

संदर्भ/Ref : CC-ENGG-C2021001-1001422-T14221-4521-BMDA+6BE

Date : 26/06/2024

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. :**Orgn. Drg. No. :** C2021001-1001422-T14221-4521-BMDA+6BE**Revision No. :** 00**Drg. Title :** BILL OF MATERIAL FOR TT DA +6M BE FOR 400 kV D/C WZ-5 (ACSR MOOSE) TL**App. Category :** CAT-I**Release Date :** 26/06/2024

Scan to verify

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

- फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु जारी।
Approved/released for fabrication/construction.
 - 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.
 - टिप्पणियाँ सम्मिलित करने के उपरांत दस्तावेज को अनुमोदनार्थ प्रस्तुत करें।
To be resubmitted for approval after incorporating the comments.
 - सूचनार्थ एवं रिकार्ड हेतु।
For information and record.
- CATREL/ निर्माण हेतु जारी।
REL-CON **Released for construction.**

नोट/Note:

- 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.
- The approval conveyed vide this letter does not cover the approval of make for sub-vendor items.

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DA/+6MBE

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 "DA(0°-2°) MKD"G507 DA"

PART : +6.0M BODY EXTN.

REF.DRG.NO. : C:ENGG:TL:4524-4ACSR-M-P-19 & 12

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

SP4BDA XXX FOR M.S

SP4BDA 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 +6.0M BODY EXTN.	
1	WT.OF ALL (HT) MEMBERS IN KGS.	2760.16	
2	WT.OF ALL (MS) MEMBERS IN KGS.(INCL. PACK WASHERS)	1651.86	
3	WT.OF BOLT & NUTS IN KGS.	152.30	
	TOTAL WT. OF STRUCTURES IN KGS.	4564.32	
0	PROTO CORRECTED	21.06.2024	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/DA/+6MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +6.0M BODY EXTN.

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
COMMON PLAN @ +0M Level										
1	SP4BDA	851H	H12 THK.	187	519	94.20	9.14	2	18.28	
2	SP4BDA	896H	H12 THK.	209	500	94.20	9.84	2	19.68	
3	SP4BDA	897H	HL90X90X6	80	6800	8.32	56.58	2	113.16	
4	SP4BDA	898H	HL90X90X6		5722	8.32	47.61	2	95.22	
5	SP4BDA	899H	HL70X70X5		286	5.38	1.54	2	3.08	
6	SP4BDA	900H	H8 THK.		286	62.80	1.44	4	5.76	
7	SP4BDA	901H	HL100X100X6		6000	9.26	55.56	2	111.12	
8	SP4BDA	902H	HL100X100X6	6000	9.26	55.56	2	111.12		
9	SP4BDA	903H	HL100X100X6	90	5029	9.26	46.57	2	93.14	
10	SP4BDA	904H	HL75X75X5		286	5.77	1.65	4	6.60	
11	SP4BDA	905H	H8 THK.		286	62.80	1.62	8	12.96	
12	SP4BDA	906H	HL75X75X5		4076	5.77	23.52	2	47.04	
13	SP4BDA	907H	HL75X75X5		5000	5.77	28.85	2	57.70	
14	SP4BDA	908H	HL75X75X5	4076	5.77	23.52	2	47.04		
15	SP4BDA	909H	HL75X75X5	5000	5.77	28.85	2	57.70		
16	SP4BDA	910H	HL60X60X4	65	286	3.71	1.06	4	4.24	
17	SP4BDA	911H	H6 THK.		256	47.10	0.78	8	6.24	
18	SP4BDA	912H	HL70X70X5		4000	5.38	21.52	2	43.04	
19	SP4BDA	913H	HL70X70X5		3568	5.38	19.20	2	38.40	
20	SP4BDA	914H	HL70X70X5		4000	5.38	21.52	2	43.04	
21	SP4BDA	915H	HL70X70X5	3568	5.38	19.20	2	38.40		
22	SP4BDA	916H	HL60X60X4	60	286	3.71	1.06	4	4.24	
23	SP4BDA	917H	H6 THK.		256	47.10	0.72	8	5.76	
24	SP4BDA	918H	HL70X70X5		5746	5.38	30.91	2	61.82	
25	SP4BDA	919	L45X45X4		1085	2.75	2.98	2	5.96	
26	SP4BDA	920H	HL60X60X5		4224	4.58	19.35	2	38.70	
27	SP4BDA	921H	HL45X45X4	1460	2.75	4.02	2	8.04		
28	SP4BDA	922H	HL45X45X4	1776	2.75	4.88	2	9.76		
29	SP4BDA	923H	HL45X45X4	1776	2.75	4.88	2	9.76		
30	SP4BDA	924H	HL45X45X4	1305	2.75	3.59	2	7.18		
31	SP4BDA	925H	HL45X45X4	1305	2.75	3.59	2	7.18		
32	SP4BDA	926H	HL45X45X4	1814	2.75	4.99	2	9.98		
33	SP4BDA	927H	HL45X45X4	1814	2.75	4.99	2	9.98		
34	SP4BDA	928H	HL45X45X4	1550	2.75	4.26	2	8.52		
35	SP4BDA	929H	HL45X45X4	1550	2.75	4.26	2	8.52		
36	SP4BDA	930H	HL90X90X5		333	6.97	2.32	4	9.28	
+6M BODY EXTENSION										
37	SP4BDA	1840H	HL150X150X14	140	6195	31.60	195.76	2	391.52	
38	SP4BDA	1841H	HL150X150X14		6195	31.60	195.76	2	391.52	
39	SP4BDA	1842H	HL130X130X10		422	19.72	8.32	4	33.28	
40	SP4BDA	1843H	H12 THK.		422	94.20	5.57	8	44.56	
41	SP4BDA	1844H	HL90X90X6		6000	8.32	49.92	2	99.84	

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/DA/+6MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +6.0M BODY EXTN.

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
42	SP4BDA	1845H	HL90X90X6	80	6000	8.32	49.92	2	99.84	
43	SP4BDA	1846H	HL90X90X6		5356	8.32	44.56	2	89.12	
44	SP4BDA	1847H	HL90X90X6		5356	8.32	44.56	2	89.12	
45	SP4BDA	1848H	HL70X70X5		346	5.38	1.86	2	3.72	
46	SP4BDA	1849H	HL70X70X5		346	5.38	1.86	2	3.72	
47	SP4BDA	1850H	H8 THK.		306	62.80	1.54	8	12.32	
48	SP4BDA	1852	L50X50X4		1773	3.08	5.46	2	10.92	
49	SP4BDA	1853	L50X50X4		1773	3.08	5.46	2	10.92	
50	SP4BDA	1854	L55X55X4		2337	3.40	7.95	2	15.90	
51	SP4BDA	1855	L55X55X4		2337	3.40	7.95	2	15.90	
52	SP4BDA	1856	L45X45X4		1291	2.75	3.55	2	7.10	
53	SP4BDA	1857	L45X45X4		1291	2.75	3.55	2	7.10	
54	SP4BDA	1858	L55X55X4		3497	3.40	11.89	2	23.78	
55	SP4BDA	1859	L55X55X4		3497	3.40	11.89	2	23.78	
56	SP4BDA	1860	L65X65X4		3107	4.03	12.52	2	25.04	
57	SP4BDA	1861	L65X65X4		3107	4.03	12.52	2	25.04	
58	SP4BDA	1862	L45X45X4		1399	2.75	3.85	2	7.70	
59	SP4BDA	1863	L45X45X4		1399	2.75	3.85	2	7.70	
60	SP4BDA	1864	L70X70X5		5220	5.38	28.08	2	56.16	
61	SP4BDA	1865	L70X70X5		5220	5.38	28.08	2	56.16	
62	SP4BDA	1866	L60X60X4		2169	3.71	8.05	2	16.10	
63	SP4BDA	1867	L60X60X4		2169	3.71	8.05	2	16.10	
64	SP4BDA	1868	L60X60X4		2205	3.71	8.18	2	16.36	
65	SP4BDA	1869	L60X60X4		2205	3.71	8.18	2	16.36	
66	SP4BDA	1870	L45X45X4		1162	2.75	3.20	2	6.40	
67	SP4BDA	1871	L45X45X4		1162	2.75	3.20	2	6.40	
68	SP4BDA	1872	L65X65X5		5303	4.98	26.41	2	52.82	
69	SP4BDA	1873	L65X65X5		5303	4.98	26.41	2	52.82	
70	SP4BDA	1874	L45X45X4		2425	2.75	6.67	2	13.34	
71	SP4BDA	1875	L45X45X4		2425	2.75	6.67	2	13.34	
72	SP4BDA	1876	L60X60X4		2256	3.71	8.37	2	16.74	
73	SP4BDA	1877	L60X60X4		2256	3.71	8.37	2	16.74	
74	SP4BDA	1878	L55X55X4		2638	3.40	8.97	2	17.94	
75	SP4BDA	1879	L55X55X4		2638	3.40	8.97	2	17.94	
76	SP4BDA	1880H	HL90X90X6	80	5000	8.32	41.60	2	83.20	
77	SP4BDA	1881H	HL90X90X6		5000	8.32	41.60	2	83.20	
78	SP4BDA	1882H	HL90X90X6		4198	8.32	34.93	2	69.86	
79	SP4BDA	1883H	HL90X90X6		4198	8.32	34.93	2	69.86	
80	SP4BDA	1884H	HL75X75X5		376	5.77	2.17	2	4.34	
81	SP4BDA	1885H	HL75X75X5		376	5.77	2.17	2	4.34	
82	SP4BDA	1886H	H8 THK.		376	62.80	1.89	8	15.12	
83	SP4BDA	1888	L45X45X4		1300	2.75	3.58	2	7.16	
84	SP4BDA	1889	L45X45X4		1300	2.75	3.58	2	7.16	

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/DA/+6MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +6.0M BODY EXTN.

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	SP4BDA	1890	L45X45X4		1884	2.75	5.18	2	10.36	
86	SP4BDA	1891	L45X45X4		1884	2.75	5.18	2	10.36	
87	SP4BDA	1892	L45X45X4		1292	2.75	3.55	2	7.10	
88	SP4BDA	1893	L45X45X4		1292	2.75	3.55	2	7.10	
89	SP4BDA	1894	L45X45X4		2565	2.75	7.05	2	14.10	
90	SP4BDA	1895	L45X45X4		2565	2.75	7.05	2	14.10	
91	SP4BDA	1896	L55X55X4		2405	3.40	8.18	2	16.36	
92	SP4BDA	1897	L55X55X4		2405	3.40	8.18	2	16.36	
93	SP4BDA	1898	L45X45X4		1357	2.75	3.73	2	7.46	
94	SP4BDA	1899	L45X45X4		1357	2.75	3.73	2	7.46	
95	SP4BDA	1900	L60X60X4		3831	3.71	14.21	2	28.42	
96	SP4BDA	1901	L60X60X4		3831	3.71	14.21	2	28.42	
97	SP4BDA	1902	L50X50X4		1615	3.08	4.97	2	9.94	
98	SP4BDA	1903	L50X50X4		1615	3.08	4.97	2	9.94	
99	SP4BDA	1904	L55X55X4		1846	3.40	6.28	2	12.56	
100	SP4BDA	1905	L55X55X4		1846	3.40	6.28	2	12.56	
101	SP4BDA	1906	L45X45X4		1158	2.75	3.18	2	6.36	
102	SP4BDA	1907	L45X45X4		1158	2.75	3.18	2	6.36	
103	SP4BDA	1908	L60X60X4		4176	3.71	15.49	2	30.98	
104	SP4BDA	1909	L60X60X4		4176	3.71	15.49	2	30.98	
105	SP4BDA	1910	L45X45X4		2448	2.75	6.73	2	13.46	
106	SP4BDA	1911	L45X45X4		2448	2.75	6.73	2	13.46	
107	SP4BDA	1912	L50X50X4		1662	3.08	5.12	2	10.24	
108	SP4BDA	1913	L50X50X4		1662	3.08	5.12	2	10.24	
109	SP4BDA	1914	L45X45X4		2109	2.75	5.80	2	11.60	
110	SP4BDA	1915	L45X45X4		2109	2.75	5.80	2	11.60	
111	SP4BDA	1916	L45X45X4		2106	2.75	5.79	4	23.16	
112	SP4BDA	1917	L45X45X4		3286	2.75	9.04	2	18.08	
113	SP4BDA	1918	L55X55X4		4038	3.40	13.73	2	27.46	
114	SP4BDA	1919	L55X55X4		5239	3.40	17.81	2	35.62	
115	SP4BDA	1920	L60X60X4		6058	3.71	22.48	2	44.96	
116	SP4BDA	1921	L65X65X4		5000	4.03	20.15	2	40.30	
117	SP4BDA	1922	L65X65X4		4720	4.03	19.02	2	38.04	
118	SP4BDA	1923	L55X55X4		286	3.40	0.97	2	1.94	
119	SP4BDA	1924	5 THK.	55	256	39.25	0.55	4	2.20	
120	SP4BDA	1925	L55X55X4		4600	3.40	15.64	2	31.28	
121	SP4BDA	1926	L55X55X4		3635	3.40	12.36	2	24.72	
122	SP4BDA	1927	L45X45X4		286	2.75	0.79	2	1.58	
123	SP4BDA	1928	5 THK.		256	39.25	0.50	4	2.00	
124	SP4BDA	1929	L55X55X4		2480	3.40	8.43	2	16.86	
125	SP4BDA	1930	L45X45X4		1907	2.75	5.24	2	10.48	
126	SP4BDA	1931	L50X50X4		2210	3.08	6.81	2	13.62	
127	SP4BDA	1932	L45X45X4		1713	2.75	4.71	2	9.42	

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BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DA/+6MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +6.0M BODY EXTN.

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
128	SP4BDA	1933	5 THK.	120	155	39.25	0.73	8	5.84	
129	SP4BDA	1934	5 THK.	120	220	39.25	1.04	2	2.08	
130	SP4BDA	1935	5 THK.	190	239	39.25	1.78	2	3.56	
131	SP4BDA	1936	5 THK.	124	178	39.25	0.87	2	1.74	
132	SP4BDA	1937	5 THK.	120	155	39.25	0.73	8	5.84	
133	SP4BDA	1938	5 THK.	120	213	39.25	1.00	2	2.00	
134	SP4BDA	1939	5 THK.	180	234	39.25	1.65	2	3.30	
135	SP4BDA	1940	5 THK.	120	188	39.25	0.89	2	1.78	
136	SP4BDA	1941	L45X45X4		3286	2.75	9.04	2	18.08	
137	SP4BDA	1942	L55X55X4		4038	3.40	13.73	2	27.46	
138	SP4BDA	1943	L55X55X4		5239	3.40	17.81	2	35.62	
139	SP4BDA	1944	L60X60X4		6058	3.71	22.48	2	44.96	
140	SP4BDA	1945	L65X65X4		5000	4.03	20.15	2	40.30	
141	SP4BDA	1946	L65X65X4		4720	4.03	19.02	2	38.04	
142	SP4BDA	1947	L55X55X4		286	3.40	0.97	2	1.94	
143	SP4BDA	1948	5 THK.	55	256	39.25	0.55	4	2.20	
144	SP4BDA	1949	L55X55X4		4600	3.40	15.64	2	31.28	
145	SP4BDA	1950	L55X55X4		3635	3.40	12.36	2	24.72	
146	SP4BDA	1951	L45X45X4		286	2.75	0.79	2	1.58	
147	SP4BDA	1952	5 THK.	50	256	39.25	0.50	4	2.00	
148	SP4BDA	1953	L55X55X4		2480	3.40	8.43	2	16.86	
149	SP4BDA	1954	L45X45X4		1907	2.75	5.24	2	10.48	
150	SP4BDA	1955	L50X50X4		2210	3.08	6.81	2	13.62	
151	SP4BDA	1956	L45X45X4		1713	2.75	4.71	2	9.42	
152	SP4BDA	1957	5 THK.	120	213	39.25	1.00	2	2.00	
153	SP4BDA	1958	5 THK.	180	234	39.25	1.65	2	3.30	
154	SP4BDA	1959	5 THK.	120	188	39.25	0.89	2	1.78	
155	SP4BDA	1960	5 THK.	120	220	39.25	1.04	2	2.08	
156	SP4BDA	1961	5 THK.	190	239	39.25	1.78	2	3.56	
157	SP4BDA	1962	5 THK.	124	178	39.25	0.87	2	1.74	
TOTAL WT=									4411.80	

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	12	0.22	
6 THK. PACK WASHERS (For 16 Ø Bolt)	0.021	0	0.00	
TOTAL WT.			0.22	Kgs

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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/DA/+6MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +6.0M BODY EXTN.

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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WEIGHT OF STEEL MEMBERS

A) TOTAL WT. OF HT STEEL FAB. MEMBER	=	2760.16	Kgs
B) TOTAL WT. OF MILD STEEL FAB. MEMBER	=	1651.64	Kgs
C) TOTAL WT. OF PACK WASHERS	=	0.22	Kgs
GRAND TOTAL WT. OF FAB. MEMBER WITH PACK WASHERS (A+B+C)	=	4412.02	Kgs

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	202	24.04
HRH BOLT / NUT FOR M16X40	0.126	234	29.48
HRH BOLT / NUT FOR M16X45	0.134	402	53.87
HRH BOLT / NUT FOR M16X50	0.142	0	0.00
HRH BOLT / NUT FOR M16X55	0.150	0	0.00
HRH BOLT / NUT FOR M16X60	0.158	188	29.70
HRH BOLT / NUT FOR M16X65	0.164	0	0.00
HRH BOLT / NUT FOR M16X70	0.173	0	0.00
MS STD. SPR. WASHERS FOR M16 BOLTS	0.009	1026	9.23
STEP BOLTS OF 16X175MM DIA WITH 2 NUTS 1 S.W	0.374	16	5.98
TOTAL WT. OF HEXAGONAL BOLTS / NUTS , SPRING WASHERS STEP BOLT	=	152.30	Kgs

SUMMARY OF WEIGHTS

A) WT. OF MS MEMBERS	=	1651.64	Kgs
B) WT. OF PACK WASHERS	=	0.22	Kgs
C) WT. OF HT MEMBERS	=	2760.16	Kgs
D) WT. OF FAB MEMBERS (A+B+C)	=	4412.02	Kgs
E) WT. OF BOLT & NUTS	=	152.30	Kgs
F) TOTAL	=	4564.32	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 "DA(0°-2°)"-MKD"G507 DA"

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DA/+6MBE

PART : +6.0M BODY EXTN.

SECTION ABSTRACT

MILD STEEL	WEIGHT (Kg)	HIGH TENSILE	WEIGHT (Kg)	MS. PLATE	WEIGHT
L40X40X3		HL45X30X4		2 THK.	
L40X40X4		HL45X30X5		3 THK.	
L40X40X5		HL45X45X4	78.92	4 THK.	
L40X40X6		HL45X45X5		5 THK.	49.00
L45X30X4		HL50X50X4		6 THK.	
L45X30X5		HL50X50X5		8 THK.	
L45X45X4	332.52	HL55X55X4		10 THK.	
L45X45X3		HL55X55X5		14 THK.	
L45X45X5		HL60X60X4	8.48	32 THK.	
L45X45X6		HL60X60X5	38.70	20 THK.	
L50X50X3		HL60X60X6		22 THK.	
L50X50X4	89.44	HL65X65X4			
L50X50X5		HL65X65X5		TOTAL MS PLT.	49.00
L50X50X6		HL65X65X6			
L55X55X4	448.84	HL70X70X5	235.22	HT. PLATE	WEIGHT
L55X55X5		HL70X70X6		H6 THK.	12.00
L55X55X6		HL75X75X5	224.76	H5 THK.	
L55X55X8		HL75X75X6		H8 THK.	46.16
L60X60X4	307.12	HL80X80X6		H10 THK.	
L60X60X5		HL80X80X8		H12 THK.	82.52
L60X60X6		HL90X90X6	892.42	H14 THK.	
L65X65X4	206.76	HL90X90X7		H16 THK.	
L65X65X5	105.64	HL90X90X8		H20 THK.	
L65X65X6		HL100X100X6	315.38	H18 THK.	
L80X80X5		HL100X100X7			
L70X70X5	112.32	HL100X100X8		TOTAL HT PLT.	140.68
L70X70X6		HL100X100X10			
L75X75X5		HL110X110X8			
L75X75X6		HL110X110X10			
L80X80X6		HL110X110X12			
L80X80X8		HL80X80X5			
L90X90X5		HL120X120X8			
L90X90X6		HL120X120X10			
L90X90X7		HL120X120X12			
L90X90X8		HL130X130X10	33.28		
L100X100X6		HL130X130X12			
L100X100X7		HL150X150X10			
L100X100X8		HL150X150X12			
L100X100X10		HL150X150X14	783.04		
L150X150X20		HL90X90X5	9.28		
L200X200X16		HL110X110X6			
L200X200X20		HL110X110X7			
		HL120X120X7			
		HL200X200X12			
		HL200X200X17			
		HL120X120X9			
TOTAL	1602.64	TOTAL	2619.48		
		GRAND TOTAL =	4411.80		