

Annexure:I
Arun-3 HEP (4 x 225 MW)

WEIGHTS & DIMENSIONS OF HYDRO GENERATOR CONSIGNMENTS

S. No.	NAME OF COMPONENT	PACKAGE WT.	DIMENSIONS (MM)			CASE PER M/C	QTY	TOTAL CASES (FOR 4 M/C)	TOTAL Weight
		Kg.	L	W	H				
1	Stator frame Segment	13000	7500	4200	3200	4	4	16	208000
2	Stator lifting beam	12000	4000	4000	1000	1	1	1	12000
3	Top Shaft	10500	2300	1700	2000	1	4	4	42000
4	Top bracket center	10000	4000	4000	1000	1	4	4	40000
5	Spring plate assembly	7000	2500	2500	1000	1	4		0
6	Poles	6000	3200	1100	800	24	4	96	576000
7	Lifting shaft assembly	6000	3000	1800	1800	1	1	1	6000
8	Large Packages	3000	2500	2200	1000	15	4	60	180000
9	Rim punching	2600	2000	1000	410	63	4	252	655200
10	Bottom bracket arm	2500	1800	800	2500	8	4	32	80000
11	Stator punching	2000	1500	1000	1500	60	4	240	480000
12	Top bracket arm	2000	3200	600	1000	8	4	32	64000
13	Medium Packages	2000	2000	1500	800	30	4	120	240000
14	Stator lifting beam arm assembly	1600	3200	500	1000	8	1	8	12800
15	Air coolers	1500	2500	2200	600	8	4	32	48000
16	Small Packages	1000	1500	1000	800	30	4	120	120000
17	Stator bars	800	4000	1500	1500	40	4	160	128000
18	Plug in type oil coolers	500	1000	900	900	8	4	32	16000
19	Small Packages	300	500	500	500	30	4	120	36000
20	Plug in type oil coolers	250	800	600	500	2	4	8	2000

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Annexure :II									
Arun-3 HEP (4 x 225 MW)									
WEIGHTS & DIMENSIONS OF HYDRO TURBINE CONSIGNMENTS									
S. No.	NAME OF COMPONENT	PACKAGE WT	DIMENSIONS (MM)			CASE PER M/C	QTY	TOTAL CASES (FOR 4 M/C)	TOTAL WEIGHT
		Kg.	L	W	H				
1	DT Cone								
1.1	Installation of DT Cone	7345	3920	3920	1190	1	4	4	29380
1.10	Installation of DT Cone	206	6000	1000	500	1	4	4	824
1.11	Installation of DT Cone	170	1000	1000	300	1	4	4	680
1.2	Installation of DT Cone	9825	5520	4200	2000	1	4	4	39300
1.3	Installation of DT Cone	2265	4750	4750	350	1	4	4	9060
1.4	Installation of DT Cone	905	3920	3920	70	1	4	4	3620
1.5	Installation of DT Cone	15	1200	800	200	1	4	4	60
1.6	Installation of DT Cone	680	1000	1000	500	1	4	4	2720
1.7	Installation of DT Cone	10	600	600	200	1	4	4	40
1.8	Installation of DT Cone	6.32	500	500	200	1	4	4	25.28
1.9	Installation of DT Cone	5.6	300	300	300	1	4	4	22.4
2	DT Elbow Liner								0
2.1	Installation of DT Elbow Liner	2520	4500	4500	1250	1	4	4	10080
2.2	Installation of DT Elbow Liner	2992	4500	4500	2180	1	4	4	11968
2.3	Installation of DT Elbow Liner	3145	4050	4500	2180	1	4	4	12580
2.4	Installation of DT Elbow Liner	2880	3700	4010	3270	1	4	4	11520
2.5	Installation of DT Elbow Liner	2880	3700	4010	3270	1	4	4	11520
2.6	Installation of DT Elbow Liner	2830	3760	3220	2645	1	4	4	11320
2.7	Installation of DT Elbow Liner	2830	3760	3220	2645	1	4	4	11320
3	Pipes & Embedments in First	16918	6000	4000	2500	1	4	4	67672
3.1	Pipes & Embedments in First	16918	6000	4000	2500	1	4	4	67672
3.10	Pipes & Embedments in First	297	750	750	500	1	4	4	1188
3.11	Pipes & Embedments in First	761	1200	1200	500	1	4	4	3044
3.12	Pipes & Embedments in First	770	2500	2500	1000	1	4	4	3080
3.2	Pipes & Embedments in First	570	3000	2000	2000	1	4	4	2280
3.3	Pipes & Embedments in First	3710	3000	3000	2000	1	4	4	14840
3.4	Pipes & Embedments in First	2340	6000	1000	500	1	4	4	9360
3.5	Pipes & Embedments in First	431	6000	500	500	1	4	4	1724
3.6	Pipes & Embedments in First	20	500	300	300	1	4	4	80
3.7	Pipes & Embedments in First	500	2500	750	750	1	4	4	2000
3.8	Pipes & Embedments in First	337	1135	500	500	1	4	4	1348
3.9	Pipes & Embedments in First	34	1500	1500	100	1	4	4	136
4	Tubes & Embedments for								0
4.1	Tubes & Embedments for	863	6000	2000	1000	1	4	4	3452
4.10	Tubes & Embedments for	0.35	300	300	100	1	4	4	1.4
4.2	Tubes & Embedments for	170	6000	1000	500	1	4	4	680
4.3	Tubes & Embedments for	170	1000	1000	1000	1	4	4	680
4.4	Tubes & Embedments for	284	1500	500	200	1	4	4	1136
4.5	Tubes & Embedments for	58.5	500	500	500	1	4	4	234
4.6	Tubes & Embedments for	33.6	500	500	300	1	4	4	134.4
4.7	Tubes & Embedments for	11	620	300	150	1	4	4	44
4.8	Tubes & Embedments for	115	1000	500	300	1	4	4	460
4.9	Tubes & Embedments for	896	1500	1000	200	1	4	4	3584
5	Stay Ring								0
5.1	Installation of Stay Ring	20500	7000	4500	2200	1	4	4	82000
5.2	Installation of Stay Ring	17500	7000	3500	1500	1	4	4	70000
5.3	Installation of Stay Ring	617	1000	600	400	1	4	4	2468
5.4	Installation of Stay Ring	35	300	300	100	1	4	4	140
5.5	Installation of Stay Ring	783	1000	1000	500	1	4	4	3132
5.6	Installation of Stay Ring	1420	1800	500	350	1	4	4	5680
5.7	Installation of Stay Ring	800	1000	500	500	1	4	4	3200
6	Spiral Casing								0
6.1	Installation of Spiral Casing	14740	4000	3300	3300	1	4	4	58960
6.10	Installation of Spiral Casing	4485	1000	3300	3300	1	4	4	17940
6.11	Installation of Spiral Casing	12240	2800	3300	3300	1	4	4	48960
6.12	Installation of Spiral Casing	5350	1200	3300	3300	1	4	4	21400
6.13	Installation of Spiral Casing	282	1100	500	500	1	4	4	1128
6.14	Installation of Spiral Casing	1685	6000	750	250	1	4	4	6740
6.15	Installation of Spiral Casing	452	4600	500	50	1	4	4	1808
6.16	Installation of Spiral Casing	2155	2500	1000	250	1	4	4	8620
6.17	Installation of Spiral Casing	535	1350	650	150	1	4	4	2140
6.2	Installation of Spiral Casing	14255	4000	3200	3200	1	4	4	57020
6.3	Installation of Spiral Casing	11720	3600	3100	3100	1	4	4	46880
6.4	Installation of Spiral Casing	12920	5300	2800	2800	1	4	4	51680
6.5	Installation of Spiral Casing	8450	6000	2400	2400	1	4	4	33800
6.6	Installation of Spiral Casing	6465	2100	3000	3000	1	4	4	25860
6.7	Installation of Spiral Casing	5265	2000	2700	2700	1	4	4	21060
6.8	Installation of Spiral Casing	3425	2200	2200	1800	1	4	4	13700
6.9	Installation of Spiral Casing	1245	1400	1400	1500	1	4	4	4980
7	Spiral Inlet Pipe	10800	4000	4000	1600	1	4	4	43200
8	Pit Liner								0
8.1	Installation of Pit Liner	6200	8000	3600	4100	1	4	4	24800
8.2	Installation of Pit Liner	6050	8000	3600	4100	1	4	4	24200
8.3	Installation of Pit Liner	32	300	300	300	1	4	4	128
8.4	Installation of Pit Liner	542	1000	700	500	1	4	4	2168
8.5	Installation of Pit Liner	98	700	500	200	1	4	4	392
8.6	Installation of Pit Liner	1700	1000	1000	500	1	4	4	6800
9	Embedded pipes in second								0
9.1	Embedded pipes in second	4402	7000	2000	1000	1	4	4	17608
9.10	Embedded pipes in second	250	500	500	500	1	4	4	1000
9.11	Embedded pipes in second	4590	6500	250	600	1	4	4	18360
9.2	Embedded pipes in second	209	1000	1000	1000	1	4	4	836
9.3	Embedded pipes in second	228	1250	500	500	1	4	4	912
9.4	Embedded pipes in second	885	1000	500	500	1	4	4	3540
9.5	Embedded pipes in second	237	1200	800	400	1	4	4	948
9.6	Embedded pipes in second	450	1400	750	500	1	4	4	1800
9.7	Embedded pipes in second	27	1500	1500	200	1	4	4	108
9.8	Embedded pipes in second	562	6000	300	100	1	4	4	2248
9.9	Embedded pipes in second	496	1000	700	700	1	4	4	1984
10	Tools tackles erection and								0
10.10	Tools tackles and Testing	4375	5950	5950	100	1	1	1	4375
10.1	Tools tackles and Testing	515	2000	1000	500	1	1	1	515
10.11	Tools tackles and Testing	1200	1000	500	500	1	1	1	1200
10.12	Tools tackles and Testing	1200	1000	500	500	1	1	1	1200
10.13	Tools tackles and Testing	450	500	500	500	1	1	1	450
10.14	Tools tackles and Testing	450	500	500	500	1	1	1	450
10.2	Tools tackles and Testing	185	750	500	300	1	1	1	185
10.3	Tools tackles and Testing	408	1000	500	500	1	1	1	408
10.4	Tools tackles and Testing	208	500	500	500	1	1	1	208
10.5	Tools tackles and Testing	14500	4000	4000	2000	1	1	1	14500
10.6	Tools tackles and Testing	18100	5950	5950	900	1	1	1	18100
10.7	Tools tackles and Testing	4375	5950	5950	100	1	1	1	4375
10.8	Tools tackles and Testing	14500	4000	4000	2000	1	1	1	14500
10.9	Tools tackles and Testing	18100	5950	5950	900	1	1	1	18100

13	Guide Apparatus								0
13.1	Pivot Ring (in halves)	8000	3000	6000	1000	2	4	8	64000
13.2	Top Cover (in halves)	30000	3000	6000	2000	2	4	8	240000
13.3	Regulating Ring	9000	4600	4100	1200	1	4	4	36000
13.4	G.V. Servomotor	5000	2000	1000	1000	2	4	8	40000
14	Spherical Valve/MIV								0
14.2	Spherical Valve U/S body	16700	4500	4500	1150	1	4	4	66800
14.4	Levers	8000	4000	3000	1000	2	4	8	64000
14.5	MIV Servomotor	5000	4000	1500	1500	2	4	8	40000
14.6	Spherical Valve Inlet Pipe	20000	3000	4000	4000	1	4	4	80000
14.7	Spherical Valve Outlet Pipe	15000	2500	4000	4000	1	4	4	60000
15	B.F.Valve / Penstock Valve								0
15.2	B.F.Valve Body	16000	6625	3515	2130	2	2	4	64000
15.3	B.F.Valve Lever	3500	4000	2000	600	2	2	4	14000
15.4	B.F.Valve Servomotor	3500	4500	800	800	2	2	4	14000
15.5	Inlet Pipe to BF Valve	11000	6200	3100	2000	1	2	2	22000
15.6	Outlet Pipe to BF Valve	12000	5600	2900	3100	1	2	2	24000
15.7	Anti-Vacuum Valve	600	1000	1000	800	2	2	4	2400
16	Large Packages	4000	2500	2000	1000	50	4	200	800000
17	Medium Packages	2000	2000	1500	800	50	4	200	400000
18	Small Packages	1000	1500	1000	800	50	4	200	200000

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ARUN-III HEP						
WIEGHT & DIMENSIONS OF THE MECHANICAL WORKSHOP EQUIPMENT						

SL	Package	Name of component	Dimension, MM			Weight, Kg	Total case (Nos)	Total Weight
			Length	Width	Height			
1	Mechanical workshop	Radial Drilling machines	1000	500	500	30	10	300
2			2500	2200	2000	4500	2	9000
3			1000	1500	1500	100	6	600
4		Lathe machines	4500	700	700	5000	1	5000
5			2500	2200	2000	4000	1	4000
6			2000	1800	1500	2000	2	4000
7		Universal milling machine	3500	3000	4000	6000	1	6000
8		Shaper	2000	1100	1600	2500	2	5000
9		Double Ended grinding machine	800	500	1000	200	1	200
10								
11		Power hacksaw	1270	700	1400	600	2	1200
12		Welding Machines	1000	500	1000	50	12	600
13			3000	1600	2000	500	3	1500
14		Pipe cutting machine	1500	1000	1000	1000	2	2000
15		Portable/ Floor mounted Oven	600	600	700	200	2	400
16		Pipe bending machine	2000	1500	1500	4000	2	8000
17		Hand Operated Fork Lift, Handling Cart & Hydraulic Platform	3500	1500	2250	5500	1	5500
18		Workbenches, Lockers & Instrument	2000	2000	2500	4000	2	8000
19			2000	2000	1500	3000	1	3000
20			3000	2500	1500	100	1	100
21		Hand Machines, Hand Tools & Instruments	2100	1100	1100	50	10	500
22			500	500	550	100	4	400
23			550	450	500	100	4	400
24			2000	2000	1500	100	3	300
25			1100	1100	300	400	5	2000
26			1000	1000	800	100	5	500
27			2000	2000	1500	100	4	400
28			2000	2000	1500	200	4	800
29			2000	2000	1500	3000	2	6000
30			500	500	500	20	5	100
31		Spare For Mechan	500	500	500	20	1	20

75820

ARUN III - ELEVATOR (13 Persons)								
BOX SIZES & DIMENSIONS								
Sl.No.	Description	Description of box	Package Dimesion in Centimeter			Volume (Cubic Meter)	Gross Wt.(Kg)	Net Weight (Kg)
			Length	Breadth	Height			
1	Elevator (Passenger lift)	BOX No-1	87	70	70	0.4263	145	130
2		BOX No-2	72	66	69	0.327888	135	120
3		BOX No-3	72	69	72	0.357696	301	285
4		BOX No-4	247	74	51	0.932178	315	300
5		BOX No-5	188	64	46	0.553472	175	162
6		BOX No-6	247	64	49	0.774592	205	191
7		BOX No-7	247	64	49	0.774592	127	117
8		BOX No-8	232	130	23	0.69368	155	143
9		BOX No-9	117	97	54	0.612846	1100	1070
10		BOX No-10	107	105	155	1.741425	475	450
11		BOX No-11	112	72	41	0.330624	70	60
12		BOX No-12	122	77	49	0.460306	84	71
13		BOX No-13	92	72	61	0.404064	140	127

14		BOX No-14	262	36	31	0.292392	85	73
15		BOX No-15	64	49	36	0.112896	32	22
16		BOX No-16	64	49	36	0.112896	32	22
17		BOX No-17	330	56	28	0.51744	260	247
18		BOX No-18	175	72	44	0.5544	205	192
19		BOX No-19	175	61	44	0.4697	255	239
20		BOX No-20	64	49	36	0.112896	115	90
21		BOX No-21	310	107	11	0.36487	115	113
22		BOX No-22	216	117	89	2.249208	155	153
23		BOX No-23	503	77	21	0.813351	1860	1850
24		BOX No-24	72	72	56	0.290304	256	245
						14.280016	6797	

ARUN III - ELEVATOR (2000 Kg)								
BOX SIZES & DIMENSIONS								
Sl.No.	Description	Description of box	Package Dimesion in Centimeter			Volume (Cubic Meter)	Gross Wt.(Kg)	Net Weight (Kg)
			Length	Breadth	Height			
1	Elevator (Goods lift)	BOX No-1	90	85	80	0.612	155	145
2		BOX No-2	90	80	70	0.504	145	135
3		BOX No-3	80	80	75	0.48	325	305
4		BOX No-4	250	80	70	1.4	320	300
5		BOX No-5	200	70	50	0.7	180	165
6		BOX No-6	250	75	50	0.9375	205	193
7		BOX No-7	250	75	50	0.9375	130	120
8		BOX No-8	260	150	40	1.56	160	145
9		BOX No-9	130	110	70	1.001	1500	1300
10		BOX No-10	120	105	155	1.953	600	525
11		BOX No-11	112	72	41	0.330624	70	60
12		BOX No-12	122	77	49	0.460306	84	71
13		BOX No-13	92	72	61	0.404064	140	127
14		BOX No-14	2900	50	35	5.075	85	73
15		BOX No-15	70	50	40	0.14	35	25
16		BOX No-16	70	50	40	0.14	32	22
17		BOX No-17	330	60	30	0.594	260	247
18		BOX No-18	175	75	50	0.65625	205	192
19		BOX No-19	175	60	45	0.4725	255	239
20		BOX No-20	70	50	40	0.14	115	90
21		BOX No-21	310	110	11	0.3751	115	113
22		BOX No-22	220	120	90	2.376	155	153
23		BOX No-23	550	80	25	1.1	1860	1850
24		BOX No-24	75	75	60	0.3375	256	245
						22.686344	7387	

ARUN-III HEP - TENTATIVE DIMENSIONS & WEIGHTS OF ELECTRICAL WORKSHOP ITEMS						
Name of Electrical Workshop Instrument/Tool	Dimension of Each Unit			Total Quantity (in nos)	Weight (in Kg) of each Unit	Total Weight (in Kg)
	W (in mm)	D (in mm)	H (in mm)			
1. Portable AC High Voltage Test Kit	2400	1800	1200	1	400	400
2. Portable DC High Voltage Test Kit	1500	1000	1000	1	150	150
3. Portable Primary Current Injection Kit	900	500	1000	1	150	150
4. Portable Secondary Current Injection Kit	800	500	500	1	100	100
5a. Auto Transformer, 1 Phase	300	300	300	1	20	20
5b. Auto Transformer, 3 Phase	300	400	600	1	70	70
6. Portable Digital Microhmmer	450	300	300	1	30	30
7a. Digital Insulation Tester /Megger (0-5kV)	400	350	350	2	8	16
7b. Digital Insulation Tester /Megger (0-10kV)	450	350	350	1	10	10
7c. Hand Operated Insulation Tester (0-500V)	400	200	200	2	5	10
8. Tong tester	400	300	200	5	2	10
9. Multimeter	100	200	400	5	2	10
10. Digital Tachometer	300	100	100	1	2	2
11. Digital Earth Resistivity Tester	250	200	100	2	2	4
12. Phase Sequence Meter	100	150	50	1	3	3
13. Power & Instrument Transformer Analyser	500	400	250	1	16	16
14. Portable Universal Bridge (LCR Meter)	250	150	600	1	2	2
15. Cathode Ray Oscilloscope (CRO)	400	200	500	1	10	10
16. Handheld Power Quality Analyzer	350	250	150	1	5	5
						1018
NOTES						
1	Dimensions & Weights are tentative & based on inputs from EMRP & one of the BHEL PMD Vendor.					
2	PO placement for the above items is yet to be done. Accordingly, Final Dimensions & Weights can be furnished					
3	Items may be added/deleted to the above list during customer approval stage.					

ANNEXURE :III
Arun-3 HEP (4 x 225 MW)

WEIGHTS & DIMENSIONS OF MAJOR GOVERNING ITEMS

S. No.	DESCRIPTION	QTY.	DIMENSIONS (MM) FOR EACH UNIT			PACKAGE WEIGHT (Approx.)	TOTAL WEIGHT (Approx.)
			L	W	H	Kg.	Kg.
1	HYDRO MECHANICAL CABINET (H.M.C.)	4	1200	1400	2500	1650	6600
2	MICROPROCESSOR BASED DIGITAL GOVERNOR (EHGC)	4	1200	1000	2500	900	3600
3	OIL SUMP TANK FOR GOV. AND MIV	4	2850	2550	3250	4500	18000
4	OIL PRESSURE ACCUMULATOR FOR GOV AND MIV	4	2750	2500	4000	9000	36000
5	NITROGEN BOTTLE BANK FOR GOV AND MIV	4	3000	2100	3300	6500	26000
9	MIV HYDRAULIC CONTROL PANEL	4	1200	1100	2350	900	3600
10	MIV ELECTRICAL CONTROL PANEL	4	800	1000	2500	300	1200
11	OIL SUMP TANK FOR BFV	2	2700	2300	2700	3500	7000
12	OIL PRESSURE ACCUMULATOR FOR BFV	2	5000	1800	3250	8000	16000
13	NITROGEN BOTTLE BANK (BFV)	2	3700	2100	3200	5300	10600
13	AIR DRYER FOR LP COMP. AIR SYSTEM	2	750	600	1600	300	600
14	BFV HYDRAULIC CONTROL PANEL	2	900	1100	2350	550	1100
15	BFV ELECTRICAL CONTROL PANEL	2	800	1000	2500	300	600
15	ELECTROSTATIC TYPE OIL PURIFIER	1	950	650	1000	200	200
16	LUB. OIL PURIFIER CENTRIFUGAL TYPE (1000 LPH) (common for Powerhouse)	1	2600	1500	2000	2250	2250
16	PIPING FOR HEAD RACE, TAIL RACE, DRAINAGE, DEWATERING & FLOOD LEVEL SYSTEM (common for Powerhouse)	1	3000	1000	1000	400	400
17	INSTRUMENTS FOR TURBINE, COOLING WATER, D&D AND COMPRESSED AIR SYSTEM	4	500	300	200	1750	7000

140750

ANNEXURE:IV
Arun-3 HEP (4 x 225 MW)
WEIGHTS & DIMENSIONS OF SCR

Equipment Description (Switchgear)	Qty	Package dimension	Weight Kg	Total Weight
11 KV, 630A SWITCHGEAR AT SWITCHYARD	3	3100mm(H)*1900mm(W) * 2100mm(D)	3600	10800
	1	3100mm(H)*1170mm(W) * 2100mm(D)	2000	2000
11 KV, 630A SWITCHGEAR AT POWERHOUSE	4	3100mm(H)*1900mm(W) * 2100mm(D)	3600	14400
	2	3100mm(H)*1900mm(W) * 2600mm(D)	2500	5000
	2	3100mm(H)*1170mm(W) * 2100mm(D)	2000	4000
33 KV, 630A SWITCHGEAR AT SWITCHYARD	5	3050mm(H)*3000mm(W) * 3100mm(D)	4500	22500
33 KV, 630A SWITCHGEAR AT DAM	3	3050mm(H)*3000mm(W) * 3100mm(D)	4500	13500
	1	3050mm(H)*1800mm(W) * 3100mm(D)	2500	2500
FEEDER EARTHING TRUCK 11kV	1	1800mm(H)*1100mm(W) *1100mm(D)	1200	1200
BUSBAR EARTHING TRUCK 11kV	1	1800mm(H)*1100mm(W) *1100mm(D)	1200	1200
FEEDER EARTHING TRUCK 33kV	1	1900mm(H)*1200mm(W) *1200mm(D)	1600	1600
BUSBAR EARTHING TRUCK 33kV	1	1900mm(H)*1200mm(W) *1200mm(D)	1600	1600
NETWORKING EQUIPMENT FOR 11KV & 33KV SWITCHGEAR	1	2000mm(H)*2000mm(W) * 2000mm(D)	2500	2500
SET OF ACCESSORIES FOR 11KV & 33KV SWITCHBOARDS	1	2000mm(H)*1000mm(W) * 500mm(D)	1000	1000
SET OF COMMISSIONING SPARES FOR 11KV & 33KV SWITCHBOARDS	1	1000mm(H)*1000mm(W) * 500mm(D)	500	500
INSULATING MAT FOR 11KV SWITCHBOARD	1	1000mm(H)*1000mm(W) * 500mm(D)	300	300
INSULATING MAT FOR 33KV SWITCHBOARD	1	1000mm(H)*1400mm(W) * 500mm(D)	300	300
MANDATORY SPARES	7	500mm (H)*750mm(W)* 1000mm(D)	500	3500
Generator, GT, UAT & SAT Protection Panel (GRP1 to GRP4) # U-1 & 4	8	2500mm(H)*1150mm (W) * 950mm (D)	850	6800
Generator, GT & UAT Protection Panel (GRP1 to GRP4) # U-2 & 3	8	2500mm(H)*1150mm (W) * 950mm (D)	850	6800
400kV Line Relay Panel (LRPA, LRPB)	4	2500mm(H)*1150mm (W) * 950mm (D)	850	3400
400kV Line Reactor Relay Panel (LRRPA, LRRPB)	4	2500mm(H)*1150mm (W) * 950mm (D)	850	3400
400kV Bus Reactor Relay Panel (BRRPA, BRRPB)	4	2500mm(H)*1150mm (W) * 950mm (D)	850	3400
400kV Side GT Relay Panel (GTRPA, GTRPB)	8	2500mm(H)*900mm (W) * 950mm (D)	600	4800
400kV Bus Coupler Relay Panel (BCRP)	1	2500mm(H)*900mm (W) * 950mm (D)	600	600
400kV Bus bar Relay Panel (BBRP1 to 4)	4	2500mm(H)*900mm (W) * 950mm (D)	600	2400
Centralized Monitoring System comprising of PC, cables etc	1	2000mm (H)*2000mm(W)*2000mm(D)	2500	2500
Mandatory Spares	2	500mm (H)*1000mm(W)*2000mm(D)	500	1000
				123500

ANNEXURE V
Tentative package details CFP

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

490		NGT	1500	1500	1000	2.250	300	1000
491		NGT	1500	1500	1000	2.250	300	1000
492		NGT	1500	1500	1000	2.250	300	1000
493		NGR	1000	1000	1000	1.000	300	1000
494		NGR	1000	1000	1000	1.000	300	1000
495		NGR	1000	1000	1000	1.000	300	1000
496		NGR	1000	1000	1000	1.000	300	1000
497		LAVT	2500	2500	1200	7.500	600	1200
498		LAVT	2500	2500	1200	7.500	600	1200
499		LAVT	2500	2500	1200	7.500	600	1200
500		LAVT	2500	2500	1200	7.500	600	1200
501		LAVT	2500	2500	1200	7.500	600	1200
502		LAVT	2500	2500	1200	7.500	600	1200
503		LAVT	2500	2500	1200	7.500	600	1200
504		LAVT	2500	2500	1200	7.500	600	1200
505		LAVT	2500	2500	1200	7.500	600	1200
506		LAVT	2500	2500	1200	7.500	600	1200
507		LAVT	2500	2500	1200	7.500	600	1200
508		LAVT	2500	2500	1200	7.500	600	1200
509		NGC	2500	2500	1500	9.375	1200	1500
510		NGC	2500	2500	1500	9.375	1200	1500
511		NGC	2500	2500	1500	9.375	1200	1500
512		NGC	2500	2500	1500	9.375	1200	1500
513		Main R.B.	1400	1400	1200	2.352	500	1200
514		Main R.B.	1400	1400	1200	2.352	500	1200
515		Main R.B.	1400	1400	1200	2.352	500	1200
516		Main R.B.	1400	1400	1200	2.352	500	1200
517		Main R.B.	1400	1400	1200	2.352	500	1200
518		Main R.B.	1400	1400	1200	2.352	500	1200
519		Main R.B.	1400	1400	1200	2.352	500	1200
520		Main R.B.	1400	1400	1200	2.352	500	1200
521		Delta R.B	1050	1050	1000	1.103	300	1000
522		Delta R.B	1050	1050	1000	1.103	300	1000
523		Delta R.B	1050	1050	1000	1.103	300	1000
524		Delta R.B	1050	1050	1000	1.103	300	1000
525		Delta R.B	1050	1050	1000	1.103	300	1000
526		Delta R.B	1050	1050	1000	1.103	300	1000
527		Delta R.B	1050	1050	1000	1.103	300	1000
528		Delta R.B	1050	1050	1000	1.103	300	1000
529		Tap-Off R.B	1000	1000	1000	1.000	350	1000
530		Tap-Off R.B	1000	1000	1000	1.000	350	1000
531		Tap-Off R.B	1000	1000	1000	1.000	350	1000
532		Tap-Off R.B	1000	1000	1000	1.000	350	1000
533		Tap-Off R.B	1000	1000	1000	1.000	350	1000
534		Tap-Off R.B	1000	1000	1000	1.000	350	1000
535		Tap-Off R.B	1000	1000	1000	1.000	350	1000
536		Tap-Off R.B	1000	1000	1000	1.000	350	1000
537		Tap-Off R.B	1000	1000	1000	1.000	350	1000
538		Tap-Off R.B	1000	1000	1000	1.000	350	1000
539		Tap-Off R.B	1000	1000	1000	1.000	350	1000
540		Tap-Off R.B	1000	1000	1000	1.000	350	1000
541		Metallic Bellow	1400	1400	1200	2.352	500	1200
542		Metallic Bellow	1400	1400	1200	2.352	500	1200
543		Metallic Bellow	1400	1400	1200	2.352	500	1200
544		Metallic Bellow	1400	1400	1200	2.352	500	1200
545		S.O.B Main	1400	1400	1200	2.352	500	1200
546		S.O.B Main	1400	1400	1200	2.352	500	1200
547		S.O.B Main	1400	1400	1200	2.352	500	1200
548		S.O.B Main	1400	1400	1200	2.352	500	1200
549		S.O.B Main	1400	1400	1200	2.352	500	1200
550		S.O.B Main	1400	1400	1200	2.352	500	1200
551		S.O.B Main	1400	1400	1200	2.352	500	1200

552	S.O.B Main	1400	1400	1200	2.352	500	1200
553	S.O.B Delta	1050	1050	1000	1.103	500	1000
554	S.O.B Delta	1050	1050	1000	1.103	500	1000
555	S.O.B Delta	1050	1050	1000	1.103	500	1000
556	S.O.B Delta	1050	1050	1000	1.103	500	1000
557	S.O.B Delta	1050	1050	1000	1.103	500	1000
558	S.O.B Delta	1050	1050	1000	1.103	500	1000
559	S.O.B Delta	1050	1050	1000	1.103	500	1000
560	S.O.B Delta	1050	1050	1000	1.103	500	1000
561	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
562	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
563	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
564	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
565	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
566	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
567	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
568	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
569	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
570	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
571	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
572	S.O.B Tap-Off	1000	1000	1000	1.000	350	1000
573	C.T Main	1400	1400	1200	2.352	400	1200
574	C.T Main	1400	1400	1200	2.352	400	1200
575	C.T Main	1400	1400	1200	2.352	400	1200
576	C.T Main	1400	1400	1200	2.352	400	1200
577	C.T Main	1400	1400	1200	2.352	400	1200
578	C.T Main	1400	1400	1200	2.352	400	1200
579	C.T Main	1400	1400	1200	2.352	400	1200
580	C.T Main	1400	1400	1200	2.352	400	1200
581	C.T Main	1400	1400	1200	2.352	400	1200
582	C.T Main	1400	1400	1200	2.352	400	1200
583	C.T Main	1400	1400	1200	2.352	400	1200
584	C.T Main	1400	1400	1200	2.352	400	1200
585	C.T Main	1400	1400	1200	2.352	400	1200
586	C.T Main	1400	1400	1200	2.352	400	1200
587	C.T Main	1400	1400	1200	2.352	400	1200
588	C.T Main	1400	1400	1200	2.352	400	1200
589	C.T Main	1400	1400	1200	2.352	400	1200
590	C.T Main	1400	1400	1200	2.352	400	1200
591	C.T Main	1400	1400	1200	2.352	400	1200
592	C.T Main	1400	1400	1200	2.352	400	1200
593	C.T Main	1400	1400	1200	2.352	400	1200
594	C.T Main	1400	1400	1200	2.352	400	1200
595	C.T Main	1400	1400	1200	2.352	400	1200
596	C.T Main	1400	1400	1200	2.352	400	1200
597	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
598	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
599	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
600	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
601	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
602	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
603	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
604	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
605	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
606	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
607	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
608	C.T. Tap-Off	1000	1000	1000	1.000	400	1000
609	Isolator Cubicle	2500	2500	2500	15.625	1800	2500
610	Isolator Cubicle	2500	2500	2500	15.625	1800	2500
611	Isolator Cubicle	2500	2500	2500	15.625	1800	2500
612	Isolator Cubicle	2500	2500	2500	15.625	1800	2500
613	Make Up piece & Shunts	2500	2500	1200	7.500	500	1200

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676		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
677		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
678		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
679		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
680		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
681		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
682		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
683		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
684		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
685		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
686		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
687		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
688		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
689		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
690		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
691		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
692		Make Up piece & Shunts	2500	2500	1200	7.500	500	1200
		Total					373380	2159400

Note: For Storage: Total open area of 45mtrX 45mtrs and Closed area of 10mtrs X 10mtrs are required.

Some items will be fragile in nature and shall be handled accordingly. Stickers for the same shall be on package.

ANNEXURE VI

Tentative package details EDN

S.No.	Package Description	No. of Package	L (mm)	B (mm)	H (mm)	CBM	Weight (MT)	FRT	Remark
1	Regulation	4	2200	1350	2800	8.32	2.00	8.32	
2	Regulation		2200	1350	2800	8.32	2.00	8.32	
3	Regulation		2200	1350	2800	8.32	2.00	8.32	
4	Regulation		2200	1350	2800	8.32	2.00	8.32	
5	Field Breaker + Field Flashing (FB + FF)	4	2800	1350	2800	10.58	2.00	10.58	
6	Field Breaker + Field Flashing (FB + FF)		2800	1350	2800	10.58	2.00	10.58	
7	Field Breaker + Field Flashing (FB + FF)		2800	1350	2800	10.58	2.00	10.58	
8	Field Breaker + Field Flashing (FB + FF)		2800	1350	2800	10.58	2.00	10.58	
9	Thyristor Panel	4	3100	1250	2800	10.85	3.50	10.85	
10	Thyristor Panel		3100	1250	2800	10.85	3.50	10.85	
11	Thyristor Panel		3100	1250	2800	10.85	3.50	10.85	
12	Thyristor Panel		3100	1250	2800	10.85	3.50	10.85	
13	Transformer Cubicle	4	3750	3200	3300	39.60	3.50	39.60	
14	Transformer Cubicle		3750	3200	3300	39.60	3.50	39.60	
15	Transformer Cubicle		3750	3200	3300	39.60	3.50	39.60	
16	Transformer Cubicle		3750	3200	3300	39.60	3.50	39.60	
17	Cable Box	4	2000	1000	3000	6.00	2.00	6.00	
18	Cable Box		2000	1000	3000	6.00	2.00	6.00	
19	Cable Box		2000	1000	3000	6.00	2.00	6.00	
20	Cable Box		2000	1000	3000	6.00	2.00	6.00	
21	Loose items for SEE	4	870	870	600	0.45	1.00	1.00	
22	Loose items for SEE		870	870	600	0.45	1.00	1.00	
23	Loose items for SEE		870	870	600	0.45	1.00	1.00	
24	Loose items for SEE		870	870	600	0.45	1.00	1.00	
25	Cable Drums / Accessories for SEE	4	1000	1000	1000	1.00	2.00	2.00	
26	Cable Drums / Accessories for SEE		1000	1000	1000	1.00	2.00	2.00	
27	Cable Drums / Accessories for SEE		1000	1000	1000	1.00	2.00	2.00	
28	Cable Drums / Accessories for SEE		1000	1000	1000	1.00	2.00	2.00	
29	Mandatory Spares for SEE	4	1350	1050	1500	2.13	0.50	2.13	
30	Mandatory Spares for SEE		1350	1050	1500	2.13	0.50	2.13	
31	Mandatory Spares for SEE		1350	1050	1500	2.13	0.50	2.13	
32	Mandatory Spares for SEE		1350	1050	1500	2.13	0.50	2.13	
34	Tools & Tackles for SEE	2	1350	1050	1500	2.13	0.50	2.13	
35	Tools & Tackles for SEE		1350	1050	1500	2.13	0.50	2.13	
37	Loose Items and other miscellaneous Items of SEE	4	1350	1050	1500	2.13	0.50	2.13	
38	Loose Items and other miscellaneous Items of SEE		1350	1050	1500	2.13	0.50	2.13	
39	Loose Items and other miscellaneous Items of SEE		1350	1050	1500	2.13	0.50	2.13	
40	Loose Items and other miscellaneous Items of SEE		1350	1050	1500	2.13	0.50	2.13	
41	Loose Items and other miscellaneous Items of SEE		1350	1050	1500	2.13	0.50	2.13	
42	Loose Items and other miscellaneous Items of SEE		1350	1050	1500	2.13	0.50	2.13	
43	Loose Items and other miscellaneous Items of SEE		1350	1050	1500	2.13	0.50	2.13	
44	Auto sequencer Equipment (UCB) with Built in HMI	4	3950	1050	2500	10.37	3.00	10.37	
45	Auto sequencer Equipment (UCB) with Built in HMI		3950	1050	2500	10.37	3.00	10.37	
46	Auto sequencer Equipment (UCB) with Built in HMI		3950	1050	2500	10.37	3.00	10.37	
47	Auto sequencer Equipment (UCB) with Built in HMI		3950	1050	2500	10.37	3.00	10.37	
48	Instrument panel	4	2450	1050	2800	7.20	2.00	7.20	
49	Instrument panel		2450	1050	2800	7.20	2.00	7.20	
50	Instrument panel		2450	1050	2800	7.20	2.00	7.20	
51	Instrument panel		2450	1050	2800	7.20	2.00	7.20	
52	Temperature Measurement panel	4	2450	1050	2800	7.20	2.00	7.20	
53	Temperature Measurement panel		2450	1050	2800	7.20	2.00	7.20	
54	Temperature Measurement panel		2450	1050	2800	7.20	2.00	7.20	
55	Temperature Measurement panel		2450	1050	2800	7.20	2.00	7.20	
56	Gauge panel	4	2450	1050	2800	7.20	2.00	7.20	
57	Gauge panel		2450	1050	2800	7.20	2.00	7.20	
58	Gauge panel		2450	1050	2800	7.20	2.00	7.20	
59	Gauge panel		2450	1050	2800	7.20	2.00	7.20	
60	Loose items and other miscellaneous items for UCB	15	850	1050	2500	2.23	0.50	2.23	
61	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
62	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
63	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
64	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
65	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
66	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
67	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
68	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
69	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
70	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
71	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
72	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
73	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
74	Loose items and other miscellaneous items for UCB		850	1050	2500	2.23	0.50	2.23	
75	RTU/RIO for SS	1	1350	1050	2750	3.90	1.00	3.90	
76	RTU/RIO for BFV	1	1350	1050	2750	3.90	1.00	3.90	
77	RTU/RIO for TRT	1	1350	1050	2750	3.90	1.00	3.90	
78	RTU/RIO for Colony Offices at power house	1	1350	1050	2750	3.90	1.00	3.90	
79	LCB for Common Control Panel with Built-in HMI	1	3950	1050	2500	10.37	2.50	10.37	

80	LCB for 400kV Switchyard with builin HMI alongwith all necessary auxiliaries	1	3950	1050	2500	10.37	2.50	10.37
81	Loose items for RTUs and LCBs	10	850	1050	2500	2.23	1.00	2.23
82	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
83	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
84	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
85	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
86	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
87	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
88	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
89	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
90	Loose items for RTUs and LCBs		850	1050	2500	2.23	1.00	2.23
91	HMI Network Panel	1	850	1050	2500	2.23	1.00	2.23
92	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)	10	1350	1050	1500	2.13	0.50	2.13
93	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
94	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
95	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
96	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
97	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
98	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
99	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
100	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
101	HMI Accessories (OWS for all locations, EWS, PC's, Laptops, Printers, Online data storage & retrieval system, Plant computers, routers, gateways, printers ,Power house LAN , etc)		1350	1050	1500	2.13	0.50	2.13
102	Online Data Storage and Retrieval System	2	1350	1050	1500	2.13	0.50	2.13
103	Online Data Storage and Retrieval System		1350	1050	1500	2.13	0.50	2.13
104	Energy Accounting System (PCs ,Servers, Softwares, and ABT typ energy meter)	2	1350	1050	1500	2.13	0.50	2.13
105	Energy Accounting System (PCs ,Servers, Softwares, and ABT typ energy meter)		1350	1050	1500	2.13	0.50	2.13
106	Training Simulator Software & Hardware	2	1350	1050	1500	2.13	0.50	2.13
107	Training Simulator Software & Hardware		1350	1050	1500	2.13	0.50	2.13
108	Misc HMI Loose items	5	2000	1500	2400	7.20	0.50	7.20
109	Misc HMI Loose items		2000	1500	2400	7.20	0.50	7.20
110	Misc HMI Loose items		2000	1500	2400	7.20	0.50	7.20
111	Misc HMI Loose items		2000	1500	2400	7.20	0.50	7.20
112	Misc HMI Loose items		2000	1500	2400	7.20	0.50	7.20
113	GPS - Panels	10	1400	1000	2400	3.36	0.50	3.36
114	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
115	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
116	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
117	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
118	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
119	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
120	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
121	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
122	GPS - Panels		1400	1000	2400	3.36	0.50	3.36
123	GPS - Eletronics with Slave clock system	5	1350	1050	1500	2.13	0.50	2.13
124	GPS - Eletronics with Slave clock system		1350	1050	1500	2.13	0.50	2.13
125	GPS - Eletronics with Slave clock system		1350	1050	1500	2.13	0.50	2.13
126	GPS - Eletronics with Slave clock system		1350	1050	1500	2.13	0.50	2.13
127	GPS - Eletronics with Slave clock system		1350	1050	1500	2.13	0.50	2.13
128	GPS- Cable Drums	25	850	850	450	0.33	0.50	0.50
129	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
130	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
131	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
132	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
133	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
134	GPS- Cable Drums		850	850	450	0.33	0.50	0.50

on stackable closed storage

135	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
136	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
137	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
138	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
139	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
140	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
141	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
142	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
143	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
144	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
145	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
146	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
147	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
148	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
149	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
150	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
151	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
152	GPS- Cable Drums		850	850	450	0.33	0.50	0.50
153	GPS - Other Misc Loose items	5	1350	1050	1500	2.13	0.50	2.13
154	GPS - Other Misc Loose items		1350	1050	1500	2.13	0.50	2.13
155	GPS - Other Misc Loose items		1350	1050	1500	2.13	0.50	2.13
156	GPS - Other Misc Loose items		1350	1050	1500	2.13	0.50	2.13
157	GPS - Other Misc Loose items		1350	1050	1500	2.13	0.50	2.13
158	LVS System (Screen)	4	2000	1500	1500	4.50	1.00	4.50
159	LVS System (Screen)		2000	1500	1500	4.50	1.00	4.50
160	LVS System (Screen)		2000	1500	1500	4.50	1.00	4.50
161	LVS System (Screen)		2000	1500	1500	4.50	1.00	4.50
162	LVS System (other loose items)	10	850	850	500	0.36	0.50	0.50
163	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
164	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
165	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
166	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
167	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
168	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
169	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
170	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
171	LVS System (other loose items)		850	850	500	0.36	0.50	0.50
172	LVS System (Electronics)	5	1350	1050	1500	2.13	0.30	2.13
173	LVS System (Electronics)		1350	1050	1500	2.13	0.30	2.13
174	LVS System (Electronics)		1350	1050	1500	2.13	0.30	2.13
175	LVS System (Electronics)		1350	1050	1500	2.13	0.30	2.13
176	LVS System (Electronics)		1350	1050	1500	2.13	0.30	2.13
177	Fiber Optic Cable drums	45	850	850	350	0.25	0.30	0.30
178	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
179	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
180	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
181	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
182	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
183	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
184	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
185	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
186	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
187	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
188	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
189	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
190	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
191	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
192	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
193	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
194	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
195	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
196	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
197	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
198	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
199	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
200	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
201	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
202	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
203	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
204	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
205	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
206	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
207	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
208	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
209	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
210	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
211	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
212	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
213	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
214	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
215	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
216	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
217	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
218	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
219	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30
220	Fiber Optic Cable drums		850	850	350	0.25	0.30	0.30

[illegible]

ANNEXURE VII
4 X 225 MW Arun-3 HEP, Nepal
Tentative package details Jhansi

Sl No.	Box No.	Package Description	L (mm)	B (mm)	H (mm)	weight	CBM	FRT	Remarks
1		2500KVA, 11/0.433KV (SST)	3100	2500	3250	8750	71.09	3250	Transformer with Enclosure with base wooden pallet for transportation
2		2500KVA, 11/0.433KV (SST)	3100	2500	3250	8750	71.09	3250	Transformer with Enclosure with base wooden pallet for transportation
3		Spares - 2500KVA, 11/0.433KV (SST)	500	500	500	100	0.03	500	With complete wooden packing for transportation
4		250KVA, 33/0.433KV (SST)	3350	3100	3100	5250	50.45	3100	Transformer with Enclosure with base wooden pallet for transportation
5		250KVA, 33/0.433KV (SST)	3350	3100	3100	5250	50.45	3100	Transformer with Enclosure with base wooden pallet for transportation
6		250KVA, 33/0.433KV (SST)	3350	3100	3100	5250	50.45	3100	Transformer with Enclosure with base wooden pallet for transportation
7		Spares - 250KVA, 33/0.433KV (SST)	500	500	500	100	0.03	500	With complete wooden packing for transportation
8		3150KVA, 33/11KV (IDT)	4000	3400	3300	13750	154.28	3300	Transformer with Enclosure with base wooden pallet for transportation
9		3150KVA, 33/11KV (IDT)	4000	3400	3300	13750	154.28	3300	Transformer with Enclosure with base wooden pallet for transportation
10		Spares - 3150KVA, 33/11KV (IDT)	500	500	500	100	0.03	500	With complete wooden packing for transportation
11		630KVA, 33/0.433KV (SST)	3350	3100	3100	5750	55.26	3100	Transformer with Enclosure with base wooden pallet for transportation
12		630KVA, 33/0.433KV (SST)	3350	3100	3100	5750	55.26	3100	Transformer with Enclosure with base wooden pallet for transportation
13		Spares - 630KVA, 33/0.433KV (SST)	500	500	500	100	0.03	500	With complete wooden packing for transportation
14		630KVA, 15.75/0.433KV (UAT)	3800	2200	3100	4750	32.40	3100	Transformer with Enclosure with base wooden pallet for transportation
15		630KVA, 15.75/0.433KV (UAT)	3800	2200	3100	4750	32.40	3100	Transformer with Enclosure with base wooden pallet for transportation
16		630KVA, 15.75/0.433KV (UAT)	3800	2200	3100	4750	32.40	3100	Transformer with Enclosure with base wooden pallet for transportation
17		630KVA, 15.75/0.433KV (UAT)	3800	2200	3100	4750	32.40	3100	Transformer with Enclosure with base wooden pallet for transportation
18		Spares - 630KVA, 15.75/0.433KV (UAT)	500	500	500	100	0.03	500	With complete wooden packing for transportation
19		5000KVA, 15.75/11KV (SAT)	4000	3050	3650	15250	169.77	3650	Transformer with Enclosure with base wooden pallet for transportation
20		5000KVA, 15.75/11KV (SAT)	4000	3050	3650	15250	169.77	3650	Transformer with Enclosure with base wooden pallet for transportation
21		Spares - 5000KVA, 15.75/11KV (SAT)	500	500	500	100	0.03	500	With complete wooden packing for transportation
22		1680KVA, 15.75/0.415KV (ET)	2500	1500	2800	7000	29.40	2800	Transformer without Enclosure with complete wooden packing for transportation
23		1680KVA, 15.75/0.415KV (ET)	2500	1500	2800	7000	29.40	2800	Transformer without Enclosure with complete wooden packing for transportation
24		1680KVA, 15.75/0.415KV (ET)	2500	1500	2800	7000	29.40	2800	Transformer without Enclosure with complete wooden packing for transportation
25		1680KVA, 15.75/0.415KV (ET)	2500	1500	2800	7000	29.40	2800	Transformer without Enclosure with complete wooden packing for transportation
26		Spare - 1680KVA, 15.75/0.415KV (ET)	2500	1500	2800	7000	29.40	2800	Transformer without Enclosure with complete wooden packing for transportation
		Total				157350	1328.88	65300	

Note: For Storage: Dry type transformers (all types with & without enclosure) is "INDOOR".

"OUTDOOR" STORAGE IS RESTRICTLY AVOIDED

ANNEXURE VIII
Tentative packing list PEM

S.No.	Box No.	Package Description	Dimension			CBM	Weight	Remark
			L (mm)	B (mm)	H (mm)		(MT)	
1		Trolley Assembly Complete	8900	5400	2500	120.2	30 T (part 1)+ 10T (part II)	Loose. Refer Note
2		Main Girder 1A	6200	1000	2600	16.1	4.5	Loose
3		Main Girder 1B	9500	1200	2600	29.6	10	Loose
4		Main Girder 1C	5700	1000	2600	14.8	4	Loose
5		Main Girder 2A	6200	1000	2600	16.1	4.5	Loose
6		Main Girder 2B	9500	1200	2600	29.6	10	Loose
7		Main Girder 2C	5700	1000	2600	14.8	4	Loose
8		LT Machinery + Machinery platform - I	2500	1200	1300	3.9	1.2	Crate
9		LT Machinery + Machinery platform - II	2500	1200	1300	3.9	1.2	Crate
10		LT Machinery + Machinery platform - III	2500	1200	1300	3.9	1.2	Crate
11		LT Machinery + Machinery platform - IV	2500	1200	1300	3.9	1.2	Crate
12		Balancer with 2 Nos Bogies with 4 Wheels - I	2900	1400	500	2.0	3.4	Loose
13		Balancer with 2 Nos Bogies with 4 Wheels - II	2900	1400	500	2.0	3.4	Loose
14		Balancer with 2 Nos Bogies with 4 Wheels - III	2900	1400	500	2.0	3.4	Loose
15		Balancer with 2 Nos Bogies with 4 Wheels - IV	2900	1400	500	2.0	3.4	Loose
16		Tie Box - I	4500	5500	400	9.9	0.9	Loose
17		Tie Box - II	4500	5500	400	9.9	0.9	Loose
18		Cabin with lugs	2500	1700	2500	10.6	2.5	Loose
19		Maintenance Cage	1000	1000	2200	2.2	0.4	Loose
20		Hoist cage	3200	2000	2500	16.0	1	Loose
21		Platforms Brackets	-	-	-		2.5	Loose
22		Platforms Chequered Plate	-	-	-		2	Loose
23		Festoon Track	-	-	-		1.5	Loose
24		Electric panels & fittings	-	-	-		4	Loose
25		Monorail Hoist	2000	1200	1000	2.4	3.5	Loose

26		Monorail Hoist Beam (Total 11m)	-	-	-		0.8	Loose
27		Misc	-	-	-		3	Loose
28		Lifting Beam part I	4000	2800	2500	28.0	7	Loose
29		Lifting Beam part II	8000	2800	2500	56.0	13	Loose
30		LT Rail CR-100 /6 m Length (approx) Piecex 52 nos. + Rail Clamps + Stoppers	-	-	-		30	Loose
<p>Note: Despatch of assembled trolley at works (40T) shall be dismantled for MH,AH machinery assembly prior to vehicle loading for transport to get less than 30T weight of the trolley frame on transport vehicle as part 1 of crab. MH and AH machinery assembly shall be seperatly packed as part 2 of crab in crates for re-assembly at site.</p>								

EOT Cranes:	
PPV area crane:	
1 no. 150/30T capacity, 12.5m lift, 10.5m span, 82.05m baylength.	
Total erection weight for PPV area crane- 85 tons apporx. (including crane, rail & DSL)	
Transformer Cavern area:	
1 no. 100/20T capacity, 11 m lift, 14.5m span, 17.84m baylength	
Total erection weight for Transformer area crane- 75 tons apporx (including crane, rail & DSL)	
Workshop area crane:	
1 no. 50/10T capacity, 12m lift, 10m span, 32m baylength.	
Total erection weight for PPV Workshop area crane- 40 tons approx. (including crane, rail & DSL)	
Illumination System:	
1. Tentative weight to be considered for illumination system is approx. 275 MT	
2. Illumination system contains various items of different dimension. However dimensions of few heavy items are :	
i. Lighting Distribution Board – 2200 L x 1200 W x 2200 H	
ii. Street light poles – 9 M / 11 M	
iii. Vehicle mounted platform with ladder – dimension can informed after placement of order	
HVAC Package:	
Total Weight in Tons (Approx.) = 240	
Total (MT) 883.4	
<i>Please note that these packages have not been ordered and the given weights are tentative.</i>	
Note: All illumination items to be stored in closed storage.	

ANNEXURE IX Project: Arun-3 HEP, Nepal Tentative packing list PE&SD									
SL. NO.	BRIEF DESCRIPTION	UNIT	QTY.	Dimension (approx.)			UNIT WEIGHT (Kg)	TOTAL WEIGHT (Kg)	REMARKS
				L (m)	B (m)	H (m)			
A	Hydrant System for Power House Building								
1	Hydrant & Spray Pipes: MS ERW								
1.1	200 NB	Mtrs.	2340				43	100620	
1.2	150 NB	Mtrs.	3140				30	94200	
1.3	100 NB	Mtrs.	225				17	3825	
1.4	80 NB	Mtrs.	200				11	2200	
2	Gate Valves								
2.1	200 NB	Nos.	20	0.4	0.2	0.4	215	4300	
2.2	150 NB	Nos.	50	0.4	0.15	0.4	82	4100	
2.3	100 NB	Nos.	25	0.3	0.1	0.4	48	1200	
2.4	80 NB	Nos.	8	0.3	0.1	0.4	30	240	
3	Pipe Fittings and accessories	Lot	1	5	5	4	37923	37923	
4	S.S. Hydrant Valve as per IS:5290, Type-A-Internal	Nos.	48	0.2	0.1	0.2	5	240	
5	S.S. Hydrant Valve as per IS:5290, Type-A-External	Nos.	40	0.2	0.1	0.2	5	200	
6	15 Mtr. Long Hose with S.S. Coupling as per IS:636	Nos.	80	0.5	0.5	0.2	15	1200	
7	7.5 Mtr. Long Hose with S.S. Coupling as per IS:636	Nos.	96	0.4	0.4	0.2	15	1440	
8	S.S. Branch Pipe with Nozzle .	Nos.	88	0.4	dia-0.15		10	880	
9	M.S. Hose Cabinet - External	Nos.	40	0.75	0.25	0.6	10	400	
10	M.S. Hose Cabinet - Internal	Nos.	48	0.75	0.25	0.6	10	480	
11	Fire hose reel swinging wall mounting type MS drum	Nos.	20	0.75	0.75	0.75	25	500	
12	Air relief valve 25 NB	Nos.	8	0.25	0.25	0.25	2	16	
13	Wrapping & Coating with Anti Corrossion tape (4 mm thick) in two layers as per IS : 10221	M2	500	1	1	0.04	0.35	175	Owing to shelf life, storage space consumption and progressive procurement are required depending on site progress, therefore supply of Wrapping and coating and Paint material shall be in scope of PS- Region.
B	MVWS System for : (i) Cable Tunnel and cable trays, (ii) Governor/MIV OPU , (iii) Oil tanks of DG sets								
1	MS ERW Galvanized to IS:1239, Part-1, Medium grade; Galvanized as per IS: 4736								
1.1	150 NB	Mtrs.	0					0	
1.2	100 NB	Mtrs.	900				15	13050	
1.3	80 NB	Mtrs.	0				10	0	
1.4	65 NB	Mtrs.	0					0	
1.5	50 NB	Mtrs.	2500				6	15475	
1.6	40 NB	Mtrs.	0					0	
1.7	25 NB	Mtrs.	510					0	
1.8	25 NB (MS FOR DETECTION)	Mtrs.	600					0	
2	ERW, MS black pipe as per IS:1239 Part-1 medium grade (For Pylon Support)								
2.1	150 NB	No.	0					0	
2.2	100 NB	No.	0					0	

2.3	80 NB	No.	0					0	
3	Gate Valve								
3.1	150 NB	No.	0					0	
3.2	100 NB	No.	52	0.4	0.15	0.2	43.9	2282	
3.3	80 NB	No.	0					0	
4	Cast Iron Wafer Type Butterfly Valves as per BS :5155								
4.1	150 NB	NA	0					0	
4.2	100 NB	NA	26	0.4	0.15	0.2	39.0	1014	
4.3	80 NB	NA	0					0	
5	Deluge Valve (Wet Pilot Actuated) complete with necessary Trims,Water Motor gong								
5.1	150 NB	No.	0					0	
5.2	100 NB	No.	26	0.3	0.5	0.6	77.0	2002	
5.3	80 NB	No.	0					0	
6	Y Strainer								
6.1	150 NB	No.	0					0	
6.2	100 NB	No.	26	0.45	0.1	0.5	28.0	728	
6.3	80 NB	No.	0					0	
7	MVW SPRAY NOZZLE (SS Construction)								
7.1	K-18	No.	0					0	
7.2	K-22 ANGLE-140°	No.	1280	0.03	0.03	0.05	0.2	192	
7.3	K-30	No.	0					0	
7.4	K-35	No.	0					0	
8	QB Detector (79 Deg C)	No.	0					0	
9	Pressure Switch	No.	52	0.1	0.1	0.1	0.3	13	
10	Limit Switch	No.	0					0	
11	15 NB Solenoid Valve	No.	26	0.04	0.04	0.06	1.5	39	
12	DV Local Control Panel	Nos	26	0.25	0.25	0.2	5.0	130	
13	2 C x1.5 mm2 Armoured Control Cabling As per IS:1554 Part 1)	Mtrs	0					0	
14	2 C x1.5 mm2 Armoured Control Cabling As per IS:1554 Part 1)	Mtrs	0					0	
15	SS Orifice Plate								
15.1	150 NB	Nos.	2	dia: 150	thick : 3		0.5	1	
15.2	100 NB	Nos.	2	dia: 150	thick : 3		0.35	1	
15.3	80 NB	Nos.	2	dia: 150	thick : 3		0.25	1	
16	Cabling Accessories								
16.1	Gland (2 Nos for each cable)	NOS	52	0.05	0.05	0.05	0.1	5	
16.2	Lug (4 Nos for each cable)	NOS	104	0.05	0.05	0.05	0.1	10	
17	Pipe Fittings and Accessories	Lot	1	5	2	2	8638	8638	
C	HVWS System for at Transformer Caveran								
1	MS ERW Galvanized to IS:1239, Part-1, Medium grade; Galvanized as per IS: 4736								
1.1	150 NB	Mtrs.	0					0	
1.2	100 NB	Mtrs.	250				14.5	3625	
1.3	80 NB	Mtrs.	0				9.9	0	
1.4	65 NB	Mtrs.	0				7.93	0	
1.5	50 NB	Mtrs.	1500				6.19	9285	
1.6	40 NB	Mtrs.	0				4.37	0	
1.7	32 NB	Mtrs.	0						
1.8	25 NB	Mtrs.	1500				2.93	4395	
2	ERW, MS black pipe as per IS:1239 Part-1 medium grade (For Pylon Support)								
2.1	80 NB	Mtrs.	0					0	
2.2	65 NB	Mtrs.	750				13	9750	
2.3	50 NB	Mtrs.	0				8	0	
2.4	40 NB	Mtrs.	0				5	0	
3	Gate Valve								
3.1	150 NB	No.	0						
3.2	100 NB	No.	30	0.4	0.15	0.4	43.88	1316	
3.3	80 NB	No.	0					0	
4	Cast Iron Wafer Type Butterfly Valves as per BS :5155								
4.1	150 NB	NA	0						
4.2	100 NB	NA	15	0.4	0.15	0.2	39	585	
4.3	80 NB	NA	0						

5	Deluge Valve (Wet Pilot Actuated) complete with necessary Trims,Water Motor gong								
5.1	150 NB	No.	0					0	
5.2	100 NB	No.	15	0.3	0.5	0.2	77	1155	
5.3	80 NB	No.	0					0	
6	Y Strainer								
6.1	150 NB	No.	0					0	
6.2	100 NB	No.	15	0.45	0.1	0.2	28	420	
6.3	80 NB	No.	0					0	
7	HVW SPRAY NOZZLE with Strainer(SS Construction)								
7.1	K-23 Angle - 120	No.	0					0	
7.2	K-26 Angle - 100	No.	0					0	
7.3	K-42 Angle - 115	No.	0					0	
7.4	K-18 Angle - 80	No.	823	0.03	0.03	0.05	0.15	123	
8	Q. B . Detector 79 degree	No.	443	0.03	0.03	0.05	0.11	49	
9	Pressure Switch	No.	52	0.1	0.1	0.1	0.25	13	
10	Limit Switch	No.	0						
11	15 NB Solenoid Valve	No.	26	0.04	0.04	0.06	1.5	39	
12	DV Local Control Panel	Nos	26	0.25	0.25	0.2	5	130	
13	2 C x1.5 mm2 Armoured Control Cabling As per IS:1554 Part 1)	Mtrs	0					0	
14	2 C x2.5 mm2 Armoured Control Cabling As per IS:1554 Part 1)	Mtrs	0					0	
15	SS Orifice Plate								
15.1	150 NB	No.	2	dia: 0.15	thick : 3		0.5	1	
15.2	100 NB	No.	5	dia: 0.1	thick : 3		0.35	2	
15.3	80 NB	No.	3	dia: 0.08	thick : 3		0.25	1	
16	Cabling Accessories								
16.1	Gland (2 Nos for each cable)	Nos.	30	0.05	0.05	0.05	0.1	3	
16.2	Lugs (4 Nos for each cable)	Nos.	60	0.05	0.05	0.05	0.1	6	
17	Pipe Fittings and Accessories	Lot	1	5	2	2	9159	9159	
D	Paint and Structural matrl.								
1	Paint Material for total FPS								Owing to shelf life, storage space consumption and progressive procurement are required depending on site progress, therefore supply of Paint material shall be in scope of PS- Region.
1.1	Primer coat (1 coat)	Ltrs	450				1	450	
1.2	Intermediate coat (2 coats)	Ltrs	650				1	650	
1.3	Finish coats	Ltrs	350				1	350	
1.4	Thinners	Ltrs	150				1	150	
2	M.S. Channel and Angles								
2.1	ISMC 100	Mtrs	20	0.65	thick : 6		14	280	
2.2	ISA 75	Mtrs	600	1500	thick : 6		11	6600	
2.3	65 X 65 X 6 MM THIK	Mtrs	150	150	thick : 6		5	750	
2.4	50 X 50 X 6 MM THIK	Mtrs	800	1200	thick : 6		4	3200	
2.5	40 X 40 X 6 MM THIK	Mtrs	600	600	thick : 6		3.5	2100	
3	M.S. PLATE								
3.1	200 X 100 X 10 MM THIK	Nos.	250	0.2	0.1	0.01	2	500	
3.2	200 X 200 X 10 MM THIK	Nos.	250	0.2	0.2	0.01	2.5	625	
3.3	600 X 100 X 10 MM THIK	Nos.	25	0.6	0.1	0.01	2.8	70	
3.4	150 X 150 X 10 MM THIK	Nos.	2100	0.15	0.15	0.01	2	4200	
3.5	150 X 75 X 6 MMTHIK	Nos.	200	0.15	0.075	0.006	1.5	300	
3.6	75 X 75 X 6 MM THIK	Nos.	120	0.075	0.075	0.006	0.65	78	
E	Fire Detection and Alarm System								
1	Main Fire Alarm Panel	No.	1	0.8	0.8	1.2	100	100	
2	Repeater Panel	No.	1	0.5	0.1	0.3	20	20	
3	Addressable Multisensor Detector	Nos.	280	0.12	0.12	0.07	0.2	56	
4	Addressable Heat Detector	Nos.	6	0.12	0.12	0.07	0.2	1	
5	Aspirator Detector	Nos.	4	0.5	0.3	0.1	0.2	1	
6	Beam Detector	Nos.	18	0.1	0.15	0.1	0.3	5	

7	Manual Call Point (Indoor)	Nos.	90	0.1	0.7	0.1	0.2	18
8	Manual Call Point (Outdoor)	Nos.	5	0.1	0.7	0.1	0.2	1
9	Hooter	Nos.	49	0.07	0.05	0.15	0.25	12
10	Control Module (NAC)	Nos.	42	0.1	0.1	0.05	0.1	4
11	Control Module (Relay)	Nos.	54	0.1	0.1	0.05	0.1	5
12	Monitor Module	Nos.	124	0.1	0.1	0.05	0.1	12
13	Isolator Module	Nos.	25	0.1	0.1	0.05	0.1	3
14	EXIT SIGN BOARD	Nos.	28	0.3	0.2	0.05	0.2	6
15	Cable (2C x 1.5 sq. mm., armoured) Fire Survival	Mtrs.	13000	dia: 0.016			0.15	1950
16	Cable (2C x 2.5 sq. mm., armoured) Fire Survival	Mtrs.	10000	dia: 0.016			0.15	1500
17	Digital LHS Cable	Mtrs.	4900	dia: 0.015			0.15	735
18	Graphics Software	Nos.	1				0	0
19	P.C & Printer	Nos.	1	1	0.5	0.25	50	50
20	Siren	Nos.	1	0.1	0.1	0.1	50	50
21	Response Indicator	Nos.	1	0.07	0.07	0.05	0.1	0
22	Fire man suit	Nos.	5	0.1	0.1	0.1	5	25
23	Breathing apparatus	Nos.	5	0.1	0.1	0.1	10	50
24	External power supply	Nos.	7	0.1	0.1	0.1	1	7
G	Inert Gas Extinguishing System							
1	Inert Gas Cylinder with pneumatic valve	Nos.	46	2	dia: .25		255	11730
2	Discharge Hose	Nos.	46	20 NB dia of 700 mm length			0.9	41
3	Check Valve	Nos.	46	20 NB dia valve of 100 mm			0.2	9
4	Contact Pressure Gauge Unit	Nos.	42	0.07	0.10	0.06	0.7	29
5	Release Unit with Solenoid, CPG & Actuator	Nos.	4	0.20	0.20	0.15	2.5	10
6	Leak / Bleeder unit	Nos.	4	0.05	0.05	0.03	0.08	0
7	Non Return Valve	Nos.	2	15 NB dia valve of 50 mm			0.1	0
8	Hi-flex hoses	Nos.	50	20 NB dia of 700 mm length			0.32	16
9	Ball Valve with dual action pneumatic actuator	Nos.	2	0.15	0.12	0.18	17	34
10	Pressure Relief device	Nos.	1	25 NB dia valve of 60 mm			0.37	0
11	Pressure Gauge	Nos.	1	0.12	0.10	0.05	0.6	1
12	Discharge Nozzle	Nos.	150	0.10	0.10	0.10	0.67	101
13	Pressure Regulator	Nos.	1	0.15	0.15	0.08	4	4
14	Solenoid valve	Nos.	4	0.10	0.08	0.05	0.3	1
15	Restrictor	Nos.	4	0.90	0.90	0.90	3.6	14
16	T-Piece for Pilot Line	Nos.	42	0.05	0.05	0.03	0.125	5
17	Cros for Pilot Line	Nos.	4	0.05	0.05	0.03	0.2	1
18	Pipes							
18.1	100 NB	Mtrs.	36				16.07	579
18.2	80 NB	Mtrs.	120				11.3	1356
18.3	65 NB	Mtrs.	6				8.63	52
18.4	50 NB	Mtrs.	48				5.44	261
18.5	40 NB	Mtrs.	42				4.05	170
18.6	25 NB	Mtrs.	24				2.5	60
18.7	20 NB	Mtrs.	36				1.69	61
18.8	15 NB	Mtrs.	6				1.3	8
19	Pipe Fittings	Lot	1				1500	1500
20	Pipe Supports	Lot	1				1500	1500
21	Cylinder Manifolds 100NB pipe (ASTM A 106 Gr.B SCH-XXS)	Mtrs.	12				42.2	506
22	DV manifold	Nos.	1	1.60	0.20	0.06	10	10
23	Pilot Line Manifold	No.	1	1.60	0.20	0.06	1000	1000
24	Structural Steel for Cyl. Mounting Frame Bracket	kg	1500	3.00	2.00	1.50	1500	1500
25	Gas Release Panel	Nos.	1	1.00	0.65	0.45	150	150
26	Ni-Cad batteries	Nos.	1	0.80	0.80	0.40	10	10
27	Pressure Operated Switch	Nos.	2	0.16	0.10	0.50	1	2
28	Pressure Relief Vent	Nos.	4	0.40	0.40	0.10	2	8
29	Gas Discharge EPB	Nos.	2	0.1	0.7	0.1	5	10
30	Inhibitor unit	Nos.	2	0.1	0.7	0.1	5	10
31	Discharge Indicator	Nos.	2	0.1	0.7	0.1	5	10
32	Pre-Discharge Indicator	Nos.	2	0.1	0.7	0.1	5	10
33	Warning sign	Nos.	4	0.1	0.7	0.1	0.5	2
34	Junction box	Nos.	3	0.40	0.40	0.10	10	30
35	Cables	Mtrs.	800	dia:0.016			0.25	200

Since these items are Electronic components, the same may be stored in closed store

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[illegible]

ANNEXURE X Project: Arun-3 HEP, Nepal
Tentative packing list TBG

S.No.	Box No.	Package Description	Dimension			Weight (MT)	Remark
			L (mm)	B (mm)	H (mm)		
1		GIS -Indoor	5898.0	2352.0	2394.0	24.0	Shall comprise of packaged boxed of alongside dimension
2		GIS _Outdoor	5898.0	2352.0	2394.0	24.0	Shall comprise of packaged Aluminium Ducts under 6 Mtrs length
3		400kV Cable	5000.0	5000.0	3000.0	12.0	Drums of 5mtrx 5mt x3 mtr
4		400kV Cable Accessories	4000	2000	2000	2	shall comprise of bundled GI angle , boxes of anchor bolts approximate wt under 1 tonne, multiple clamps boxes under 100kG
5		Illumination				2	Illumination system contains various items of different dimension. However dimensions of few heavy items are : Lighting Distribution Board – 2200 L x 1200 W x 2200 H Street light poles – 9 M / 11 M
6		BPI	1500	500	500	2	
7		Wave Trap	2500	2500	1500	4.5	
8		CVT	4000	1000	1000	4.5	
9		Control,Monitoring and Metering System					
10		LA	4000	1000	1000	4.5	
11		Cables	2000	2000	1500	20	
12		Protection System	1000	1000	2500	1	
13		Trench Material	8000			5	Under 8 mtr pies of GI Angle Budled together
14		Marshalling Kiosk/JB					
15		Conductor					
16		DCDB	2500	1800	2500	2	
17		ACDB	2500	1800	2500	2	
18		Structures	8000	500	1000	50	Under 8 mtr pieces
19		Fire-Fighting System	14000	-	-	4	Pipes of maximum length 14 mtr -MS Pipe -100mm
20		Air Conditioning	2000	2000	2000	2	Packages of maximum dimension as mentioned alongside shall be sent
21		Ventillation	8000	2000	2000	3	Part items of less than 8mtrs pieces shall be comprised of GI sheets, Panels and MS pipe 100mm OD

SN	ITEM DESCRIPTION	ITEM SIZE (mm)			WEIGHT (Kg)	QUANTITY (No.)	TOTAL WEIGHT
		L	W	H			
1	92 MVA Generator Transformer	4100	3600	3850	75000	13	975000
2	80 MVR Shunt Reactor	6850	3400	3350	80000	3	240000
3	Bottom shaft	4500	2800	3400	53000	4	212000
4	Rotor spider	5700	2900	2500	45000	8	360000
5	Bottom bracket center	4800	4800	3000	38000	4	152000
6	B.F.Valve Door	7500	5520	2000	64500	4	258000
7	Spherical Valve Door	2850	3050	3500	44700	4	178800
8	Runner	4460	4460	1800	38000	4	152000
9	Shaft	5600	1800	1800	37500	4	150000
10	Spherical Valve D/S body	5100	5000	2500	35700	4	142800
							2820600