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## TRANSMISSION LINE DATA (BANGALORE HUB)



### BIDADI – SOMANAHALLI 400 KV D/C LINE

#### A. Line Details:

1. Name of the line : Bidadi – Somanahalli 400kV D/C line
2. Length of total line : 18.518 KM.
3. Length of line under BGL TLM Hub : 18.518 Kms.
4. Date of Commissioning : 31<sup>st</sup> December 2006
5. Total No. of location : 59 towers
6. Total No. of location under BGL TLM Hub : 59 towers
7. Type of Structure : Self Supported Lattice Structure
8. Tower Parts Supplier : M/s. L&T India Ltd., (loc. 01 to 87 D/C) *(895126)*  
M/s. Sujana (D/C LILO & M/C Tension Towers)  
M/s. Bajaj Electricals (M/C Suspension Towers)
9. Erection Contractor : M/s. L&T Ltd., (M/s.B&C Ltd. - Sub-contractor)  
M/s. A2Z Maintenance & Engineering Services  
Ltd., Gurgaon (LILO Portion Loc. 88 to 97)

#### 10. No. of different type of tower (Total Section):

Type of Tower	Standard Towers (Nos.)	Body Extensions					
		+0M	+3M	+6M	+9M	+18	+25M
DA	22	09	04	04	03	01	01
DB	08	03	01	03	01	-	-
DC	04	03	-	-	01	-	-
DD	14	04	-	06	01	-	03
QA**	03	03	-	-	-	-	-
QB**	04	01	-	01	02	-	-
QD**	04	01	-	02	01	-	-
<b>Total</b>	<b>59</b>	<b>24</b>	<b>05</b>	<b>16</b>	<b>09</b>	<b>01</b>	<b>04</b>

\*- 2 nos. Dead-end D/C tower & \*\*-11 nos. Common M/C tower.

#### 11. Conductor Details:

- a) Trade Name : ACSR Moose
- b).No. of Conductor per phase : Two
- c) Spacing between sub-conductors : 450 mm
- d) Conductor configuration : Vertical for D/C & M/C
- e) Supplier : M/s. Deepak Cables Ltd., Bangalore.

12. Earthwire Details:

- a) Stranding wire diameter : 7/3.66 mm Galvanized Steel.  
 b) No. of Earthwire : Two  
 c) Supplier : M/s. Ram Swaroop Industries.

13. Conductor Accessories :

Sl. No.	Item Description	Make	Type
A	Vibration Damper	M/s. TAG Corporation	
B	Bundle Spacer	M/s. TAG Corporation	
C	Mid Span Compression Joint (MSCJ)	M/s. Star Iron	
D	Tension Clamp	M/s. TAG Corporation	
E	Suspension Clamp with PA Rod	M/s. TAG Corporation	
F	Repair Sleeve	M/s EMI & M/s. Star Iron	
G	T-Connector	---	

14. Earthwire Accessories :

Sl. No.	Item Description	Make	Type
A	Vibration Damper	M/s. TAG Corporation	
B	Mid Span Compression Joint (MSCJ)	M/s. Star Iron	
C	Tension Clamp	M/s. TAG Corporation	
D	Suspension Clamp	M/s. TAG Corporation	
E	Copper Bond	M/s. TAG Corporation	

15. Hardware Details :

Sl. No.	Item Description	Make	Type
A	Single Suspension 'I' String	M/s. TAG Corporation	23
B	Double Tension String	M/s. TAG Corporation	23+23

16. Insulator Details:

Sl. No.	Item Description	Make	Strength	No. of Insulator / String
A	Standard Porcelain Disc Insulator	M/s. Birla NGK Insulators, Pvt. Ltd.	120 KN	23
			160 KN	23

17. Important Crossings (Bangalore Hub) :

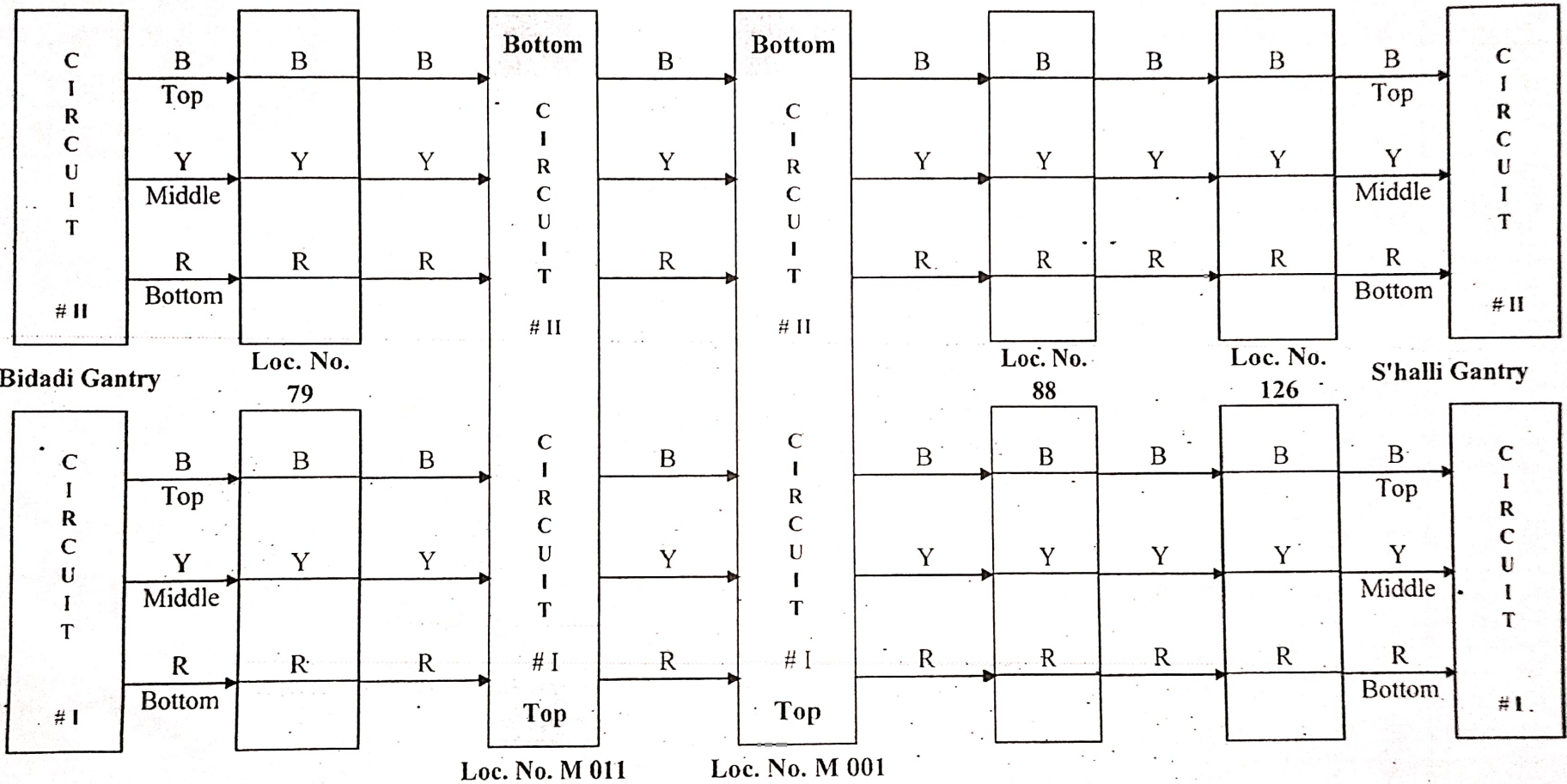
Sl. No.	Type of Vulnerable Area	Loc. From - To	Line Length	Name of the Nearest Place
1	Forest Area	NIL	---	---
2	River Crossing	NIL	---	---
3	Railway Crossing	NIL	---	---
4	Major Power Line crossing (66kV and above)			
	i) 66kV D/C line	M003 - M004	248	Hosadoddi
	ii) 66kV S/C line	109 - 110	179	Kaggalipura
	iii) 110kV D/C line	111 - 112	322	Kaggalipura
	iv) 220kV D/C line	117 - 118	178	Kaggalipura
	v) 110kV & 220kV D/C line	118 - 119	221	Kaggalipura
	vi) 220kV D/C line	120 - 121	383	Somanahalli
	vii) 400kV Gooty - Bangalore S/C line	121 - 122	450	Somanahalli
viii) 400kV Kolar - Bangalore D/C line	122 - 123	184	Somanahalli	
7	National Highway / State Highway crossing			
	i) NH 209 Bangalore - Dindigul	114 - 115	374	Kaggalipura
8	Hilly / Semi Hilly Area	NIL	---	---
9	Water Logged Area	NIL	---	---
10	Heavy Polluted Area	NIL	---	---
11	Details of Obstacle Zones of Airport	NIL	---	---
12	Quarry Area	NIL	---	---

18. Particular of location with OPGW Joint Box:

Sl. No.	Location No.	Tower Type	Section Length
1	81	DC+9	3923 (BDD-81)
2	88	DD+6	2713
3	102	DC+0	4522
4	119	DB+6	5228 (102-119)

# PHASE POSITION ARRANGEMENT CHART

Bidadi - Somanahalli Line (Vertical Configuration)



**Tower Schedule of 400kV Somanahalli - Bidadi D/C Line - 18.518 Kms (under Bangalore TLM Hub 18.518 Kms)**

Loc. no.	Type of tower	Tower extn	Angle of Deviation	Forward span (mtr.)	Cum Length from S'halli	Percent age	Type of Foundation	Crossings	Remarks	Category	Terrain	Type of Earthing	Nearest Village
Gantry				124	124	0.67%			Somanahalli S/s				Somanahalli
126	DDE	0	00° 00'	84	208	1.12%	DRY	Near Somanahalli Village		Vulnerable	Plain	P	
125	DD	0	56° 00' RT	202	410	2.21%	DRY	Near Somanahalli Village		Vulnerable	Plain	P	
124	DD	9	55° 00' RT	123	533	2.88%	DRY	Near Somanahalli SS		Vulnerable	Plain	P	
123	DD	25m	58° 30' RT	184	717	3.87%	DFR	400 KV D/C line & Nala X'ing		Vulnerable	Plain	CP	
122	DD	25m	00° 00'	450	1167	6.30%	DFR	400 KV S/C line & Stream		Vulnerable		CP	
121	DD	25m	00° 00'	383	1550	8.37%	WET	220 KV D/C line, LT line & Nala X'ing		Vulnerable		P	
120	DD	0	37° 00' RT	361	1911	10.32%	FR	Nala & Pond X'ing		Vulnerable		P	
119	DB	6m	00° 00'	221	2132	11.51%	WET	1 No 110 KV D/C line & 1 No 220 KV D/C line		Vulnerable		P	
118	DA	25m		178	2310	12.47%	FS	220 KV D/C line X'ing & WC X'ing		Vulnerable		P	
117	DD	6m	44° 30' RT	264	2574	13.90%	WFR	Pond X'ing		Vulnerable		CP	
116	DA	3m		299	2873	15.51%	FS	11 KV line X'ing		Vulnerable		P	
115	DB	6m	12° 30' RT	374	3247	17.53%	FS	Bangalore-kanakapura NH road X'ing, Pond & LT line		Vulnerable		P	
114	DB	0	00° 00'	200	3447	18.61%	SFR	BWSSB pipe, 1 No LT line, 2 NOS 33 KV line X'ing		Vulnerable		CP	
113	DA	0		300	3747	20.23%	DRY	Near Khagalipura Village		Vulnerable		P	
112	DB	0	02° 12' RT	322	4069	21.97%	DFR	111 KV D/C Line (E/W star Connection)		Vulnerable		CP	
111	DA	18m		398	4467	24.12%	DFR	LT Line Crossing		Vulnerable		CP	
110	DA	0		179	4646	25.09%	DFR	Halow Bricks Works land X'ing & 1 No 66 KV S/C Line Crossing		Vulnerable		CP	
109	DA	9		373	5019	27.10%	DFR	Nala		Vulnerable		CP	
108	DA	9		331	5350	28.89%	DFR			Vulnerable		CP	
107	DA	0		314	5664	30.59%	DFR	Water Course & Rock		Vulnerable		CP	
106	DA	6m		305	5969	32.23%	DFR	Dry stream		Vulnerable		CP	
105	DA	0		303	6272	33.87%	DFR	Metal Road X'ing		Vulnerable		CP	
104	DA	9		400	6672	36.03%	DFR	Dry stream		Vulnerable		CP	
103	DA	0		400	7072	38.19%	DRY	Dry stream Near Banyan Palya Village		Vulnerable		CP	
102	DC	0	16° 30' LT	288	7360	39.75%	DFR			Vulnerable		CP	
101	DB	3m	00° 00'	272	7632	41.21%	DFR			Vulnerable		CP	
100	DB	0	00° 00'	327	7959	42.98%	DFR	1 No LT line and Metal Road X'ing		Vulnerable		CP	
99	DA	3m		352	8311	44.88%	DFR	Coconut & Mango Garden		Vulnerable		CP	
98	DA	0		284	8595	46.41%	DFR	Tar Road, Mud Road, LT Line X'ing		Vulnerable		CP	
97	DA	6m		399	8994	48.57%	DFR	11 KV Line		Vulnerable		CP	
96	DA	0		397	9391	50.71%	DFR	Nala and LT Line, 1 No 11 KV line		Vulnerable		CP	
95	DA	3m		300	9691	52.33%	DFR	LT Line X'ing		Vulnerable		CP	

**Tower Schedule of 400kV Somanahalli - Bidadi D/C Line - 18.518 Kms (under Bangalore TLM Hub 18.518 Kms)**

Loc. no.	Type of tower	Tower extn	Angle of Deviation	Forward span (mtr.)	Cum Length from S'halli	Percent age	Type of Found ation	Crossings	Remarks	Category	Terrain	Type of Earthing	Nearest Village
94	DC	0	21° 51' LT	260	9951	53.74%	DFR/D RY	1 No 11 KV and Mango Garden Near Gonipura Village		Vulnerable		CP	
93	DA	3m		387	10338	55.83%	DFR	Tar Road, Mud Road ,LT Line X'ing		Vulnerable		CP	
92	DB	6m		319	10657	57.55%	DFR	2 Nos LT Line X'ing		Vulnerable		CP	
91	DA	0		370	11027	59.55%	DFR	2 nos LT Line, 1 no 11 KV Line, Mud Road & Metal Road X'ing		Vulnerable		CP	
90	DA	0		339	11366	61.38%	DFR	11 KV Line, Mud Road		Vulnerable		CP	
89	DA	6m		390	11756	63.48%	DFR/D RY			Vulnerable		CP	KANCHANA PALYA
88	DD	6m	56°18'17" LT	126	11882	64.16%	DFR	UMR, SMALL TEMPLE, TREE		Vulnerable		CP	KANCHANA PALYA
87	DD	6m	46°25'39" LT	365	12247	66.14%	DFR	HELOCK		Vulnerable		CP	KANCHANA PALYA
86	DA	6m		395	12642	68.27%	DFR	HELOCK		Vulnerable		CP	KANCHANA PALYA
85	DD	6m	33°16'50" LT	451	13093	70.70%	DFR	CART TRACK		Vulnerable		CP	KANCHANA PALYA
84	DB	9		429	13522	73.02%	DFR			Vulnerable		CP	GALLAHALLI GANIPURA
83	DC	0	16°00'54" LT	451	13973	75.46%	WFR	LT LINE		Vulnerable		CP	GALLAHALLI GANIPURA
82	DD	6m	50°45'17" RT	296	14269	77.05%	DFR	NALA/LTLINE		Vulnerable		CP	GALLAHALLI GANIPURA
81	DC	9	15°35'04" RT	326	14595	78.82%	DFR	HOUSING SOCIETY		Vulnerable		CP	HAMPA PURA
80	DD	6m	19°36'14" RT	287	14882	80.37%	DFR	METAL ROAD		Vulnerable		CP	HAMPA PURA
M01	QD	0	15°11'56" RT	252	15134	81.73%		CART TRACK, LT LINE		Vulnerable		PT	THALGUPPA
M02	QB	0	04°47'01" RT	465	15599	84.24%	WFR			Vulnerable		CP	THALGUPPA
M03	QD	9	29°39'12" LT	248	15847	85.58%	WFR	66KV D/C T/L, LT LINE		Vulnerable		CP	HOSADODDI
M04	QB	9	00°09'50" LT	380	16227	87.63%	WFR	2 NO.LT LINE, NALA, BOUNDRY WALL, POND		Vulnerable		CP	HOSADODDI
M05	QA	0		350	16577	89.52%	FS			Vulnerable		PT	BILLAKAMPAHALLI
M06	QD	6m	16°16'14" LT	270	16847	90.98%	WFR	METAL ROAD, 3 no. LT LINE, NICE TOLL TAX,		Vulnerable		CP	BILLAKAMPAHALLI
M07	QB	6m	05°53'05" RT	320	17167	92.70%	WFR			Vulnerable		CP	BILLAKAMPAHALLI
M08	QA	0		395	17562	94.84%	FS	POND, LT LINE, CART TRACK		Vulnerable		PT	BILLAKAMPAHALLI
M09	QB	9	06°48'44" RT	395	17957	96.97%	WFR	NALA, MANGO GARDEN		Vulnerable		PT	BILLAKAMPAHALLI
M10	QA	0		354	18311	98.88%	WFR			Vulnerable		CP	BILLAKAMPAHALLI
M11	QD	6m	48°39'51" LT	102	18413	99.43%	WFR	CULTIVATED LAND, FENCING		Vulnerable		CP	BILLAKAMPAHALLI
79	DD	0	07°13'32" LT	105	18518	100.00%	DFR	PGCIL BOUNDRY, CT		Vulnerable		PT	BILLAKAMPAHALLI
GANTRY			02°00'00"	0	18518	100.00%			Bidadi S/s	Vulnerable			Bidadi