

संदर्भ/Ref : CC-ENGG-C2021001-1001422-T14221-4523-BMDC+9BE

Date : 26/04/2024

From : NITESH KUMAR SINHA
Senior DGM**To :** SKIPPER LTD.
3A loudon Street Kolkata 700017
700017**Cc :** ER**Subject :** Tower Package-TW01 for Indian Portion of New Butwal-Gorakhpur 400kV D/C (Quad) line
LOA Ref : 5002002333/CONSULTANCY GIVEN/DOM/A04-CC CS-5/NOA-I/01,NOA-II/02 Dated 13/06/2023

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE
Orgn. Drg. No. : C2021001-1001422-T14221-4523-BMDC+9BE
Revision No. : 00
Drg. Title : BILL OF MATERIAL FOR TT DC +9M BE FOR 400 kV D/C WZ-5 (ACSR MOOSE) TL
App. Category : CAT-I
Release Date : 26/04/2024



Scan to verify

Comments : ok**अनुमोदित श्रेणी/App. Category:**

- I. फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु जारी।
Approved/released for fabrication/construction.
- II. फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु अनुमोदित/जारी बशर्ते दिए गए टिप्पणियाँ एवं आशोधनों की सम्मिलित किया जाये। कृपया रिवाइज्ड दस्तावेज अनुमोदनार्थ प्रस्तुत करें।
Approved/released for fabrication/ construction subject to incorporation of comments and modification as noted. Revised drawing required for approval.
- III. टिप्पणियाँ सम्मिलित करने के उपरांत दस्तावेज को अनुमोदनार्थ प्रस्तुत करें।
To be resubmitted for approval after incorporating the comments.
- IV. सूचनार्थ एवं रिकार्ड हेतु।
For information and record.
- CATREL/
REL-CON निर्माण हेतु जारी।
Released for construction.

नोट/Note:

1. Approval/Comments conveyed herein neither relieve the contractor of his contractual obligations and his responsibilities, weights, quantities, design details assemble fits, performance particulars and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limits the purchaser's right under the contract.
2. The approval conveyed vide this letter does not cover the approval of make for sub-vendor items.

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

NO. OF SHEET : 6

POWER GRID CORPORATION OF INDIA LTD.

(A Government of India Enterprise)

BILL OF MATERIALSINITIAL / FINAL
(GALVANIZED)

STRUCTURE UNIT : 400KV D/C "DC(0°-30°)/MKD "QDC5"

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

REF.DRG.NO. : C:ENGG:TL:4523-4ACSR-M-P-05 & 06 (SHEET 1/2 TO 2/2)

NOA No. : 5002002333/CONSULTANCY GIVEN/DOM/ A04-CC CS -5/NOA-I/01 Dated 13.06.2023 (Supply) & 5002002333/CONSULTANCY GIVEN/DOM/A04-CC-CS -5/NOA-II/02 Dated 13.06.2023 (Service)

LINE NAME : Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

NOTE FOR PREFIX	
SP4BDC XXX	FOR M.S
SP4BDC XXXH	FOR H.T

THIS BILL OF MATERIAL IS APPLICABLE FOR MANUFACTURE OF TOWERS
AT FACTORY OF SKIPPER LIMITED, HOWRAH

SUMMARY OF WEIGHTS

SL.NO.	DESCRIPTION	WEIGHT OF +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)	
1	WT.OF ALL (HT) MEMBERS IN KGS.	6738.96	
2	WT.OF ALL (MS) MEMBERS IN KGS.(INCL. PACK WASHERS)	2455.16	
3	WT.OF BOLT & NUTS IN KGS.	239.55	
	TOTAL WT. OF STRUCTURES IN KGS.	9433.67	
A	PROTO CORRECTED & SUCCESSFULLY TESTED AT M/s SKIPPER LTD. TEST BED DATED 19.04.24		22.04.2024 BKL
0	FIRST ISSUE		18.10.2023 BKL
REV. No.	DESCRIPTION	DATE	INITIAL
PREPARED BY:	CHECKED BY:	VERIFIED BY:	CONTRACTOR
P.KOLE	B.K.LAHA	S.B	SKIPPER LIMITED KOLKATA

WARNING : THIS IS PROPRIETARY ITEM AND DESIGN RIGHT IS STRICTLY RESERVED WITH POWERGRID.UNDER NO CIRCUMSTANCES
THIS DRAWING SHALL BE USED BY ANYBODY WITHOUT PRIOR PERMISSION FROM THE OWNER IN WRITING.

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

STRUCTURE : 400KV D/C "DC(0°-30°)/MKD "QDC5"

BILL OF MATERIALS

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
1	SP4BDC	1300H	HL250X250X18	200	5500	68.10	374.55	2	749.10	
2	SP4BDC	1301H	HL250X250X18		5500	68.10	374.55	2	749.10	
3	SP4BDC	1302H	HL250X250X18		4130	68.10	281.25	2	562.50	
4	SP4BDC	1303H	HL250X250X18		4130	68.10	281.25	2	562.50	
5	SP4BDC	1304H	HL200X200X15		810	45.60	36.94	8	295.52	
6	SP4BDC	1305H	H12 THK.		810	94.20	15.26	16	244.16	
7	SP4BDC	1306H	HL110X110X8		7000	13.40	93.80	2	187.60	
8	SP4BDC	1307H	HL110X110X8		7000	13.40	93.80	2	187.60	
9	SP4BDC	1308	L110X110X7		7000	11.80	82.60	2	165.20	
10	SP4BDC	1309	L110X110X7		7000	11.80	82.60	2	165.20	
11	SP4BDC	1310H	HL110X110X8		7686	13.40	102.99	2	205.98	
12	SP4BDC	1311H	HL110X110X8		7686	13.40	102.99	2	205.98	
13	SP4BDC	1312	L110X110X7		7686	11.80	90.69	2	181.38	
14	SP4BDC	1313	L110X110X7		7686	11.80	90.69	2	181.38	
15	SP4BDC	1314H	HL100X100X6	90	346	9.26	3.20	2	6.40	
16	SP4BDC	1314XH	HL100X100X6		346	9.26	3.20	2	6.40	
17	SP4BDC	1315H	H6 THK.		346	47.10	1.47	8	11.76	
18	SP4BDC	1316X	L100X100X6		346	9.26	3.20	2	6.40	
19	SP4BDC	1316	L100X100X6	90	346	9.26	3.20	2	6.40	
20	SP4BDC	1317	6 THK.		346	47.10	1.47	8	11.76	
21	SP4BDC	1318H	HL45X45X4		584	2.75	1.61	4	6.44	
22	SP4BDC	1319H	HL45X45X4		584	2.75	1.61	4	6.44	
23	SP4BDC	1320H	HL45X45X4		1212	2.75	3.33	4	13.32	
24	SP4BDC	1321H	HL45X45X4		1212	2.75	3.33	4	13.32	
25	SP4BDC	1322H	HL50X50X4		1448	3.08	4.46	4	17.84	
26	SP4BDC	1323H	HL50X50X4		1448	3.08	4.46	4	17.84	
27	SP4BDC	1324H	HL70X70X4		2395	4.30	10.30	4	41.20	
28	SP4BDC	1325H	HL70X70X4		2395	4.30	10.30	4	41.20	
29	SP4BDC	1326H	HL65X65X5		2902	4.98	14.45	2	28.90	
30	SP4BDC	1326AH	HL65X65X5		2902	4.98	14.45	2	28.90	
31	SP4BDC	1327H	HL65X65X5		2902	4.98	14.45	2	28.90	
32	SP4BDC	1328H	HL65X65X5		2902	4.98	14.45	2	28.90	
33	SP4BDC	1329AH	HL80X80X5		3432	6.17	21.18	2	42.36	
34	SP4BDC	1329H	HL80X80X5		3432	6.17	21.18	2	42.36	
35	SP4BDC	1330H	HL80X80X5		3432	6.17	21.18	2	42.36	
36	SP4BDC	1331H	HL80X80X5		3432	6.17	21.18	2	42.36	
37	SP4BDC	1332	L45X45X4		3843	2.75	10.57	4	42.28	
38	SP4BDC	1333	L45X45X4		3843	2.75	10.57	4	42.28	
39	SP4BDC	1334H	HL45X45X4		1482	2.75	4.08	4	16.32	
40	SP4BDC	1335H	HL45X45X4		1482	2.75	4.08	4	16.32	
41	SP4BDC	1336	L50X50X4		2383	3.08	7.34	8	58.72	
42	SP4BDC	1337H	HL60X60X5		3547	4.58	16.25	4	65.00	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

STRUCTURE : 400KV D/C "DC(0°-30°)/MKD "QDC5"

BILL OF MATERIALS

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
43	SP4BDC	1338H	HL60X60X5		3547	4.58	16.25	4	65.00	
44	SP4BDC	1339H	HL55X55X4		1695	3.40	5.76	4	23.04	
45	SP4BDC	1340H	HL55X55X4		1695	3.40	5.76	4	23.04	
46	SP4BDC	1341H	HL75X75X5		5810	5.77	33.52	4	134.08	
47	SP4BDC	1342H	HL75X75X5		5810	5.77	33.52	4	134.08	
48	SP4BDC	1343H	HL75X75X5		5286	5.77	30.50	4	122.00	
49	SP4BDC	1344H	HL75X75X5		5286	5.77	30.50	4	122.00	
50	SP4BDC	1345H	HL60X60X5		2199	4.58	10.07	4	40.28	
51	SP4BDC	1346H	HL60X60X5		2199	4.58	10.07	4	40.28	
52	SP4BDC	1347	L45X30X4		1014	2.27	2.30	4	9.20	
53	SP4BDC	1348	L45X30X4		1014	2.27	2.30	4	9.20	
54	SP4BDC	1349	L45X45X4		3224	2.75	8.87	4	35.48	
55	SP4BDC	1350	L45X45X4		3224	2.75	8.87	4	35.48	
56	SP4BDC	1351H	HL50X50X4		2278	3.08	7.02	4	28.08	
57	SP4BDC	1352H	HL50X50X4		2278	3.08	7.02	4	28.08	
58	SP4BDC	1353	L55X55X4		3032	3.40	10.31	4	41.24	
59	SP4BDC	1354	L55X55X4		3032	3.40	10.31	4	41.24	
60	SP4BDC	1355H	H6 THK.	122	243	47.10	1.40	4	5.60	
61	SP4BDC	1356H	H6 THK.	118	234	47.10	1.30	4	5.20	
62	SP4BDC	1357	5 THK.	125	146	39.25	0.72	8	5.76	
63	SP4BDC	1358	5 THK.	110	159	39.25	0.69	8	5.52	
64	SP4BDC	1359H	H8 THK.	187	274	62.80	3.22	8	25.76	
65	SP4BDC	1360	6 THK.	120	192	47.10	1.09	4	4.36	
66	SP4BDC	1361	6 THK.	120	192	47.10	1.09	2	2.18	
67	SP4BDC	1362	6 THK.	125	183	47.10	1.08	8	8.64	
68	SP4BDC	1390H	HL45X45X4		2080	2.75	5.72	4	22.88	
69	SP4BDC	1391	L45X45X4		3859	2.75	10.61	4	42.44	
70	SP4BDC	1392	L45X45X4		3859	2.75	10.61	4	42.44	
71	SP4BDC	1393	L60X60X4		7689	3.71	28.53	4	114.12	
72	SP4BDC	1394	L60X60X4		7689	3.71	28.53	4	114.12	
73	SP4BDC	1395	L50X50X4		2916	3.08	8.98	4	35.92	
74	SP4BDC	1396	L50X50X4		2916	3.08	8.98	4	35.92	
75	SP4BDC	1397	L45X30X4		1314	2.27	2.98	4	11.92	
76	SP4BDC	1398	L45X30X4		1314	2.27	2.98	4	11.92	
77	SP4BDC	1399	L60X60X4		5336	3.71	19.80	4	79.20	
78	SP4BDC	1400	L60X60X4		5336	3.71	19.80	4	79.20	
79	SP4BDC	1401	L60X60X4		3306	3.71	12.27	4	49.08	
80	SP4BDC	1402	L60X60X4		3306	3.71	12.27	4	49.08	
81	SP4BDC	1403	L60X60X4		4984	3.71	18.49	4	73.96	
82	SP4BDC	1404	L60X60X4		4984	3.71	18.49	4	73.96	
83	SP4BDC	1405	L45X30X4		1403	2.27	3.18	4	12.72	
84	SP4BDC	1406	L45X30X4		1403	2.27	3.18	4	12.72	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

STRUCTURE : 400KV D/C "DC(0°-30°)/MKD "QDC5"

BILL OF MATERIALS

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
85	SP4BDC	1407H	H5 THK.	110	165	39.25	0.71	8	5.68	
86	SP4BDC	1408	5 THK.	210	192	39.25	1.58	4	6.32	
87	SP4BDC	1409	5 THK.	210	192	39.25	1.58	4	6.32	
88	SP4BDC	1410	5 THK.	110	165	39.25	0.71	8	5.68	
89	SP4BDC	1411	5 THK.	121	191	39.25	0.91	4	3.64	
90	SP4BDC	1412	5 THK.	121	191	39.25	0.91	4	3.64	
91	SP4BDC	1413	5 THK.	110	208	39.25	0.90	4	3.60	
92	SP4BDC	1414	5 THK.	110	208	39.25	0.90	4	3.60	
93	SP4BDC	1415	5 THK.	121	215	39.25	1.02	4	4.08	
94	SP4BDC	1416	5 THK.	121	215	39.25	1.02	4	4.08	
95	SP4BDC	1417	5 THK.	110	195	39.25	0.84	4	3.36	
96	SP4BDC	1418	5 THK.	110	195	39.25	0.84	4	3.36	
97	SP4BDC	1419	5 THK.	100	107	39.25	0.42	8	3.36	
98	SP4BDC	1420	5 THK.	110	145	39.25	0.63	8	5.04	
99	SP4BDC	1421	5 THK.	140	174	39.25	0.96	4	3.84	
100	SP4BDC	1422	5 THK.	81	137	39.25	0.44	4	1.76	

PLAN AT +0M LEVEL

101	SP4BDC	1450H	HL110X110X8		5533	13.40	74.14	2	148.28	
102	SP4BDC	1451	L110X110X6		5533	10.20	56.44	2	112.88	
103	SP4BDC	1452H	HL110X110X8		7000	13.40	93.80	2	187.60	
104	SP4BDC	1453	L110X110X6		7000	10.20	71.40	2	142.80	
105	SP4BDC	1454H	HL110X110X8		5533	13.40	74.14	2	148.28	
106	SP4BDC	1455	L110X110X6		5533	10.20	56.44	2	112.88	
107	SP4BDC	1456H	HL100X100X6		346	9.26	3.20	4	12.80	
108	SP4BDC	1457H	H6 THK.	90	346	47.10	1.47	8	11.76	
109	SP4BDC	1458	L100X100X6		346	9.26	3.20	4	12.80	
110	SP4BDC	1459	6 THK.	90	346	47.10	1.47	8	11.76	
111	SP4BDC	1460H	H10 THK.	234	710	78.50	13.04	4	52.16	
112	SP4BDC	1461H	HL80X80X5		6400	6.17	39.49	4	157.96	
113	SP4BDC	1462H	HL80X80X5		6400	6.17	39.49	4	157.96	
114	SP4BDC	1463H	HL80X80X5		3736	6.17	23.05	4	92.20	
115	SP4BDC	1464H	HL80X80X5		3736	6.17	23.05	4	92.20	
116	SP4BDC	1465	L75X75X5		4097	5.77	23.64	4	94.56	
117	SP4BDC	1466H	HL80X80X5		6064	6.17	37.41	4	149.64	
118	SP4BDC	1467H	HL45X45X4		1455	2.75	4.00	4	16.00	
119	SP4BDC	1468H	HL50X50X4		2175	3.08	6.70	4	26.80	
120	SP4BDC	1469H	HL50X50X4		2175	3.08	6.70	4	26.80	
121	SP4BDC	1470H	HL45X45X4		1733	2.75	4.77	4	19.08	
122	SP4BDC	1471H	HL45X45X4		1733	2.75	4.77	4	19.08	
123	SP4BDC	1472H	HL45X45X4		1112	2.75	3.06	4	12.24	
124	SP4BDC	1473H	HL45X45X4		1112	2.75	3.06	4	12.24	
125	SP4BDC	1474H	HL80X80X5		592	6.17	3.65	4	14.60	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

STRUCTURE : 400KV D/C "DC(0°-30°)/MKD "QDC5"

BILL OF MATERIALS

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
126	SP4BDC	1475H	HL80X80X5		471	6.17	2.91	4	11.64	
127	SP4BDC	1476H	HL65X65X5		286	4.98	1.42	8	11.36	
128	SP4BDC	1477H	H6 THK.	60	286	47.10	0.81	16	12.96	
129	SP4BDC	1478	5 THK.	115	110	39.25	0.50	4	2.00	
130	SP4BDC	1479	6 THK.	113	240	47.10	1.28	4	5.12	
131	SP4BDC	1480H	H6 THK.	190	150	47.10	1.34	4	5.36	
TOTAL WT=									9193.46	

For MILD STEEL : (As Per IS : 2062, Designated Y.S. 250Mpa)

For HIGH TENSILE STEEL : (As Per IS:2062, Designated Y.S. 350Mpa)

LIST OF PACK WASHERS

4 THK. PACK WASHERS (For 16 Ø Bolt)	0.014	0	0.00	
5 THK. PACK WASHERS (For 16 Ø Bolt)	0.018	4	0.07	
6 THK. PACK WASHERS (For 16 Ø Bolt)	0.021	4	0.08	
8 THK. PACK WASHERS (For 16 Ø Bolt)	0.028	8	0.22	
10 THK. PACK WASHERS (For 16 Ø Bolt)	0.036	8	0.29	
12 THK. PACK WASHERS (For 16 Ø Bolt)	0.043	0	0.00	
TOTAL WT.			0.66	Kgs

WEIGHT OF STEEL MEMBERS

<u>A) TOTAL WT. OF HT STEEL FAB. MEMBER</u>	=	6738.96	Kgs
<u>B) TOTAL WT. OF MILD STEEL FAB. MEMBER</u>	=	2454.50	Kgs
<u>C) TOTAL WT. OF PACK WASHERS</u>	=	0.66	Kgs
GRAND TOTAL WT. OF FAB. MEMBER WITH PACK WASHERS (A+B+C)	=	9194.12	Kgs

				SKIPPER LIMITED
REV. No	REVISION	DATE	INITIAL	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

STRUCTURE : 400KV D/C "DC(0°-30°)/MKD "QDC5"

BILL OF MATERIALS

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

SL.No.	MARK No.	SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
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LIST OF BOLTS & NUTS CONFORMING TO IS:12427 WITH MECHANICAL PROPERTIES CONFORMING TO PROPERTY CLASS 5.6 FOR BOLTS AND CLASS 5.0 FOR NUTS.
LIST OF SPRING WASHERS (TYPE-B) AS PER IS:3063-1994, ELECTRO GALVD.

BOLT & NUTS

HRH BOLT / NUT FOR M16X35	0.119		326	38.79
HRH BOLT / NUT FOR M16X40	0.126		376	47.38
HRH BOLT / NUT FOR M16X45	0.134		284	38.06
HRH BOLT / NUT FOR M16X50	0.142		84	11.93
HRH BOLT / NUT FOR M16X55	0.150		40	6.00
HRH BOLT / NUT FOR M16X60	0.158		32	5.06
HRH BOLT / NUT FOR M16X65	0.164		8	1.31
HRH BOLT / NUT FOR M16X70	0.173		332	57.44
HRH BOLT / NUT FOR M16X75	0.180		20	3.60
HRH BOLT / NUT FOR M16X80	0.185		0	0.00
HRH BOLT / NUT FOR M16X85	0.193		0	0.00
HRH BOLT / NUT FOR M16X90	0.199		0	0.00
MS STD. SPR. WASHERS FOR M16 BOLTS	0.009		1502	13.52
STEP BOLTS OF 16X175MM DIA WITH 2 NUTS 1 S.W	0.374		44	16.46
TOTAL WT. OF HEXAGONAL BOLTS / NUTS , SPRING WASHERS STEP BOLT			=	239.55

Kgs

SUMMARY OF WEIGHTS

A) WT. OF MS MEMBERS	=	2454.50	Kgs
B) WT. OF PACK WASHERS	=	0.66	Kgs
C) WT. OF HT MEMBERS	=	6738.96	Kgs
D) WT. OF FAB MEMBERS (A+B+C)	=	9194.12	Kgs
E) WT. OF BOLT & NUTS	=	239.55	Kgs
F) TOTAL	=	9433.67	Kgs

REV. No	REVISION	DATE	INITIAL

SKIPPER LIMITED



Tower Package TW01 for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

STRUCTURE : 400KV D/C "DC(0°-30°)/MKD "QDC5"

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DC/+9MBE

PART : +9M BODY EXTENSION (INCLUDING COMMON PLAN @ +0M LVL)

SECTION ABSTRACT

MILD STEEL	WEIGHT (Kg)	HIGH TENSILE	WEIGHT (Kg)	MS. PLATE	WEIGHT
L40X40X3		HL45X30X4		2 THK.	
L40X40X4		HL45X30X5		3 THK.	
L40X40X5		HL45X45X4	173.68	4 THK.	
L40X40X6		HL45X45X5		5 THK.	74.96
L45X30X4	67.68	HL50X50X4	145.44	6 THK.	43.82
L45X30X5		HL50X50X5		8 THK.	
L45X45X4	240.40	HL55X55X4	46.08	10 THK.	
L45X45X3		HL55X55X5		12 THK.	
L45X45X5		HL60X60X4		14 THK.	
L45X45X6		HL60X60X5	210.56	16 THK.	
L50X50X3		HL60X60X6		20 THK.	
L50X50X4	130.56	HL65X65X4		22 THK.	
L50X50X5		HL65X65X5	126.96	25 THK.	
L50X50X6		HL65X65X6		32 THK.	
L55X55X4	82.48	HL70X70X4	82.40		
L55X55X5		HL70X70X5		TOTAL MS PLT.	118.78
L55X55X6		HL70X70X6			
L55X55X8		HL75X75X4		HT. PLATE	WEIGHT
L60X60X4	632.72	HL75X75X5	512.16	H5 THK.	5.68
L60X60X5		HL75X75X6		H6 THK.	52.64
L60X60X6		HL80X80X5	845.64	H8 THK.	25.76
L65X65X4		HL80X80X6		H10 THK.	52.16
L65X65X5		HL80X80X7		H12 THK.	244.16
L65X65X6		HL80X80X8		H14 THK.	
L80X80X5		HL90X90X5		H16 THK.	
L70X70X4		HL90X90X6		H20 THK.	
L70X70X5		HL90X90X7		H30 THK.	
L70X70X6		HL90X90X8			
L75X75X4		HL100X100X6	25.60	TOTAL HT PLT.	380.40
L75X75X5	94.56	HL100X100X7			
L90X90X5		HL110X110X7			
L90X90X6		HL110X110X8	1271.32		
L90X90X7		HL110X110X9			
L90X90X8		HL110X110X10			
L100X100X6	25.60	HL110X110X12			
L100X100X7		HL120X120X7			
L100X100X8		HL120X120X8			
L100X100X10		HL120X120X9			
L110X110X6	368.56	HL120X120X10			
L110X110X7	693.16	HL120X120X12			
L110X110X10		HL130X130X9			
L110X110X12		HL130X130X10			
L120X120X8		HL130X130X11			
		HL200X200X15	295.52		
		HL250X250X18	2623.20		
TOTAL	2335.72	TOTAL	6358.56		
		GRAND TOTAL =	9193.46		