DEG 323.8X14.3TK			02	NO	16.000	832.000	
003	PLATE 12.0 MM - IS2062E250A (FE410W)			03	NO	12.000	59.916	

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	S VIJAY
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8124	NETWORK 6008068
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 23 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	TOP DUCT PLATE	1-48-212-U0320	01	NO	1.000	808.758	
002	BOTTOM DUCT PLATE	1-48-212-U0320	01	NO	1.000	326.598	
003	FRONT DUCT PLATE	1-48-212-U0320	02	NO	1.000	902.590	
004	BOLT WITH NUT	1-48-212-U0320	13	NO	32.000	80.448	
005	BOLT WITH NUT	1-48-212-U0320	14	NO	10.000	11.080	
006	BEAM WITH PLATE	1-48-212-U0320	20	NO	4.000	53.872	
007	BEAM WITH PLATE	1-48-212-U0320	21	NO	4.000	126.552	
008	PLATE 6MM	1-48-212-U0320	03	NO	2.000	237.008	
009	PLATE 6MM	1-48-212-U0320	04	NO	4.000	16.956	
010	PLATE 6MM	1-48-212-U0320	05	NO	2.000	43.238	
011	PLATE 6MM	1-48-212-U0320	06	NO	10.000	37.730	
012	PLATE 6MM	1-48-212-U0320	07	NO	10.000	22.480	
013	PLATE 6MM	1-48-212-U0320	08	NO	2.000	28.542	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8124	NETWORK 6008068
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 24 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	PLATE 6MM	1-48-212-U0320	09	NO	8.000	4.240	
015	PLATE 12 MM	1-48-212-U0320	10	NO	32.000	23.520	
016	PALTE 40 MM	1-48-212-U0320	11	NO	16.000	168.512	
017	ISMC 250	1-48-212-U0320	15	NO	2.000	81.396	
018	IAS 80X80X8	1-48-212-U0320	16	NO	1.000	33.600	
019	ISMC 150	1-48-212-U0320	17	NO	2.000	67.260	
020	ISMB 150	1-48-212-U0320	18	NO	4.000	196.680	
021	ISA 75X75X8	1-48-212-U0320	19	NO	4.000	23.460	
022	PIN 25 DIA	1-48-212-U0320	25	NO	4.000	1.696	
023	WASHER M27	1-48-212-U0320	26	NO	8.000	0.336	
024	ISMB 150	1-48-212-U0320	28	NO	2.000	67.260	
025	SQ TAPPER WASHER M16	1-48-212-U0320	29	NO	10.000	10.000	
026	PLATE 10 MM	1-48-212-U0320	30	NO	2.000	46.628	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8124	NETWORK 6008068
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 25 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
027	ERW TUBE OD 88.9 X 5.49 THK	1-48-212-U0320	31	NO	1.000	169.500	
028	DUCT	3-48-192-U0764	01	NO	1.000	172.512	
029	PLATE 6 MM	3-48-192-U0764	03	NO	1.000	17.088	
030	PLATE 6 MM	3-48-192-U0764	04	NO	2.000	4.710	
031	FLANGE	3-48-192-U0764	08	NO	1.000	18.496	
032	DUCT	3-48-192-U0767	01	NO	1.000	361.950	
033	TOP DUCT PLATE	1-48-212-U0320	01	NO	1.000	808.758	
034	BOTTOM DUCT PLATE	1-48-212-U0320	01	NO	1.000	326.598	
035	FRONT DUCT PLATE	1-48-212-U0320	02	NO	1.000	902.590	
036	BOLT WITH NUT	1-48-212-U0320	13	NO	32.000	80.448	
037	BOLT WITH NUT	1-48-212-U0320	14	NO	10.000	11.080	
038	BEAM WITH PALTE	1-48-212-U0320	20	NO	4.000	53.872	
039	BEAM WITH PALTE	1-48-212-U0320	21	NO	4.000	126.552	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8124	NETWORK 6008068
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 26 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
040	PLATE 6 MM	1-48-212-U0320	03	NO	2.000	237.008	
041	PLATE 6 MM	1-48-212-U0320	04	NO	4.000	16.956	
042	PLATE 6 MM	1-48-212-U0320	05	NO	2.000	43.238	
043	PLATE 6 MM	1-48-212-U0320	06	NO	10.000	37.730	
044	PLATE 6 MM	1-48-212-U0320	07	NO	10.000	22.480	
045	PLATE 6 MM	1-48-212-U0320	08	NO	2.000	28.542	
046	PLATE 6 MM	1-48-212-U0320	09	NO	8.000	4.240	
047	PLATE 12 MM	1-48-212-U0320	10	NO	32.000	23.520	
048	PLATE 40 MM	1-48-212-U0320	11	NO	16.000	168.512	
049	ISMC-250	1-48-212-U0320	15	NO	2.000	81.396	
050	ISA 80X80XX8	1-48-212-U0320	16	NO	1.000	33.600	
051	ISMB-150	1-48-212-U0320	17	NO	2.000	67.260	
052	ISMB-150	1-48-212-U0320	18	NO	4.000	196.680	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	48-212 WIND BOX CONNECTING DUCT	REVISION '01'
DPN-NS 007-1	JOB NOS	8124	NETWORK 6008068
	T. WT	8329.392 (KG) DU RANGE 1 - 64	PAGE 27 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
053	ISA75X75X8	1-48-212-U0320	19	NO	4.000	23.460	
054	PIN DIA 25	1-48-212-U0320	25	NO	4.000	1.696	
055	WASHER M 27	1-48-212-U0320	26	NO	8.000	0.336	
056	ISMB-150	1-48-212-U0320	28	NO	2.000	67.260	
057	SQ TAPPER WASHER M16	1-48-212-U0320	29	NO	10.000	10.000	
058	PLATE 10 MM	1-48-212-U0320	30	NO	2.000	46.628	
059	ERW TUBE OD 88.9 X 5.49 THK	1-48-212-U0320	31	NO	1.000	169.500	
060	DUCT	3-48-192-U0764	01	NO	1.000	172.512	
061	PLATE 6 MM	3-48-192-U0764	03	NO	1.000	17.088	
062	PLATE 6 MM	3-48-192-U0764	04	NO	2.000	4.710	
063	FLANGE	3-48-192-U0764	08	NO	1.000	18.496	
064	DUCT	3-48-192-U0767	01	NO	1.000	361.950	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST	
	PGMA	48-214	WINDBOX CONNECTING EXPANSION JOINT	
DPN-NS 008-1	JOB NOS	8124		REVISION '00'
	T. WT	4.000 (KG)	DU RANGE 1 - 1	NETWORK 6008067 PAGE 28 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WINDBOX CONNECTING DUCT EXPANSION JOINT			01 NO	4.000	4.000	

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	T. RAVI KISHORE
	APPROVED & ISSUED BY	PABITRA KUMAR SAHOO

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-000 FIELD GAUGES	REVISION '00'
DPN-NS 024-1	JOB NOS	8124	NETWORK 6008051
	T. WT	40.000 (KG) DU RANGE 1 - 4	PAGE 29 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	PRESSURE GAUGES, 0 - 1000 MMWCG			01 NO	19.000	19.000	
002	PRESSURE GAUGES, 0 - 400 MMWCG			02 NO	16.000	16.000	
003	PRESSURE GAUGES, 0 - 16 KG/CM2G			03 NO	3.000	3.000	
004	PRESSURE GAUGES, 0 - 2000 MMWCG			04 NO	2.000	2.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-010 FIELD TRANSMITTERS	REVISION '00'
DPN-NS 025-1	JOB NOS	8124	NETWORK 6008050
	T. WT	37.000 (KG) DU RANGE 1 - 3	PAGE 30 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	PRESSURE TRANSMITTER 0 - 2000 MMWCG			01	NO	16.000	16.000	
002	DIFF PRESSURE TRANSMITTERS - 0-400 MMWCG			02	NO	11.000	11.000	
003	TEMP TRANSMITTER 0 -600 DEG RANGE			03	NO	10.000	10.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-020 TEMPERATURE ELEMENTS	REVISION '00'
DPN-NS 026-1	JOB NOS	8124	NETWORK 6008049
	T. WT	11.000 (KG) DU RANGE 1 - 2	PAGE 31 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	MTM THERMOCOUPLES TDC: INST-PR-97-020-00			01 NO	8.000	8.000	
002	K TYPE THERMOCOUPLE, DUPLEX SHEATH SS316			02 NO	3.000	3.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-030 FLOW ELEMENTS	REVISION '00'
DPN-NS 027-1	JOB NOS	8124	NETWORK 6008048
	T. WT	2.000 (KG) DU RANGE 1 - 2	PAGE 32 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	VENTURI TUBE ASSLY 1500MMOD X 10MMTHK			01 NO	1.000	1.000	
002	VENTURI METER 400MM OD X 10 MM THK			02 NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-050 PLC CONTROL SYSTEM	REVISION '00'
DPN-NS 028-1	JOB NOS	8124	NETWORK 6008047
	T. WT	1.000 (KG) DU RANGE 1 - 1	PAGE 33 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	SIL-3 CERTIFIED BMS (PLC) FULLY REDUNDANT			01 NO	1.000	1.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-090 CABLES	REVISION '00'
DPN-NS 030-1	JOB NOS	8124	NETWORK 6008045
	T. WT	16000.000 (KG) DU RANGE 1 - 3	PAGE 34 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	12PX1.5MM2, FRLS, OUTER SHEATH BLACK			01 M	8000.000	8000.000	
002	3CX2.5MM2, FRLS, OUTER SHEATH BLACK			02 M	2000.000	2000.000	
003	2PX1.5MM2, FRLS, OUTER SHEATH L.BLUE			03 M	6000.000	6000.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-091 FLAME SCANNERS	REVISION '00'
DPN-NS 031-1	JOB NOS	8124	NETWORK 6008044
	T. WT	16.000 (KG) DU RANGE 1 - 1	PAGE 35 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	FLAME SCANNER WITH ACCESSORIES			01 NO	16.000	16.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-100 CABLE TRAYS	REVISION '00'
DPN-NS 015-1	JOB NOS	8124	NETWORK 6008060
	T. WT	2830.000 (KG) DU RANGE 1 - 11	PAGE 36 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	600 MMWIDTH LADDER TYPE CABLE TRAY			01 M	300.000	300.000	
002	300 MMWIDTH LADDER TYPE CABLE TRAY			02 M	400.000	400.000	
003	150MM GI PERFORATED CABLE TRAY			03 M	400.000	400.000	
004	50MM GI PERFORATED CABLE TRAY			04 M	150.000	150.000	
005	CABLETRAY COVERS SUITABLE TO 300MM TRAY			05 M	300.000	300.000	
006	CABLETRAY COVERS SUITABLE TO 150MM TRAY			06 M	300.000	300.000	
007	CABLETRAY COVERS SUITABLE TO 50 MM TRAY			07 M	80.000	80.000	
008	COUPLER ASSY SUITABLE FOR 600MM TRAY			08 SET	200.000	200.000	
009	COUPLER ASSY SUITABLE FOR 300MM TRAY			09 SET	250.000	250.000	
010	COUPLER ASSY SUITABLE FOR 150MM TRAY			10 SET	300.000	300.000	
011	COUPLER ASSY SUITABLE FOR 50MM TRAY			11 SET	150.000	150.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-110 JUNCTION BOXES WITH ACCESSORIES	REVISION '00'
DPN-NS 016-1	JOB NOS	8124	NETWORK 6008059
	T. WT	952.000 (KG) DU RANGE 1 - 19	PAGE 37 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	DIE CAST AL.EX 48WAY JUNCTION BOX L.GREY			01 NO	38.000	38.000	
002	DIE CAST AL.EX 24WAY JUNCTION BOX L.GREY			02 NO	4.000	4.000	
003	DIE CAST AL.EX 48WAY JUNCTION BOX L.BLUE			03 NO	10.000	10.000	
004	DC CBL GLND NIPLTBR 1.5" NPTM - EXD			04 NO	20.000	20.000	
005	DC CBL GLND NIPLTBR 1 1/4" NPTM- EXD			05 NO	60.000	60.000	
006	DC CBL GLND NIPLTBR 1.5" ETM			06 NO	20.000	20.000	
007	DC CBL GLND NIPLTBR 1 1/4" ETM			07 NO	60.000	60.000	
008	DC CBL GLND NIPLTBR 1" NPTM- EXD			08 NO	40.000	40.000	
009	DC CBL GLND NIPLTBR 1" ETM			09 NO	30.000	30.000	
010	DC CBL GLND NIPLTBR 3/4" NPTM - EXD			10 NO	40.000	40.000	
011	DC CBL GLND NIPLTBR 3/4" ETM			11 NO	40.000	40.000	
012	DC CBL GLND NIPLTBR 1/2" NPTM - EXD			12 NO	350.000	350.000	
013	DC CBL GLND NIPLTBR 1/2" ETM			13 NO	20.000	20.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-110 JUNCTION BOXES WITH ACCESSORIES	REVISION '00'
DPN-NS 016-1	JOB NOS	8124	NETWORK 6008059
	T. WT	952.000 (KG) DU RANGE 1 - 19	PAGE 38 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
014	PLUGS SIZE: 1.0" NPT(M) EX PROOF			14	NO	40.000	40.000	
015	PLUGS SIZE: 0.5" NPT(M) EX PROOF			15	NO	100.000	100.000	
016	PLUGS SIZE: 3/4" NPT(M) EX PROOF			16	NO	20.000	20.000	
017	PLUGS SIZE: 1 1/4" NPT(M) EX PROOF			17	NO	20.000	20.000	
018	PLUGS SIZE: 1.5" NPT(M) EX PROOF			18	NO	20.000	20.000	
019	ADAPTORS SS 1/2"NPTM X 3/4"NPTF EXPROOF			19	NO	20.000	20.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 017-1	JOB NOS	8124	NETWORK 6008058
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 39 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	GATE VALVE 1/2" SW 800# SA105 NON-IBR		01	NO	160.000	160.000	
002	GATE VALVE 1/2" SW 800# SA105 IBR		02	NO	5.000	5.000	
003	GLOBE VALVES- SA105 1/2"X 800#		03	NO	20.000	20.000	
004	GLOBE VALVE 1/2" SW 800# SA105 IBR		04	NO	5.000	5.000	
005	PIPE OD 21.3 X 4.78 - SA106GRB(CERT)		05	NO	140.000	1638.000	
006	PLATE 6MM- IS2062E250A(FE410W)		06	NO	3.000	2119.500	
007	PIPE IS 1239 60.8 X 4.5		07	NO	42.000	1476.720	
008	PIPE OD 21.3 X 4.78 - SA106GRB		08	NO	9.000	105.300	
009	2"FL WN RF125AARH 150# A105 PTK:5.54MM		09	NO	60.000	150.000	
010	6"FL WN RF125AA 300# A105 PTHK:7.11MM		10	NO	30.000	573.000	
011	1.5"FL SW RF125AA 300# A105 PTHK:5.08 MM		11	NO	4.000	14.000	
012	SW GASKET 1.5" 300# SS316L OR+GRAFOIL+IR		12	NO	4.000	0.440	
013	SW GASKET 16" 150# SS316+GRAFOIL+IR		13	NO	50.000	50.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 017-1	JOB NOS	8124	NETWORK 6008058
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 40 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
014	SW GASKET 60" 150# SS316+GRAFOIL+IR			14 NO	10.000	10.000	
015	B+N, 5/8" 90LG, A193GR. B7/SA194GR .2H			15 NO	75.000	8.700	
016	B+N, 1/2" 65LG, A193GR. B7/SA194GR .2H			16 NO	250.000	28.500	
017	B+N, 1 7/8" 140LG, A193GR. B7/SA194G R.2H			17 NO	380.000	33.440	
018	B+N, 1" 135LG, A193GR. B7/SA194G R.2H			18 NO	750.000	64.500	
019	B+N, 3/4" 100LG, A193GR. B7/SA194G R.2H			19 NO	210.000	17.640	
020	B+N, 3/4" 115LG, A193GR. B7/SA194G R.2H			20 NO	140.000	18.480	
021	B+N, 3/4" 90LG, A193GR. B7/SA194GR .2H			21 NO	12.000	0.936	
022	B+N, 5/8" 85LG, A193GR. B7/SA194GR .2H			22 NO	240.000	30.240	
023	SPIRAL WOUND GASKET 6" 150#			23 NO	30.000	45.000	
024	6"FL WN RF125AA 150# A105 PTHK:6.02 MM			24 NO	20.000	40.000	
025	3"FL SW RF125AA 150# A105 PTHK:5.49 MM			25 NO	20.000	40.000	
026	SSTUBE 1/2"OD X 0.049"THK A269 TP316L			26 NO	150.000	315.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-200 ERECTION HARDWARE	REVISION '00'
DPN-NS 017-1	JOB NOS	8124	NETWORK 6008058
	T. WT	22643.096 (KG) DU RANGE 1 - 36	PAGE 41 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
027	SSTUBE 1/4"OD X 0.049"THK A269 TP316L			27	NO	250.000	262.500	
028	SPIRAL WOUND GASKET 3" 150#			28	NO	20.000	1.000	
029	SW GASKET 4" 300# SS316L OR+GRAFOIL+IR			29	NO	20.000	2.800	
030	0.5"FL SW RF125AA 300# A105 PTHK:3.73 MM			30	NO	120.000	82.800	
031	16"FL SW RF125AA 150# IS2062 PTHK:8.00 M			31	NO	50.000	10900.000	
032	1500NB"FL WN RF125AA 150#IS2062PTHK:10MM			32	NO	10.000	1700.000	
033	SPIRAL WOUND GASKET 2" 150# ASME B16.5			33	NO	60.000	5.400	
034	SW GASKET 0.5" 300# SS316L OR+GRAFOIL+IR			34	NO	60.000	6.000	
035	CHANNEL 100 X 50 - IS2062E250A (FE410W)			35	NO	20.000	1147.200	
036	ANGLE 65 X 65 X 6 -IS2062E250A (FE410W)			36	NO	45.000	1566.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	97-202 TUBE FITTINGS	REVISION '00'
DPN-NS 019-1	JOB NOS	8124	NETWORK 6008056
	T. WT	178.000 (KG) DU RANGE 1 - 10	PAGE 42 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	MALE CONNECTORS SS316 1/4"NPTM X 1/4" OD			01	NO	150.000	15.000	
002	MALE CONNECTORS SS316 1/4"NPTM X 1/2" OD			02	NO	150.000	22.500	
003	MALE CONNECTORS SS316 1/2"NPTM X 1/2"OD			03	NO	260.000	52.000	
004	MALE CONNECTORS SS316 1/2"NPTM X 1/4"OD			04	NO	150.000	30.000	
005	FMALE CONNECTORS SS316 1/2"NPTF X 1/2"OD			05	NO	50.000	10.000	
006	TUBE UNIONS SS316 1/4" OD X 1/4" OD			06	NO	200.000	20.000	
007	TUBE UNIONS SS316 1/2" OD X 1/2" OD			07	NO	80.000	8.000	
008	TEEUNIONS SS316 1/2"OD X 1/2"OD X 1/2"OD			08	NO	30.000	7.500	
009	TEEUNIONS SS316 1/4"OD X 1/4"OD X 1/4"OD			09	NO	80.000	8.000	
010	TUBE CAPS,SS304,SUITABLETO 1/2"OD SSTUBE			10	NO	50.000	5.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-300 FRP CANOPIES	REVISION '00'
DPN-NS 020-1	JOB NOS	8124	NETWORK 6008055
	T. WT	570.000 (KG) DU RANGE 1 - 2	PAGE 43 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	WP FRP CANOPIES SUITABLE TO JB			01 NO	55.000	330.000	
002	WP FRP CANOPIES SUITABLE TO TRANSMITTER			02 NO	40.000	240.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-400 AIR SUB HEADERS	REVISION '00'
DPN-NS 021-1	JOB NOS	8124	NETWORK 6008054
	T. WT	600.000 (KG) DU RANGE 1 - 2	PAGE 44 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	ITEM	UNIT	PER JOB NO.		REMARKS
					QTY.	WT. (KG.)	
001	12 WAY AIR SUB HEADER WITH BALL VALVES		01	NO	10.000	350.000	
002	6 WAY AIR SUB HEADER WITH BALL VALVES		02	NO	10.000	250.000	

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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

	PROJECT CS8124 R&M OF NSPCL BHILAI UNIT-3		SHIPPING LIST
	PGMA	.97-599 PNUEMATIC ACUATORS	REVISION '00'
DPN-NS 023-1	JOB NOS	8124	NETWORK 6008052
	T. WT	40.000 (KG) DU RANGE 1 - 2	PAGE 45 / 45

DU NO	MARK NO./ DESCRIPTION	DRAWING NUMBER	IT EM	UNI T	PER JOB NO.		REMARKS	
					QTY.	WT. (KG.)		
001	SADC ACTUATOR FOR WINDBOX4"X4"WITH VALVE			01	NO	32.000	32.000	
002	I/P CONVERTER ALONG WITH AIR FILTER REG.			02	SET	8.000	8.000	
***** 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	KIRAN KUMAR UMMIDI
	APPROVED & ISSUED BY	Y.PRASANNA KUMAR

ELECTRICAL & INSTRUMENTATION ERECTION BOM					
S.NO	ITEM DESCRIPTION	UOM	Qty FOR UNIT-1	Qty FOR UNIT-2	Qty FOR UNIT-3
1	MTM Thermocouples- 20 Mtrs length	NO	6	6	6
2	Venturi Tube Assembly				
	Blast Furnace Gas (BFG) Flow Venturi Tube Assembly, 1500 mm OD	NO	1	1	1
	Coke Oven Gas (COG) Flow Venturi Tube Assembly , 400 mm OD	NO	1	1	1
3	K type Thermocouples	NO	3	3	3
4	Cables				
	"6P X 1.5 mm2, Armoured, Individual & Overall Shielded, Signal cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	500	700	800
	12P X 1.5 mm2, Armoured, Individual & Overall Shielded, Signal cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	7000	8000	10000
	12P X 1.5 mm2, Armoured, Individual & Overall Shielded, Signal cable with overall sheath colour of Light Blue, Fire Resistant and FRLSZH	MTR	500	700	800
	2P Kx X 16 AWG, Armoured, Shielded, KX Extension cable with overall sheath colour of As per IEC 60584, Fire Resistant and FRLSZH	MTR	100	150	250
	6P X 2.5 mm2, Armoured, Individual & Overall Shielded, Signal cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	200	300	500
	1P X 2.5 mm2, Armoured, Shielded, Signal cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	100	150	250
	3C X 2.5 mm2, Armoured, Unshielded, Power cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	2000	2000	2000
	12C X 2.5 mm2, Armoured, Unshielded, Power cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	500	700	800
	Single Triad X 1.5 mm2, Armoured, Shielded, Triad cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	100	150	250
	12C X 1.5 mm2, Armoured, Individual & Overall Shielded, Triad cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	80	100	120
	2P X 1.5 mm2, Armoured, Individual & Overall Shielded, Signal cable with overall sheath colour of Black, Fire Resistant and FRLSZH	MTR	200	300	500
	2P X 1.5 mm2, Armoured, Individual & Overall Shielded, Signal cable with overall sheath colour of Light Blue, Fire Resistant and FRLSZH	MTR	6000	6000	6000
	3CX 50 SQMM, LT Power Cable	MTR	400	500	600
	3CX 35 SQMM, LT Power Cable	MTR	200	250	300

	1CX 25 SQMM, Earthing Cable	MTR	500	500	500
5	Ball Type ON-OFF Valves				
	PILOT GAS MAIN TRIP VALVE Body Material: ASTM A216 WCB Rating: 150# , Valve Size: 6"	NO	1	1	1
	PILOT GAS VENT TRIP VALVE Body Material: ASTM A216 WCB, Rating: 150#Valve , Size: 3"	NO	1	1	1
	COG BTV-1 to COG BTV-4 (HEADER SIDE) Body Material: ASTM A216 WCB , Rating: 150#Valve , Size: 6"	NO	4	4	4
	COG BTV-1 to COG BTV-4 (BURNER SIDE) Body Material: ASTM A216 WCB, Rating: 150# Valve Size: 6"	NO	4	4	4
	COG Vent Valve COR-1 to COR-4 Body Material: ASTM A216 WCB, Rating: 150# Valve Size: 3"	NO	4	4	4
	COG Header Vent Valves Body Material: ASTM A216 WCB Rating: 150# , Valve Size: 3"	NO	2	2	2
	BFG Vent Valve EL-A COR-1 to COR-4 Body Material: ASTM A216 WCB, Rating: 150# Valve Size: 4"	NO	4	4	4
	BFG Vent Valve EL-B COR-1 to COR-4 Body Material: ASTM A216 WCB Rating: 150# , Valve Size: 4"	NO	4	4	4
	COG Pilot Trip Valve COR-1 to COR-4 Body Material: ASTM A216 WCB, Rating: 150# Valve Size: 2"	NO	12	12	12
6	ON-OFF Valves Butterfly Type				
	Blast Furnace Gas (BFG)Trip Valve Rating: 150# , Valve Size: NB 1500	NO	1	1	1
	Coke Oven Gas (COG)Trip Valve Rating: 150# , Valve Size: NB 400	NO	1	1	1
	BFG HEADER VENT VALVES Rating: 150# , Valve Size: NB 400	NO	2	2	2
	BFG BURNER TRIP VALVES Rating: 150# , Valve Size: NB 400	NO	16	16	16
7	Pressure / DP transmitters				
	PRESSURE TRANSMITTER,	NO	13	13	13
	DIFF PRESSURE TRANSMITTER	NO	9	9	9
8	Temperature Transmitters,HART type		8	8	8
9	Pressure Gauges				
	PRESSURE GAUGES,0-1000 mmwcg	NO	12	12	12
	PRESSURE GAUGES,0-400 mmwcg	NO	16	16	16
	PRESSURE GAUGES,0-16 KG/CM2G	NO	3	3	3
	PRESSURE GAUGES,0-2000 mmwcg	NO	2	2	2
10	Flame scanners				
	UV + IR type or UV + Visible type Flame scanners	NO	16	16	16
11	ERECTION HARDWARE -REFER ANNEXURE-A	LOT	1	1	1
12	Instrumentation CS Pipe Fitiings				
	ELBOW 1/2"X1/2"X1/2",6000#,SA105,SWXSW	NO	150	150	150

	TEE 1/2"X1/2"X1/2",6000#,SA105,SWXSWXSW	NO	150	150	150
	PIPE CAP 1/2",6000#,SA105,NPT(F)	NO	150	150	150
	PIPE NPL 1/2"NB SCH160 150LG SA106GB	NO	180	180	180
	NIPPLE TOE 1/2"NPTMX150LG SCH160 A106GB	NO	250	250	250
	SWG NPL 1"PLX1/2"NPT(M)X150LG SA106GRB	NO	100	100	100
	COUP 1/2"SW X 1/2"SW A105 3000#	NO	150	150	150
	90DEG ELBOW 1/2"SW X1/2"SW A105 3000#	NO	5	5	5
	TEE:1/2"SWX1/2"SWX1/2"SW A105 3000#	NO	5	5	5
	PIPE CAP 1/2",6000#,SA105,NPT(F) IBR	NO	5	5	5
	PIPE NPL 1/2"NB SCH160 150LG SA106GB IBR	NO	5	5	5
	NIPPLE TOE 1/2"NPTMX 150LG SCH160 IBR	NO	8	8	8
	SWG NPL 1"PLX1/2"NPTMX75LG SCH160 A106	NO	5	5	5
	COUPL 1/2"SWX1/2"SW SA105,3000#	NO	5	5	5
13	INSTRUMENT GATE AND GLOBE VALVES				
	GATE VALVES- SA105 1/2"X 800# MINIATURE non-IBR	NO	160	160	160
	GATE VALVES- SA105 1/2"X 800# MINIATURE IBR	NO	5	5	5
	GLOBE VALVES- SA105 1/2"X 800# MINIATURE non-IBR	NO	20	20	20
	GLOBE VALVES- SA105 1/2"X 800# MINIATURE IBR	NO	5	5	5
14	FRP Canopies				
	WP FRP CANOPIES SUITABLE TO JB	NO	55	55	55
	WP FRP CANOPIES SUITABLE TO TRANSMITTER	NO	40	40	40
15	GI Perforated Cable Trays with covers and accessories				
	600 MM WIDTH LADDER TYPE CABLE TRAY	MTR	300	300	400
	300 MM WIDTH LADDER TYPE CABLE TRAY	MTR	400	400	400
	150MM GI PERFORATED CABLE TRAYS	MTR	400	400	400
	50MM GI PERFORATED CABLE TRAYS	MTR	150	150	150
16	SS Tube Fittings				
	MALE CONNECTORS SS316 1/4"NPTM X 1/4" OD	NO	150	150	150
	MALE CONNECTORS SS316 1/4"NPTM X 1/2" OD	NO	150	150	150
	MALE CONNECTORS SS316 1/2"NPTM X 1/2"OD	NO	260	260	260
	MALE CONNECTORS SS316 1/2"NPTM X 1/4"OD	NO	150	150	150
	FMALE CONNECTORS SS316 1/2"NPTF X 1/2"OD	NO	50	50	50
	TUBE UNIONS SS316 1/4" OD X 1/4" OD	NO	200	200	200
	TUBE UNIONS SS316 1/2" OD X 1/2" OD	NO	80	80	80
	TEEUNIONS SS316 1/2"OD X 1/2"OD X 1/2"OD	NO	30	30	30
	TEEUNIONS SS316 1/4"OD X 1/4"OD X 1/4"OD	NO	80	80	80
	150TUBE CAPS,SS304,SUITABLETO 1/2"OD SSTUBE	NO	50	50	50
17	Globe Type Control Valve				
	CONTROL VALVE GLOBE TYPE Rating: 300# , Line Size: 6.0"	NO	1	1	1
18	Junction Box and Accessories				
	DIE CAST AL. EX JB 48WAY CLR:LIGHT GREY	NO	38	38	38
	DIE CAST AL. EX JB 24WAY CLR:LIGHT GREY	NO	4	4	4
	DIE CAST AL. EX JB 48WAY CLR: LIGHT BLUE	NO	10	10	10
19	BMS PLC				
	PLC PANEL SUIT	SET	1	1	1

20	AIR SUBHEADERS				
	12 WAY AIR SUB HEADER WITH 1/2" NPT(F) BALL VALVES	NO	10	10	10
	06 WAY AIR SUB HEADERS WITH 1/2" NPT(F) BALL VALVES	NO	10	10	10
21	Control Valves Butterfly Type				
	Blast Furnace Gas (BFG) Flow control Valve	NO	1	1	1
	Coke Oven Gas (COG) Flow control Valve	NO	1	1	1
22	SADC Pneumatic Actuators				
	SADC ACTUATOR FOR WINDBOX 04" X 04"	NO	32	32	32
	I/P Converter along with Air Filter Regulator	NO	8	8	8
22	EARTHING of All above Equipments	LOT	1	1	1

Note:

- 1.All consumables for above all equipments shall be included in Erection contractor scope.
- 2.Supply and Installation of Earth Pits (2no.s per Unit) shall be in Erection contractor scope.
- 3.Supply of GI Earth Flats and GI wire for earthing of all above Equipments shall be in Erection contractor scope.

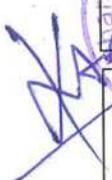
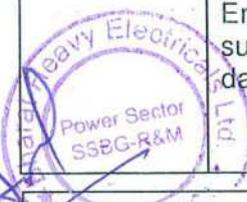
Other Miscellaneous Material for C& I work

Sl.no	TYPE	Description	UOM	Qty
1	FLANGE	SIZE: 1.5" RATING: 300# FACE FINISH: RF 125AARH, SW CONNECTION MATERIAL: A105 IBR : NOT REQUIRED PIPE THK: 5.08 mm	NO.	4
2	FLANGE	SIZE: 16.0" RATING: 150# FACE FINISH: RF 125AARH, SW CONNECTION MATERIAL: IS2062 IBR : NOT REQUIRED PIPE THK: 8 mm	NO.	50
3	FLANGE	SIZE: 2" RATING: 150# FACE FINISH: RF 125AARH, WN CONNECTION MATERIAL: GR. A105 IBR : NOT REQUIRED PIPE THK: 5.54 mm	NO.	60
4	FLANGE	SIZE: 3.0" RATING: 150# FACE FINISH: RF 125AARH, SW CONNECTION MATERIAL: A105 IBR : NOT REQUIRED PIPE THK: 5.49 mm	NO.	20
5	FLANGE	SIZE: 6" RATING: 150# FACE FINISH: RF 125AARH, WN CONNECTION MATERIAL: GR. A105 IBR : NOT REQUIRED PIPE THK: 6.02 mm	NO.	20
6	FLANGE	SIZE: 6" RATING: 150# FACE FINISH: RF 125AARH, WN CONNECTION MATERIAL: GR. A105 IBR : NOT REQUIRED PIPE THK:7.11 mm	NO.	30

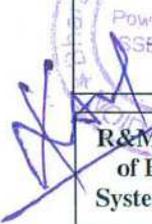
7	FLANGE	SIZE: NB1500 RATING: 150# FACE FINISH: RF 125AARH, WN CONNECTION MATERIAL: IS2062 IBR : NOT REQUIRED PIPE THK: 10 mm	NO.	10
8	FLANGE	FLANGE SIZE: 0.5" RATING: 300# FACE FINISH: RF 125AARH, SW CONNECTION MATERIAL: A105 IBR : NOT REQUIRED PIPE THK: 3.73 mm	NO.	120
9	GASKET	GASKET SIZE: 1.5" RATING: 300# TYPE: SPIRAL, 300 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	4
10	GASKET	GASKET SIZE: 16.0" RATING: 150# TYPE: SPIRAL, 150 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	50
11	GASKET	GASKET SIZE: 2" RATING: 150# TYPE: SPIRAL, 150 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	60
12	GASKET	GASKET SIZE: 3.0" RATING: 150# TYPE: SPIRAL, 150 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	20
13	GASKET	GASKET SIZE: 4" RATING: 300# TYPE: SPIRAL, 300 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	20

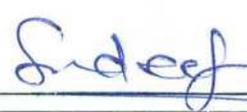
14	GASKET	GASKET SIZE: 6" RATING: 150# TYPE: SPIRAL, 150 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	30
15	GASKET	GASKET SIZE: 60" RATING: 150# TYPE: SPIRAL, 150 MATERIAL: SPIRAL WND, SS316+GRAFIL+IRING	NO.	10
16	GASKET	GASKET SIZE: 0.5" RATING: 300# TYPE: SPIRAL, 300 MATERIAL: SPIRAL WND, SS316+GRAFIL IBR : NOT REQUIRED	NO.	60
17	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 1 7/8", Length: 140 mm	NO.	380
18	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 1", Length: 135 mm	NO.	750
19	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 3/4", Length: 100 mm	NO.	210
20	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 3/4", Length: 115 mm	NO.	140
21	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 3/4", Length: 90 mm	NO.	12
22	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 5/8", Length: 85 mm	NO.	240
23	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 5/8", Length: 90 mm	NO.	75
24	FASTENERS	BOLT: A193 GR. B7 NUT: A194 GR. 2H Dia: 1/2, Length: 65 mm	NO.	250
25	PIPE	Pipe IS 1239 60.8 X 4.5	MTR	250
26	ANGLE	ANGLE 65 x 65 x 6 -IS2062E250A(Fe410W)	MTR	1500
27	CHANNEL	CHANNEL 100 x 50 - IS2062E250A(Fe410W)	MTR	1000
28	PIPE	PIPE OD 21.3 x 4.78 - SA106GRB	MTR	800
29	PIPE	PIPE OD 21.3 x 4.78 - SA106GRB IBR	MTR	50

30	SS TUBE	1/2"OD X 0.049"THK A269 TP316L	MTR	850
31	SS TUBE	1/4"OD X 0.049"THK A269 TP316L	MTR	1500
32	PLATE	PLATE 6mm-IS2062E250A(Fe410W) 3 NO.S OF PLATES OIF SOZE 2.5 X 6 MTRS	KG	2200

CLAUSE NO.	ERECTION CONDITION OF CONTRACT		
1.00.00	GENERAL		
1.01.00	The following shall supplement the conditions already contained in the other parts of this specification and documents and shall govern that portion of the work or this Contract to be performed at Site.		
1.02.00	The Contractor upon signing of the Contract shall, in addition to a Project Co-ordinator, nominate another responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and co-ordination of the Works to be performed at Site. Such person shall function from the Site office of the Contractor during the pendency of Contract.		
2.00.00	REGULATION OF LOCAL AUTHORITIES AND STATUTES		
2.01.00	The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act. 1948 and the Payment of Wages Act (both the Government of India) and the rules made thereunder in respect of any employee or workman employed or engaged by him or his Sub-Contractor.		
2.02.00	All registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under the provisions of the Indian Boiler Regulations and any other statutory laws and its amendments from time to time during erection in respect of the plant equipment ultimately to be owned by the Owner, shall be to the account of the Owner. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub-contractor, the additional fees to such inspection and/or registration shall be borne by the Contractor.		
3.00.00	OWNER'S LIEN ON EQUIPMENT		
	The Owner shall have lien on all equipment including those of the Contractor brought to the Site for the purpose of erection, testing and commissioning of the plant. The Owner shall continue to hold the lien on all such equipment throughout the period of Contract. No material brought to the Site shall be removed from the Site by the Contractor and/or his Sub-contractors without the prior written approval of the Engineer.		
4.00.00	INSPECTION, TESTING AND INSPECTION CERTIFICATES		
	The Provisions of the Clause entitled Inspection, Testing and Inspection Certificates under Technical Specification, Chapter-11 shall also be applicable to the erection portion of the Works. The Engineer shall have the right to re-inspect any equipment though previously inspected and approved by him at the Contractor's works, before and after the same are erected at Site. If by the above inspection, the Engineer rejects any equipment, the Contractor shall make good for such rejections either by replacement or modification/ repairs as may be necessary to the satisfaction of the Engineer. Such replacements will also include the replacements or re-execution of such of those works of other Contractors and/or agencies, which might have got damaged or affected by the replacement or re-work done to the Contractor's work.		
  R&M Work of Re-introduction of Blast Furnace Gas Firing System in all 3 units of Bhilai-II	 TECHNICAL SPECIFICATION	  PART D ERECTION CONDITIONS OF CONTRACT	 Page 1 of 29

CLAUSE NO.	ERECTION CONDITION OF CONTRACT	
5.00.00	ACCESS TO SITE WORKS ON SITE	
5.01.00	Suitable access to and possession of the Site shall be afforded to the Contractor by the Owner in reasonable time. The Owner shall provide access roads as per the agreed schedule.	
5.02.00	The Contractor is required to dismantle the existing foundation and cast new foundation if necessary for the new equipment supplied.	
5.03.00	The works so far as it is carried out on the Owner's premises, shall be carried out at such time as the Owner may approve and the Owner shall give the Contractor reasonable facilities for carrying out the works.	
5.04.00	In the execution of the Works, no person other than the Contractor or his duly appointed representative, Sub-contractor and workmen, shall be allowed to do work on the Site, except by the special permission, in writing of the Engineer or his representative.	
6.00.00	CONTRACTOR'S SITE OFFICE ESTABLISHMENT	
	The Contractor shall establish a Site Office at the Site and keep posted an authorised representative for the purpose of the Contract. Any written order or instruction of the Engineer or his duly authorised representative, shall be communicated to the said authorised resident representative of the Contractor and the same shall be deemed to have been communicated to the Contractor at his legal address.	
7.00.00	CO-OPERATION WITH OTHER CONTRACTORS	
7.01.00	The Contractor shall co-operate with all other contractors or tradesmen of the Owner, who may be performing other works on behalf of the Owner and the workmen who may be employed by the Owner and doing work in the vicinity of the Works under the Contract. The Contractor shall also arrange to perform his work so as to minimise, to the maximum extent possible, interference with the work of other contractors and their workmen. Any injury or damage that may be sustained by the employees of the other Contractors and the Owner, due to the Contractor's work shall promptly be made good at his own expense. The Engineer shall determine the resolution of any difference or conflict that may arise between the Contractor and the workmen of the Owner in regard to their work. If the work of the Contractor is delayed because of the any acts of omission of another Contractor, the Contractor shall have no claim against the Owner on that account other than an extension of time for completing his Works.	
7.02.00	The Engineer shall be notified promptly by the Contractor of any defects in the other Contractor's works that could affect the Contractor's Works. The Engineer shall determine the corrective measures if any, required to rectify this situation after inspection of the works and such decisions by the Engineer shall be binding on the Contractor.	
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CLAUSE NO.	ERECTION CONDITION OF CONTRACT		
8.00.00	<p>DISCIPLINE OF WORKMEN</p> <p>The Contractor shall adhere to the disciplinary procedure set by the Engineer in respect of his employees and workmen at Site. The Engineer shall be at liberty to object to the presence of any representative or employee of the Contractor at the Site, if in the opinion of the Engineer such employee has mis-conducted himself or is incompetent or is negligent or otherwise undesirable and then the Contractor shall remove such a person objected to and provide in his place a competent replacement.</p>		
9.00.00	<p>CONTRACTOR'S FIELD OPERATION</p>		
9.01.00	<p>The Contractor shall keep the Engineer informed in advance regarding his field activity plans and schedules for carrying out each part of the works. Any review of such plan or schedule or method of work by the Engineer shall not relieve the Contractor of any of his responsibilities towards the field activities. Such reviews shall also not be considered as an assumption of any risk or liability by the Engineer or the Owner or any of his representatives and no claim of the Contractor will be entertained because of the failure or inefficiency of any such plan or schedule or method of work reviewed. The Contractor shall be solely responsible for the safety, adequacy and efficiency of plant and equipment and his erection methods.</p>		
9.02.00	<p>The Contractor shall have the complete responsibility for the conditions of the Work-Site including the safety of all person employed by him or his Sub-contractor and all the properties under his custody during the performance of the work. The requirement shall apply continuously till the completion of the Contract and shall not be limited to normal working hours. The construction review by the Engineer is not intended to include review of Contractor's safety measures in, on or near the Work-Site, and their adequacy or otherwise.</p>		
10.00.00	<p>PHOTOGRAPHS AND PROGRESS REPORT</p>		
10.01.00	<p>The Contractor shall furnish three (3) prints each to the Engineer of progress photographs of the work done at Site. Photographs shall be taken as and when indicated by the Engineer or his representative. Photographs shall be adequate in size and number to indicate various stages of erection. Each photograph shall contain the date, the name of the Contractor and the title of the photograph.</p>		
10.02.00	<p>The above photographs shall accompany the monthly progress report detailing out the progress achieved on all erection activities as compared to the schedules. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.</p>		
11.00.00	<p>MAN-POWER REPORT</p>		
11.01.00	<p>The Contractor shall submit to the Engineer, on the first day of every month, a man hour schedule for the month, detailing the man hours scheduled for the month, skill-wise and area wise.</p>		
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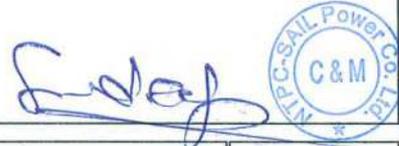
CLAUSE NO.	ERECTION CONDITION OF CONTRACT	
11.02.00	The Contractor shall also submit to the Engineer on the first day of every month, a man power report of the previous month detailing the number of persons scheduled to have been employed and actually employed, skill-wise and the areas of employment of such labour.	
12.00.00	<p>PROTECTION OF WORK</p> <p>The Contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Owner or the Engineer for any damage or loss to the Contractor's works and the Contractor shall be responsible for complete restoration of the damaged works to original conditions to comply with the specification and drawings. Should any such damage to the Contractor's Works occur because of other party not being under his supervision or control, the Contractor shall make his claim directly with the party concerned. If disagreement or conflict or dispute develops between the Contractor and the other party or parties concerned regarding the responsibility for damage to the Contractor's Works the same shall be resolved as per the provisions of the Clause 7.0 above entitled "Co-operation with other Contractors". The Contractor shall not cause any delay in the repair of such damaged Works because of any delay in the resolution of such disputes. The Contractor shall proceed to repair the Work immediately and no cause thereof will be assigned pending resolution of such dispute.</p>	
13.00.00	<p>EMPLOYMENT OF LABOUR</p>	
13.01.00	The Contractor will be expected to employ on the work only his regular skilled employee with experience of his particular work. No female labourer shall be employed after darkness. No person below the age of eighteen years shall be employed.	
13.02.00	All travelling expenses including provisions of all necessary transport to and from Site. Lodging allowance and other payments to the Contractor's employees shall be sole responsibility of the Contractor.	
13.03.00	The hours of work on the Site shall be decided by the Owner and the Contractor shall adhere to it. Working hours will normally be eight (8) hours per day – Monday through Saturday.	
13.04.00	Contractor's employees shall wear identification badges while on work at Site.	
13.05.00	In case the Owner becomes liable to pay any wages or dues to the Contractor's labourers or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contract Labour Regulation Abolition Act or any other law due to act of omission of the Contractor, the Owner may make such payments and shall recover the same from the Contractor's Bills.	
14.00.00	<p>FACILITIES TO BE PROVIDED BY THE OWNER</p>	
14.01.00	<p>Space</p>	



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CLAUSE NO.	ERECTION CONDITION OF CONTRACT 	
	<p>The Contractor shall advise the Owner within Fifteen (15) days from the date of acceptance of the Letter of Award about his exact requirement of space for his office, mess-room, storage area, pre-assembly and fabrication areas, labour and staff colony area, toilets etc. The above requirement shall be reviewed by the Engineer and space will be allotted to the Contractor for construction of his temporary structures like office, storage sheds, labour and staff colony and other utilities etc. for his own as well as his Sub-Contractor's use.</p>	
14.02.00	<p>Electricity</p> <p>The Contractor shall submit to the Engineer within Fifteen (15) days from the date of acceptance of the Letter of Award, his electrical power requirement, if any, to allow the planning of the temporary electrical distribution by the Engineer. The Contractor shall be provided with free supply of electricity for the purposes of the Contract, only at one point in the Project Site. The Contractor shall make his own further distribution arrangement. All temporary wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connection to supply. The free supply of power will not be provided for the use in the labour and staff colony. Power supply for labour and staff colony shall be provided at one point and the Contractor shall be charged at rates prevalent at the site.</p>	
14.03.00	<p>WATER</p> <p>Free supply of water will be made available for the construction purposes at an agreed single point in the Site. Any further distribution will be the responsibility of the Contractor. Free drinking water will also be provided at one agreed point in the Site. Further distribution either to his labour colony or his work site or to his office shall be the responsibility of the Contractor.</p>	
14.04.00	<p>Communication</p> <p>The Owner will extend the telephone & telex facilities, if available at Site, for purposes of Contract. The Contractor shall be charged at actuals for such facilities.</p>	
15.00.00	<p>FACILITIES TO BE PROVIDED BY THE CONTRACTOR</p>	
15.01.00	<p>Tools, tackles and scaffoldings</p> <p>The Contractor shall provide all the construction equipments, tools, tackles and scaffoldings required for pre-assembly, erection, testing and commissioning of the requirements covered under the Contractor. He shall submit a list of all such materials to the Engineer before the commencement of pre-assembly at Site. These tools and tackles shall not be removed from the Site without the written permission of the Engineer.</p>	
15.02.00	<p>First-aid</p>	
15.02.01	<p>The Contractor shall provide necessary first-aid for all his employees, representatives and workmen working at the Site. Sufficient number of Contractor's personnel shall be trained in administering first-aid.</p>	
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15.02.02	The Owner will provide the Contractor, in case of any emergency, the services of an ambulance for transportation to the nearest hospital.



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CLAUSE NO.	ERECTION CONDITION OF CONTRACT			
15.03.00	Cleanliness			
15.03.01	The Contractor shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of Contract. The Contractor shall employ enough number of special personnel to thoroughly clean of Contract. The contractor shall employ enough number of special personnel to thoroughly clean his work-area at least once in a day. All such rubbish and scrap material shall be stacked or disposed in a place to be identified by the Engineer. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.			
15.03.02	Similarly the labour colony, the offices and the residential areas of the Contractor's employees and workmen shall be kept clean and neat to the entire satisfaction of the Engineer. Proper sanitary arrangement shall be provided by the Contractor, in work-areas, office and residential areas of the Contractor.			
16.00.00	LINES AND GRADES All the Works shall be performed to the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and layout the Works. Basic horizontal and vertical control points will be established and marked by the Engineer at Site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the Engineer well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and marked by the Engineer at Site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the Engineer well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and checked by the Engineer to enable the Contractor to proceed with his works. Any work done without being properly located may be removed and/or dismantled by the Engineer at Contractor's expense.			
17.00.00	FIRE PROTECTION			
17.01.00	The work procedures that are to be used during the erection shall be those which minimise fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or flammable materials shall be stored away from the construction site and equipment and materials storage areas in safe containers. Untreated canvas, paper, plastic or other flammable flexible materials shall not at all be used at Site for any other purpose unless otherwise specified. If any such materials are received with the equipment at the Site, the same shall be removed and replaced with acceptable material before moving into the construction or storage area.			
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CLAUSE NO.	ERECTION CONDITION OF CONTRACT	
17.02.00	Similarly corrugated paper fabricated cartons etc. will not be permitted in the construction area either for storage or for handling of materials. All such materials used shall be of water proof and flame resistant type. All the other materials such as working drawings, plans etc. which are combustible but are essential for the works to be executed shall be protected against combustion resulting from welding sparks, cutting flames and other similar fire sources.	
17.03.00	All the Contractor's supervisory personnel and sufficient number of workers shall be trained for fire-fighting and shall be assigned specific fire protection duties. Enough of such trained personnel must be available at the Site during the entire period of the Contract.	
17.04.00	The Contractor shall provide enough fire protection equipment of the types and number for the ware-houses, office, temporary structures, labour colony area etc. Access to such fire protection equipment, shall be easy and kept open at all time.	
18.00.00	<p>SECURITY</p> <p>The Contractor shall have total responsibility for all equipment and materials in his custody stores, loose, semi-assembled and/or erected by him at Site. The Contractor shall make suitable security arrangements including employment of security personnel to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss. All materials of the Contractor shall enter and leave the project Site only with the written permission of the Engineer in the prescribed manner.</p>	
19.00.00	<p>CONTRACTOR'S AREA LIMITS</p> <p>The Engineer will mark-out the boundary limits of access roads, parking spaces, storage and construction areas for the Contractor and the Contractor shall not trespass the areas not so marked out for him. The Contractor shall be responsible to ensure that none of his personnel move out of the areas marked out for his operations. In case of such a need for the Contractor's personnel to work out of the areas marked out for him the same shall be done only with the written permission of the Engineer.</p>	
20.00.00	<p>CONTRACTOR'S CO-OPERATION WITH THE OWNER</p>	



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	<p>In case where the performance of the erection work by the Contractor affects the operation of the system facilities of the Owner, such erection work of the Contractor shall be scheduled to be performed only in the manner stipulated by the Engineer and the same shall be acceptable at all times to the Contractor. The Engineer may impose such restrictions on the facilities provided to the Contractor such as electricity, water etc. as he may think fit in the interest of the Owner and the Contractor shall strictly adhere to such restrictions and co-operate with the Engineer. It will be the responsibility of the Contractor to provide all necessary temporary instrumentation and other measuring devices required during start-up and operation of the equipment systems which are erected by him. The Contractor shall also be responsible for flushing and initial filling of all the oil and lubricants required for the equipment furnished and erected by him, so as to make such equipment ready for operation. The Contractor shall be responsible for supplying such flushing oil and other lubricants unless otherwise specified elsewhere in documents and specifications.</p>		
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CLAUSE NO.	ERECTION CONDITION OF CONTRACT 
21.00.00	<p>PRE-COMMISSIONING TRIALS AND INITIAL OPERATIONS</p> <p>The pre-commissioning trials and initial operations of the equipment furnished and erected by the Contractor shall be the responsibility of the Contractor as detailed in relevant clauses in Technical Specification. The Contractor shall provide, in addition, test instruments, calibrating devices, etc. and labour required for successful performance of these trials. If it is anticipated that the above test may prolong for a long time, the Contractor's workmen required for the above test shall always be present at Site during such trials.</p>
22.00.00	<p>MATERIALS HANDLING AND STORAGE</p>
22.01.00	<p>All the equipments furnished under the Contract and arriving at Site shall be promptly received, unloaded and transported and stored in the storage spaces by the Contractor.</p>
22.02.00	<p>Contractor shall be responsible for examining all the shipment and notify the Engineer immediately of any damage, shortage, discrepancy etc. for the purpose of Engineer's information only. The Contractor shall submit to the Engineer every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damage in transit, handling and/or in-storage and erection of the equipment at Site. Any demurrage, warfare and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor.</p>
22.03.00	<p>The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the Engineer.</p>
22.04.00	<p>All equipment shall be handled very carefully to prevent any damage or loss. No bare wire ropes, slings, etc. shall be used for unloading and/or handling of the equipment without the specific written permission of the Engineer. The equipment stored shall be properly protected to prevent damage either to the equipment or to the floor where they are store. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at Site.</p>
22.05.00	<p>All electrical panels, control gears, motors and such other devices supplied under the scope of this specification shall be properly dried by heating they are installed and energised. Motor bearings, slip rings, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected. Heavy rotating parts in assembled conditions shall be periodically rotated to prevent corrosion due to prolonged storage.</p>
22.06.00	<p>All the electrical equipment supplied new shall be tested for insulation resistance at least once in three months from the date of receipt till the date of commissioning and a record of such measured insulation values maintained by the Contractor. Such records shall be open for inspection by the Engineer.</p>
22.07.00	<p>The Contractor shall ensure that all the packing materials and protection devices used for the various equipments during transit and storage are removed before the equipment are installed.</p>

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22.08.00	The consumables and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.		
22.09.00	All the materials stored in the open or dusty location must be covered with suitable weatherproof and flameproof covering material wherever applicable.		
22.10.00	If the materials belonging to the Contractor are stored in areas other than those earmarked for him, the Engineer will have the right to get it moved to the area earmarked for the Contractor at the Contractor's cost.		
22.11.00	The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment which require indoor storage. Normally, all the electrical equipments such as motors, control gear, and consumables like electrodes, lubricants etc. shall be stored in the closed storage space. The Engineer, in addition, may direct the Contractor to move certain other materials, which in his opinion will require indoor storage, to indoor storage areas which the Contractor shall strictly comply with.		
23.00.00	CONSTRUCTION MANAGEMENT		
23.01.00	The field activities of the Contractors working at Site, will be coordinated by the Engineer and the Engineer's decision shall be final in resolving any disputes or conflicts between the Contractor and other Contractors and tradesmen of the Owner regarding scheduling and coordination of work. Such decision by the Engineer shall not be a cause for extra compensation or extension of time for the Contractor.		
23.02.00	The Engineer shall hold weekly meetings of all the Contractors working at Site, at a time and place to be designated by the Engineer. The contractor shall attend such meetings and take notes of discussions during the meeting and the decisions of the Engineer and shall strictly adhere to those decisions in performing his Works. In addition to the above weekly meeting, the Engineer may call for any other meeting either with individual contractors or with selected number of contractor and in such a case the Contractor if called, will also attend such meetings.		
23.03.00	Time is the essence of the Contract and the Contractor shall be responsible for performance of his works in accordance with the specified construction schedule. If at any time, the Contractor is falling behind the schedule, he shall take necessary action to make good for such delays by increasing his work force or by working overtime accelerate the progress of the work comply with the schedule and shall communicate such actions in writing to the Engineer, satisfying that his action will compensate for the delay. The Contractor shall not be allowed any extra compensation for such action.		
23.04.00	The Engineer shall however not be responsible for provision of additional labour and/or materials or supply or any other service to the Contractor except for the co-ordination work between various Contractors as set out earlier.		
 <p>Work of Re-introduction of Blast Furnace Gas Firing System in all 3 units of Bhilai-II</p>	<p>TECHNICAL SPECIFICATION</p>	<p>PART D ERECTION CONDITIONS OF CONTRACT</p>	<p>Page 11 of 29</p>

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CLAUSE NO.	ERECTION CONDITION OF CONTRACT 
24.00.00	<p>FIELD OFFICE RECORDS</p> <p>The Contractor shall maintain at his Site Office up-to-date copies of all drawings, specifications and other Contract Documents and any other supplementary data complete with all the latest revisions therto. The Contractor shall also maintain in addition the continuous record of all changes to the above Contract Documents, drawings, specifications, supplementary data, etc. effected at the field and on completion of his total assignment under the Contract shall incorporate all such changes on the drawings and other engineering data to indicate as installed conditions of the equipment furnished and erected under the Contract. Such drawings and engineering data shall be submitted to the Engineer in required number of copies.</p>
25.00.00	<p>CONTRACTOR'S MATERIALS BROUGHT ON TO SITE</p>
25.01.00	<p>The Contractor shall bring to Site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the Works under intimation to the Engineer. All such goods shall, from the time of their being brought vest in the Owner, but may be used for the purpose of the Works only and shall not on any account be removed or taken away by the Contractor without the written permission of the Engineer. The Contractors shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.</p>
25.02.00	<p>The Owner shall have a lien on such goods for any sum or sums which may at any time be due or owing to him by the Contractor, under, in respect of or by reasons of the Contract. After giving a fifteen (15) days notice in writing of his intention to do so, the Owner shall be at liberty to sell and dispose off any such goods, in such manner as he shall think fit including public auction or private treaty and to apply the proceeds in or towards the satisfaction of such sum or sums due as aforesaid.</p>
25.03.00	<p>After the completion of the Works, the Contractor shall remove from the Site under the direction of the Engineer the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission of the Engineer. If the Contractor fails to remove such materials, within fifteen (15) days of issue of a notice by the Engineer to do so then the Engineer shall have the liberty to dispose off such materials as detailed under clause 25.02.00 above and credit the proceeds thereto the account of the Contractor.</p>
26.00.00	<p>PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY</p>
26.01.00	<p>The Contractor shall be responsible for any damage resulting from his operations. He shall also be responsible for protection of all persons including members of public and employees of the Owner and the employees of other Contractors and Sub-contractor and all public and private property including structure, building, other plants and equipments and utilities either above or below the ground.</p>



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26.02.00	The Contractor will ensure provision of necessary safety equipment such as barriers, signboards, warning lights and alarms, etc. to provide adequate protection to persons and property. The Contractor shall be responsible to give reasonable notice to the Engineer and the owners of public or private property and utilities when such property and utilities are likely to get damaged or injured during the execution of his Works and shall make all necessary arrangements with such owners, related to removal and/or replacement or protection of such property and utilities.				
27.00.00	<p>PAINTING</p> <p>All exposed metal parts of the equipment including pipings, structures railing etc. wherever applicable, after installation unless otherwise surface protected, shall be first painted with at least one coat of suitable primer which matches the shop primer paint used, after thoroughly cleaning all such parts of all dirt, rust, scales, greases, oils and other foreign materials by wire brushing, scraping or sand blasting and the same being inspected and approved by the Engineer for painting. Afterwards, the above parts shall be finished painted with two coats of allowed resin machinery enamel paints. The quality of the finish paint shall be as per the standards of ISI or equivalent and to be of the colour as approved by the Engineer.</p>				
28.00.00	<p>INSURANCE</p>				
28.01.00	In addition to the conditions covered under the Clause entitled "Insurance" in Section GCC, Conditions of Contract, the following provisions will also apply to the portion of works to be done beyond the Contractor's own or his Sub-contractor's manufacturing Works.				
28.02.00	<p>Workmen's Compensation Insurance</p> <p>This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability, disease or death of his or his Sub-contractor's employees, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than the following :</p> <table border="0" data-bbox="379 1400 1165 1500"> <tr> <td>Workmen's Compensation</td> <td>As per statutory Provisions</td> </tr> <tr> <td>Employee's liability</td> <td>As per statutory Provisions</td> </tr> </table>	Workmen's Compensation	As per statutory Provisions	Employee's liability	As per statutory Provisions
Workmen's Compensation	As per statutory Provisions				
Employee's liability	As per statutory Provisions				
28.03.00	<p>Comprehensive Automobile Insurance</p> <p>This insurance shall be in such a form to protect the Contractor against all claims for injuries, disability, disease and death to members of public including the Owner's men and damage to the property of others arising from the use of motor vehicles during on or off the Site operations, irrespective of the ownership of such vehicles. The liability covered shall be as herein indicated.</p> <table border="0" data-bbox="379 1787 1284 1926"> <tr> <td>Fatal Injury</td> <td>: Rs. 1,00,000/- each person Rs. 2,00,000/- each occurrence</td> </tr> <tr> <td>Property Damage</td> <td>: Rs. 1,00,000/- each occur acne</td> </tr> </table>	Fatal Injury	: Rs. 1,00,000/- each person Rs. 2,00,000/- each occurrence	Property Damage	: Rs. 1,00,000/- each occur acne
Fatal Injury	: Rs. 1,00,000/- each person Rs. 2,00,000/- each occurrence				
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28.04.00 Comprehensive General Liability Insurance

28.04.01 The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act or omission on the part of the Contractor, his agents, his employees, his representatives and Sub-contractors or from riots, strikes and civil commotion. This insurance shall also cover all the liabilities of the Contractor arising out of the Clause entitled "Defence of Suits" in Section GCC, Conditions of Contract.

28.04.02 The hazards to be covered will pertain to all the Works and areas where the Contractor, his Sub-contractors, his agents and his employees have to perform work pursuant to the Contract.

28.05.00 The above are only illustrative list of insurance covers normally required and it will be the responsibility of the Contractor to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursurance of the Contract.

29.00.00 UNFAVOURABLE WORKING CODITIONS

The Contractor shall confine all his field operations to those works which can be performed without subjecting the equipment and materials to adverse effects during inclement weather conditions, like monsoon, storms, etc. and during other unfavourable construction conditions. No field activities shall be performed by the Contractor under conditions which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such Works and with the concurrence of the Engineer. Such unfavourable construction condition will in no way relieve the Contractor of his responsibility to perform the Works as per the schedule.

30.00.00 PROTECTION OF MONUMENTS AND REFERENCE POINTS

The Contractor shall ensure that any finds such as relic, antiquity, coins, fossils, etc. which he may come across during the course of performance of his Works either during excavation or elsewhere, are properly protected and handed over to the Engineer. Similarly the Contractor shall ensure that the bench marks, reference points, etc., which are marked either with the help of Engineer or by the Engineer shall not be disturbed in any way during the performance of his Works. If, any work is to be performed which disturb such reference, the same shall be done only after these are transferred to other suitable locations under the direction of the Engineer. The Contractor shall provide all necessary materials and assistance for such relocation of reference points etc.

31.00.00 WORK & SAFETY REGULATIONS

31.01.00 General



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	<p>i) The Contractor shall comply with all the requirements of "The Building and Other Construction Workers (Regulation of Employment & Conditions of Service) Act," 1996 and its Central Rule 1998 / State Rules and any other statutory requirements as applicable.</p> <p>ii) The Contractor shall follow NSPCL Safety Rules as issued from time to time with respect to safety in construction & erection.</p> <p>iii) The Contractor shall have the approved Safety, Health and Environment (SHE) Policy in respect of Safety and health of Building Workers and it shall be circulated widely and displayed at conspicuous place in Hindi and local language understood by the majority of the workers. A copy of the safety policy should be submitted to Engineer in charge.</p> <p>iv) The Contractor shall prepare the safety plan comprising of methods to implement the Safety Policy/ Rules, Risk assessment and ensuring Safety at work areas, Safety audits, inspections and its compliance, Supervision and responsibility to ensure Safety at various levels, Safety training to employees, review of Safety and accident analysis, ensure Health and Safety Procedures to prevent accidents and submit to Engineer I/C for approval as per the format of Safety plan as annexed with this Volume.</p> <p>v) The Contractor shall ensure proper safety of all the workmen, materials, plant and equipment belonging to him or to the Owner or to others, working at the Site.</p> <p>vi) All equipments used in construction and erection by the Contractor shall meet BIS / International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipments shall be strictly operated and maintained by the Contractor in accordance with manufacturer's operation manual. The Contractor should also follow Guidelines / Rules of the Owner in this regard.</p> <p>vii) The Contractor shall provide suitable latest Personal Protective Equipments of prescribed standard to all their employees and workmen according to the need. The Engineer I/c shall have the right to examine these safety equipments to determine their suitability, reliability, acceptability and adaptability. The Contractor should also ensure these before their use at worksite.</p> <p>viii) The Contractor shall provide safe working conditions to all workmen and employees at his workplace including safe means of access, railings, stairs, and ladders, scaffolding, work platforms, toe boards etc. The scaffoldings shall be erected under the control and supervision of an experienced and competent person. For erection of scaffolds, access, work platforms etc. shall be good and the Contractor shall use standard quality of material.</p>	
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	<p>ix) The Contractor shall follow and comply with all the Safety Rules, standards, code of practices of NSPCL and relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any protest or contest or reservation. In case of any unconformity between statutory requirement and the Safety Rules of the Owner referred above, the latter shall be binding on the Contractor unless the statutory provisions are more stringent. As and when required he can refer / obtain copy of NSPCL safety documents as stated above.</p> <p>x) The Contractor shall have his own arrangements with nearby hospitals for shifting and treatment of sick and injured. The <i>medical examination of the workers</i> employed in hazardous areas shall be conducted as per Rule 223 Of The Building and Other Construction Worker (Regulation of Employment and Condition of Service) Central Rule 1998 Their health records shall be maintained accordingly and to be submitted to Engineer I/c when asked for. If any worker found suffering from occupational health hazard, the worker should be shifted to suitable place of working and properly treated under intimation to Engineer I/c. The medical fitness certificate to be submitted to Engineer (I/c).</p> <p>xi) <i>First Aid boxes</i> equipped with requisite articles as specified in the Rule 231 of The Building and Other Construction Worker (Regulation of Employment and Condition of Service) Central Rule 1998 shall be provided at construction sites for the use of workers. Training has to be provided on first aid to workmen & office bearers working at site.</p>		
31.01.01	<p>Emergency Action Plan</p> <p>The Contractor shall prepare an emergency action plan approved by his competent authority to handle any emergency occurred during construction work. Regular mock drills shall be organized to practice this emergency plan. The Emergency Action Plan should be widely circulated to all the employees and suitable infrastructure shall be provided to handle the emergencies.</p>		
31.01.02	<p>Flood Monitoring (Hydro Projects)</p> <p>The Contractor shall take necessary measures for monitoring of flood / water levels and develop a forewarning system to evacuate people to safer places well before the flood occurs. For this purpose he may maintain liaison with meteorological department and NSPCL. The Contractor shall make suitable communication and transporting system to rescue the workers to safer places. The Contractor shall provide suitable shelters, food, drinking water and other requisite facilities till they are brought back to their colonies and normalcy is restored.</p>		
31.01.03	<p>Scaffolding</p>		

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	<p>The Contractor shall take all precautions to prevent any accidental collapse of scaffolding or fall of persons from scaffolding. The Contractor should ensure that scaffolding are designed by a competent person and its erection and repairs should be done under the expert supervision. The scaffolding shall meet the required strength and other requirements for the purpose for which the scaffold is erected. The material used for scaffold should conform to the BIS / International standards.</p>			
31.01.04	<p>Opening</p> <p>The Contractor shall ensure that there is no opening in any working platform/any floor of the building, which may cause fall of workers or material. When ever an opening on a platform/any floor of the building is unavoidable, the opening should be suitably fenced and necessary measures for protection against falling objects or building workers from such platform are taken by providing suitable safety nets, safety belts or other similar means.</p>			
31.01.05	<p>Explosives</p> <p>The Contractor shall take all precautions while handling, using, storing or transporting of all explosives. Before usage of any explosive necessary warning / danger signals be erected at conspicuous places to warn the workers and general public. The Contractor should strictly ensure all measures and precautions required to be complied for use, handling, storing or transportation of explosives under the rules framed under the Explosives Act, 1884.</p>			
31.02.00	<p>Coffer Dam and Caissons</p> <p>The Contractor shall ensure that the cofferdam and caissons are of good construction and adequate strength. The cofferdam and caissons should be provided with adequate means for workers to reach safely at the top of such dams in the event of an in rush of water. The workers should be allowed to work in a cofferdam or caisson only after inspection and found safe by Engineer (I/c). Such inspection report is to be maintained in a Register.</p> <p>Where the workers are employed to work in a compressed air environment at the work site of coffer dam or caissons, a construction Medical Officer assisted by a Nurse or trained first aid attendant should be available at all the times during such work.</p>			
31.03.00	<p>Fencing of Machinery</p> <p>The Contractor shall provide suitable fencing or guard to all dangerous and moving parts of machinery.</p> <p>The Contractor shall not allow any of the employees to clean, lubricate, repair, adjust or examine during machinery in motion, which may cause injury to the person.</p>			
31.04.00	<p>Carrying of Excessive Weight by a Worker</p>			
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31.05.00

Dangerous and Harmful Gases / Equipment

The Contractor shall ensure that the workers are not exposed to any harmful gases during any construction activity including excavation, tunneling, confined spaces etc.

The Contractor should not allow any worker to go into the confined space unless it is certified by Engineer (I/c) to be safe and fit for the entry to such work place. Proper record and work permits should be followed to carry out such works.

31.06.00

Overhead Protection

The Contractor shall ensure that any area exposed to risk of falling materials, articles or objects is roped off or cordoned off or otherwise suitably guarded from inadvertent entry of any person.

Wherever there is a possibility of falling of any material, equipment or construction workers while working at heights, a suitable and adequate safety net should be provided. The safety net should be in accordance with BIS Standards.

31.07.00

Working at Heights

All working platforms, ways and other places of construction work shall be free from accumulations of debris or any other material causing obstructions and tripping.

Wherever workers are exposed to the hazard of falling into water, the Contractor shall provide adequate equipment for saving the employees from drowning and rescuing from such hazards. The Contractor shall provide boat or launch equipped with sufficient number of life buoys, life jackets etc. manned with trained personnel at the site of such work.

Every opening at elevation from ground level through which a building worker, vehicle, material, equipment etc. may fall at a construction work shall be covered and/or guarded suitably by the Contractor to prevent such falls.

Wherever the workers are exposed to the hazards of falling from height, the Contractor shall provide full harness safety belts fitted with fall arresting systems to all the employees working at higher elevations and life line of 8 mm diameter wire rope with turn buckles for anchoring the safety belts while working or moving at higher elevations. Safety nets shall also be provided for saving them from fall from heights and such equipment should be in accordance with BIS standards.

Wherever there is a possibility of falling of any material, equipment or construction workers while working at heights, a suitable and adequate safety net should be provided. The safety net should be in accordance with BIS Standards.



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<p>31.08.00</p>	<p>Handling of Hazardous Chemicals</p> <p>The Contractor shall provide standard prefabricated ladders on the columns where the workers are required to use them as an access for higher elevations till permanent staircase is provided. The workers shall be provided with safety belts fitted with suitable fall arresting system (Fall arrestors) for climbing/getting down through ladders to prevent fall from height.</p> <p>The Contractor will notify well in advance to the Engineer I/c of his intention to bring to the Site any container filled with liquid or gaseous fuel or explosive or petroleum substance or such chemicals which may involve hazards. NSPCL shall have the right to prescribe the conditions, under which such container is to be stored, handled and used during the performance of the works and the Contractor shall strictly adhere to and comply with such instructions. The Engineer I/c shall have the right at his sole discretion to inspect any such container or such construction plant / equipment for which material in the container is required to be used and if in his opinion, its use is not safe, he may forbid its use. No claim due to such prohibition shall be entertained by NSPCL and NSPCL shall not entertain any claim of the Contractor towards additional safety provisions / conditions to be provided for / constructed.</p> <p>Further, any such decision of the Engineer I/c shall not, in any way, absolve the Contractor of his responsibilities and in case, use of such a container or entry thereof into the Site area is forbidden by NSPCL, the Contractor shall use alternative methods with the approval of the NSPCL without any cost implication to the NSPCL or extension of work schedule.</p> <p>Where it is necessary to provide and / or store petroleum products or petroleum mixtures and explosives, the Contractor shall be responsible for carrying-out such provision and / or storage in accordance with the rules and regulations laid down in Petroleum Act 1934, Explosives Act 1948, and Petroleum and Carbide of Calcium Manual published by the Chief Inspector of Explosives of India. All such storage shall have prior approval of the Engineer I/c. In case any approvals are necessary from the Chief Inspector (Explosives) or any statutory authorities, the Contractor shall be responsible for obtaining the same.</p> <p>The Contractor shall be fully responsible for the safe storage of his and his Sub-Contractor's radio-active sources in accordance with BARC/DAE (Bhabha Atomic Research Centre/ Department of Atomic Energy, Govt. of India) Rules and other applicable provisions. All precautionary measures stipulated by BARC/DAE in connection with use, storage and handling of such material, will be taken by the contractor.</p> <p>The Contractor shall provide suitable personal protective equipments to the workers who are handling the hazardous and corrosive substances including alkalis and acids.</p>		
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31.09.00	<p>As a precautionary measure the Contractor should keep the bottles filled with distilled water in cupboard / Boxes near work place for emergency eye wash by worker exposed to such hazardous chemicals.</p> <p>Eye Protection</p> <p>The Contractor shall provide suitable personal protective equipment to his workmen depending upon the nature of hazards and ensure their usage by the workers engaged in operations like welding, cutting, chipping, grinding or similar operations which may cause injuries to his eyes.</p>
31.10.00	<p>Excavation</p> <p>The Contractor shall take all necessary measures during excavation to prevent the hazards of falling or sliding material or article from any bank or side of such excavation which is more than one and a half meter above his footing by providing adequate piling, shoring, bracing etc. against such bank or sides.</p> <p>Adequate and suitable warning signs shall be put up at conspicuous places at the excavation work to prevent any persons or vehicles falling into the excavation trench. No worker should be allowed to work where he may be stuck or endangered by excavation machinery or collapse of excavations or trenches.</p>
31.11.00	<p>Electrical Hazards</p> <p>The Contractor should ensure that all electrical installations at the construction work comply with the requirements of latest electricity acts / rules.</p> <p>The Contractor shall take all adequate measures to prevent any worker from coming into physical contact with any electrical equipment or apparatus, machines or live electrical circuits which may cause electrical hazards during the construction work. The Contractor shall provide the sufficient ELCBs / RCCBs for all the portable equipments, electrical switchboards, distribution panels etc. to prevent electrical shocks.</p> <p>The Contractor should ensure use of single / double insulated hand tools or low voltage i.e., 110 volts hand tools.</p> <p>The Contractor should also ensure that all temporary electrical installations at the construction works are provided with earth leakage circuit breakers.</p>
31.12.00	<p>Vehicular Traffic</p> <p>The Contractor should employ vehicle drivers who hold a valid driving license under the Motor Vehicles Act, 1988.</p>



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31.13.00	<p>Lifting Appliances, Tools & Tackles, Lifting Gear And Pressure Plant & Equipment etc.</p> <p>The Contractor shall ensure all the lifting appliances, tools & tackles including cranes etc., lifting gear including fixed or movable and any plant or gear, hoists, Pressure Plant and equipment etc. are in good condition and shall be examined by competent person and only certified shall be used at sites. Periodical Examination and the tests for all lifting / hoisting equipment & tackles shall be carried out. A register of such examinations and tests shall be properly maintained by the Contractor and will be promptly produced as and when desired by the Engineer I/c or by the person authorized by him.</p>		
31.14.00	<p>Excessive Noise, Vibration</p> <p>The Contractor shall take adequate measures to protect the workers against the harmful effect of excessive noise or vibration. The noise should not exceed the limits prescribed under the concerned rules, Noise Pollution (Regulation and Control) Rules, 2000.</p>		
31.15.00	<p>Electrical Installations</p>		
31.15.01	<p>The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Owner or other Contractors under any circumstances, whatsoever, unless expressly permitted in writing by the Engineer I/c to handle such fuses, wiring or electrical equipment.</p> <p>Before the Contractor connects any electrical appliances to any plug or socket belonging to the other Contractor or the NSPCL, he shall</p> <p>Satisfy the Engineer I/C that the appliance is in good working condition;</p> <p>Inform the Engineer I/C of the maximum current rating, voltage and phases of the appliances;</p> <p>Obtain permission of the Engineer I/C detailing the sockets to which the appliances may be connected.</p> <p>The Engineer I/C will not grant permission to connect until he is satisfied that:</p> <p>The appliance is in good condition and is fitted with suitable plug; having earth connection with the body.</p> <p>Wherever armored / metallic sheathed multi core cable is used, the same armor / sheath should be connected to earth.</p> <p>No repair work shall be carried out on any live equipment. The Engineer I/c must declare the equipment safe and a permit to work shall be issued by the NSPCL / Contractor as the case may be to carry out any repair / maintenance work. While working on electric lines / equipments whether live or dead, suitable type and sufficient quantity of tools will have to be provided by the Contractor to electricians / workmen / Officers.</p> <p>The Contractor shall employ necessary number of qualified, full time Electricians / Electrical Supervisors to maintain his temporary electrical installation.</p>		
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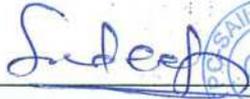
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	<p>The installations shall be provided with suitable ELCBs and RCCBs wherever required.</p>	
31.16.00	Safety Organisation	
31.16.01	<p>The Contractor employing more than 250 workmen whether temporary, casual, probationary, regular or permanent shall employ at least one full time safety officer exclusively to supervise safety aspects of the equipments and workmen, who will coordinate with the NSPCL Safety Officer. Further requirement of safety officers, if any, shall be guided by Rule 209 of The Building and Other Construction Worker (Regulation of Employment and Conditions of Service) Central Rule 1998. In case the work is being carried out through subContractor, the employees / workmen of the sub Contractor shall also be considered as the Contractor's employees/workmen for the above purpose.</p>	
31.06.02	<p>In case of Contractor deploying less than 250 workmen he should designate one of his Engr / supervisor or the Contractor himself (if he is directly supervising the work) as safety officer in addition to his existing responsibilities. The Engr./ supervisor should get atleast 2days safety training from any reputed organization or from NSPCL before resuming the work. If already trained in past the declaration along with trg. certificate to be furnished to NSPCL safety officer.</p> <p>The name and address of such Safety Officer of the Contractor will be promptly informed in writing to the Engineer IC with a copy to the Project Safety Officer before he starts work or immediately after any change of the incumbent is made during currency of the Contract.</p>	
31.17.00	Reporting of Accident and Investigation	
	<p>In case any accident occurs during the construction / erection or other associated activities undertaken by the Contractor thereby causing any near miss, minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the Contractor to promptly inform the same to the Engineer I/C, NSPCL Safety Officer with a copy to NSPCL Head of Project in the prescribed form and also to all the authorities envisaged under the applicable laws.</p>	
31.18.00	Right to stop Work	
31.18.01	<p>The Engineer I/C shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and / or property, and / or equipments. In such cases, the Contractor shall be informed in writing about the nature of hazards and possible injury / accident and he shall comply to remove shortcomings promptly. The Contractor after stopping the specific work can, if felt necessary, appeal against the order of stoppage of work to the Project Manager within 3 days of such stoppage of work and decision of the Project Manager in this respect shall be conclusive and binding on the Contractor.</p>	



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31.18.02	<p>The Contractor shall not be entitled for any damages / compensation for stoppage of work, {Sub-Clause 31.18.01} due to safety reasons and the period of such stoppage of work shall not be taken as an extension of time for Completion of the work and will not be the ground for waiver of levy of liquidated damages.</p>	
31.19.00	<p>Fire Protection</p> <p>The Contractor shall provide sufficient fire extinguishers at place /s of work. The fire extinguishers shall be properly maintained as per relevant BIS Standards. The employees shall be trained to operate the fire extinguishers / equipment.</p>	
31.20.00	<p>Penalties</p>	
31.20.01	<p>If the Contractor fails in providing safe working environment as per the Safety Rules of NSPCL or continues the work even after being instructed to stop the work by the Engineer I/C as provided in Clause 31.18.01 above, the Contractor shall be penalized at the rate of Rs. 25,000/- per day or part thereof till the instructions are complied with and so certified by the Engineer I/C. However, in case of accident, the provisions contained in Sub-Clause 31.20.02 below shall also apply in addition to the penalties mentioned in this sub-clause.</p>	
31.20.02	<p>If the Contractor does not take all safety precautions and / or fails to comply with the Safety Rules as prescribed by the Owner or under the applicable law for the safety of the plant and equipment and for the safety of personnel and the Contractor does not prevent hazardous conditions which cause injury to his own employees or employees of other Contractors, or NSPCL's employees or any other person who are at the Site or adjacent thereto, the Contractor shall be responsible for payment of penalty to NSPCL as per the following schedule:-</p> <p>a) Fatal injury or accident causing death:</p> <p style="padding-left: 40px;">Penalty @10% of contract value or Rs. 5,00,000/- per person, which ever is less.</p> <p>b) Major injuries or accident causing 25% or more permanent disablement to workmen or employees:</p> <p style="padding-left: 40px;">Penalty @2.5% of contract value or Rs. 1,00,000/- per person which ever is less</p> <p>Permanent disablement shall have the same meaning as indicated in The Workmen's Compensation Act' 1923. The penalty mentioned above shall be in addition to the compensation payable to the workmen / employees under the relevant provisions of the Workmen's Compensation Act' 1923 and rules framed there under or any other applicable laws as applicable from time to time.</p>	
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31.20.03	<p>If any Contractor worker found working without using the safety equipment like safety helmet, safety shoes, safety belts, etc. or without anchoring the safety belts while working at height, the Engineer I/c / Safety Officer of NSPCL shall have the right to penalize the Contractor for Rs. 200/- per person per day and such worker shall be sent out of the workplace immediately and shall not be allowed to work on that day. Engineer I/c / Safety Officer of NSPCL will also issue a notice in this regard to the Contractor.</p>			
31.20.04	<p>If two or more fatal accidents occur at same NSPCL site under the control of Contractor during the period of contract and he has</p> <ol style="list-style-type: none"> (1) not complied with keeping adequate PPEs in stock or (2) defaulted in providing PPEs to his workmen (3) not followed statutory requirements of NTPC / NSPCL safety rules (4) been issued warning notice/s by NTPC/ NSPCL head of the project on non observance of safety norms (5) not provided safety training to all his workmen, <p>the Contractor can be debarred from getting tender documents in NSPCL for two years from the date of last accident.</p> <p>The safety performance will also be one of the overriding criteria for evaluation of overall performance of the Contractors by NSPCL. The Contractor shall submit the accident data including fatal / non-fatal accidents for the last 3 years where he has undertaken the construction activities Projects-wise along with the tender documents. This will also be considered for evaluation of tender documents. If the information given by the Contractor is found incorrect, his contract will be liable to be terminated.</p>			
31.21.00	<p>Award</p> <p>If the Contractor's performance on safety front is found satisfactory i.e. without any fatal/reportable accident in the year of consideration; he may be considered for suitable award "ACCIDENT FREE SAFETY MERITORIOUS AWARD" as per scheme of the Owner.</p>			
32.00.00	<p>FOREIGN PERSONNEL</p>			
32.01.00	<p>The Contractor shall submit to the Owner data on all personnel he proposes to bring into India for the performance of the Works under the Contract, at least sixty (60) days prior to their departure to India. Such data will include for each person the name, his present address, his assignment and responsibility in connection with the works, and a short resume of his qualification, experience etc. in relation to the work to be performed by him.</p>			
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32.02.00	Any person unsuitable and unacceptable to the Owner shall not be brought to India. Any person brought to India, if found unsuitable or unacceptable by the Owner, the Contractor shall within a reasonable time make alternate arrangements for providing a suitable replacement and repatriation of such unsuitable personnel.		
32.03.00	No person brought to India for the purpose of the works shall be repatriated without the consent of the Owner in writing, based on a written request from the Contractor for such repatriation giving reasons for such an action to the Engineer. The Owner may give permission for such repatriation provided he is satisfied that the progress of work will not suffer due to such repatriation.		
32.04.00	The cost of passports, visas and all other travel expenses to and from India, incurred by the Contractor shall be to his account. The Owner will not provide any residential accommodation and/or furniture for any of the Contractor's personnel including foreign personnel and Contractor shall make his own arrangements for such facilities in the area allotted at Site, to him by the Owner for that purpose.		
32.05.00	The Contractor and his expatriate personnel shall respect all Indian Acts, Laws, rules and regulations and shall not in any way interfere with Indian political and religious affairs and shall conform to any other rules and regulations which the Government of India, the Owner and the Engineer may establish from time to time on them. The Contractor's expatriate personnel shall work and live in close co-operation and coordinate with their co-workers and the community and shall not engage themselves in any other employment neither part-time or full-time nor shall they take part in any local politics.		
32.06.00	The Owner shall assist the Contractor, to the extent possible, in obtaining necessary permits to travel to India and back, by issue of necessary certificates and other information needed by the Government agencies.		
33.00.00	<p>CODE REQUIREMENTS</p> <p>The erection requirements and procedures to be followed during the installation of the equipment shall be in accordance with the relevant Indian Boiler Regulations, ASME codes and accepted good engineering practice, the Engineer's Drawings and other applicable Indian recognised codes and laws and regulations of the Government of India.</p>		
34.00.00	<p>FOUNDATION DRESSING AND GROUTING</p>		
34.01.00	The surfaces of foundations shall be dressed to bring the top surface of the foundations to the required level, prior to placement of equipment/equipment bases on the foundations.		
34.02.00	All the equipment bases and structural steel base plates, shall be grouted and finished as per these specifications unless otherwise recommended by the equipment manufacturer.		
34.03.00	The concrete foundation surfaces shall be properly prepared by chipping, grinding as required to bring the type of such foundation to the required level, to provide the necessary roughness for bondage and to assure enough bearing strength. All laitance and surface film shall be removed and cleaned.		
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34.04.00	<p>Grouting Mix</p> <p>The grouting mixture shall be composed of portland cement, sand and water. The portland cement to be used shall conform to ISI No. 269 or equivalent and the sand shall conform to ISI No. 383/2386 or equivalent. The grout proportions for flat bases where the grouting space does not exceed 35 mm shall be 50 Kg bag of cement to 75 Kg of sand. Only the required quantity of water shall be added so as to make the mix quaky and flowable and the mix shall not show excess water on top when it is being puddled in place. For thicker grout beds upto 65mm, the amount of sand shall be increased to 105 kg per bag of cement. Bases which are hollow and are to be filled full of grouting shall be filled to a level of 25 mm above the outside rim with a mortar mix in the volumetric proportions of one part of cement and 1.5 part sand and 1.5 part 6 mm granite gravel. Ann acceptable plasticiser may be added to the grout mixture in a proportion recommended by the plasticisers manufacturer. All such grouts shall be thoroughly, mixed for not less than five minutes in an approved mechanical mixer and shall be used immediately after mixing.</p>	
34.05.00	<p>Placing of Grout</p>	
34.05.01	<p>After the base has been prepared, its alignment and level has been checked and approved and before actually placing the grout a low dam shall be set around the base at a distance that will permit pouring and manipulation of grout. The height of such dam shall be at least 25mm above the bottom of the base. Suitable size and number of chains shall be introduced under the base before placing the grout, so that such chains can be moved back and forth to push the grout into every part of the space under the base.</p>	
34.05.02	<p>The grout shall be poured either through grout holes if provided or shall be poured at one side or at two adjacent sides giving it a pressure head to make the grout move in a solid mass under the base and out in the opposite side. Pouring shall be continued until the entire space below the base is thoroughly filled and the grout stands at least 25mm higher all around than the bottom of the base. Enough care should be taken to avoid any air or water pockets beneath the bases.</p>	
34.06.00	<p>Finishing of the Edges of the Grout</p> <p>The poured grout should be allowed to stand undisturbed until it is well set. Immediately thereafter, the dam shall be removed and grout which extends beyond the edges of the structural or equipment base plates shall be cut off, flushed and removed. The edges of the grout shall then be pointed and finished with 1:2 cement mortar pressed firmly to bond with the body of the grout and smoothed with a tool to present a smooth vertical surface. The work shall be done in a clean and scientific manner and the adjacent floor spaces, exposed edges of the foundations, and structural steel and equipment base plates shall be thoroughly cleaned of any spillage of the grout.</p>	
34.07.00	<p>Checking of Equipment After Grouting</p>	



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	<p>After the grout is set and cured, the Contractor shall check and verify the alignment of equipments, alignment of shafts of rotating machinery, the slopes of all bearing pedestals, centering of rotors with respect to their sealing bores, couplings, etc. as applicable and the like items to ensure that no displacement had taken place during grouting. The values recorded prior to grouting shall be used during such post grouting check up and verifications. Such pre and post grout records of alignment details shall be maintained by the Contractor in a manner acceptable to the Engineer.</p>		
35.00.00	<p>SHAFT ALIGNMENTS</p>	<p>All the shafts of rotating equipment under the scope of supply shall be properly aligned to those of the matching equipments to as perfect an accuracy as practicable. The equipment shall be free from excessive vibration so as to avoid overheating of bearings or other conditions which may tend to shorten the life of the equipment. All bearings, shafts and other rotating parts shall be thoroughly cleaned and suitably lubricated before starting.</p>	
36.00.00	<p>DOWELLING</p>	<p>All the replaced motors and equipments shall be suitable dowelled after alignment of shafts with tapered machined dowels as per the direction of the Engineer.</p>	
37.00.00	<p>CHECK OUT OF CONTROL SYSTEMS</p>	<p>After completion of erection and commissioning of items covered under the specification the Contractor shall check out the operation of all control systems for the equipment furnished and installed under this specifications.</p>	
38.00.00	<p>COMMISSIONING SPARES</p>		
38.01.00		<p>It will be the responsibility of the Contractor to provide all commissioning spares including consumable spares like indicating lights/ lamps, diodes, fuses recorder charts, ink pads/ pens etc. required for initial operation till the equipment is declared by the Owner as having satisfactorily completed the Trial Operation. The Contractor shall furnish a list of all commissioning spares within 60 days from the date of Letter of Award and such list shall be reviewed by the Owner and mutually agreed to. However, such review and agreement will not absolve the Contractor of his responsibilities to supply all commissioning spares so that initial operation do not suffer for want of commissioning spares. All commissioning spares shall be deemed to be included in the scope of the Contractor at no extra cost to the Owner.</p>	
38.02.00		<p>These spare will be received and stored by the Contractor atleast 3 months prior to the schedule date of commencement of trial operation of the respective equipment and utilised as and when required. The unutilised spares and replaced parts, if any, at the end of successful completion of performance and guarantee test shall be the property of the Contractor and he will be allowed to take these parts back at his own cost with the permission of Engineer.</p>	
39.00.00	<p>CABLING</p>		



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39.01.00	All cables shall be supported by conduits or cable tray run in air or in cable channels. These shall be installed in exposed runs parallel or perpendicular to dominant surfaces with right angle turn made of symmetrical bends for fittings. When cables are run on cable trays, they shall be clamped at a minimum intervals of 2000mm or otherwise as directed by the Engineer.	
39.02.00	Each cable, whether power or control, shall be provided with a metallic or plastic tag of an approved type, bearing a cable reference number indicated in the cable and conduit list (prepared by the Contractor), at every 5 meter run or part thereof and at both ends of the cable adjacent to the terminations. Cable routing is to be done in such a way that cables are accessible for any maintenance and for easy identification.	
39.03.00	Sharp bending and kinking of cables shall be avoided. The minimum radii for PVC insulated cables 1100V grade shall be 15 D where D is the overall diameter of the cable. Installation of other cables like high voltage, coaxial, screened, compensating, mineral insulated shall be in accordance with the cable manufacturer's recommendations. Wherever cables cross roads and water, oil, sewage or gaslines, special care should be taken for the protection of the cables in designing the cable channels.	
39.04.00	In each cable run some extra length shall be kept at a suitable point to enable one or two straight through joint to be made, should the cable develop fault at a later date.	
39.05.00	Control cable terminations shall be made in accordance with wiring diagrams, using identifying codes subject to Engineer's approval. Multicore control jackets shall be removed as required to train and terminate the conductors. The cable jacket shall be left on the cable, as far as possible, to the point of the first conductor branch. The insulated conductors from which the jacket is removed shall be neatly twined un bundles and terminated. The bundles shall be firmly but not tightly tied utilising plastic or nylon ties or specifically treated fungus protected cord made for this purpose. Control cable conductor insulation shall be securely and evenly out.	
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	<p align="center"><u>ANNEXURE-1</u></p> <p>SAFETY PLAN</p> <ol style="list-style-type: none"> 01. Safety Policy of the Contractor to be enclosed 02. When Was the Safety Policy last reviewed 03. Details of implementation Procedure / methods to implement Safety policy / safety Rules 04. Name ; qualification; experience of safety officer 05. Review of Accidents analysis method ; methods to ensure safety and health 06. Unit executive responsible to ensure safety at various levels in work area 07. List of employees trained in safety employed before execution of the job . give the details of Training 08. Safety training targets, schedules ,methods Adopting to providing safety training to all employees 09. Details of checklist for different jobs \ work and Responsible person to ensure compliance [copy of checklist to be enclosed] 10. Regular safety inspection methods and periodicity and list of members to be enclosed 11. Risk assessment; safety audit by professional agencies periodicity 12. Implementation of recommendations of Audit / Inspections. Procedures for implementation and follow up. 13. Provision for treatment of injured persons at work site. 14. Review of overall safety by top Management and Periodicity 15. System for Implementation of Statutory legislations. 16. Issue of PPEs to employees, Periodicity / stock on hand etc. 		
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