Koppal-Narendra Transmission Limited

Project Features

Route details

Item Description	400 KV D/C Quad Koppal - Narendra (New) Transmission Line
Voltage Level	400
Wind Zone	1
No. of Circuits	2
No. of Conductors per phase	4
Type of Conductor	ACSR Moose
Route Length	137.701 Kms

BOQ Assumptions

Transmission Line:

- Route alignment has been checked and validated by Project head.
- 1% Extra/ wastage considered in Conductor & 5% on OPGW
- No extra/wastage considered in Insulators, Hardware's, Tower Accessories and earth wire Accessories.
- No Spares considered.
- Power Line Crossing towers are considered as DB, DC & DD.
- Family of intermediate towers have been considered as shown in table below.

Tower Type	Angle of Deviation	Span
DA	0-2	400
DB	0-15	400
DC	15-30	400
DD	30-60	400

Soil Classification

Type of Tower	Dry	Dry BC	Wet BC	Hard Rock	DFR
No.	17	35	73	157	72

Transmission Line BOQ Summary

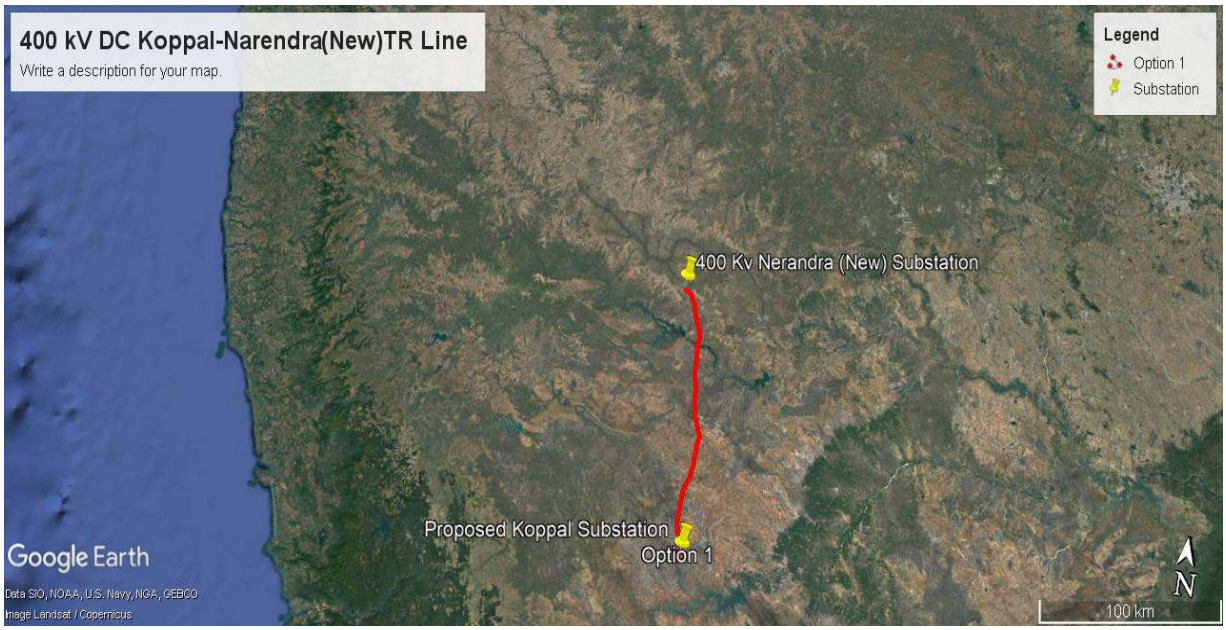
S.No	Item Description	Unit	
1	No. of Circuits	No.	2
2	No. of Conductors per phase	No.	4
3	Type of Conductor	-	Moose
4	Voltage Level	KV	400
5	Route Length	km	137.701
6	Circuit Length	km	275.402
7	Forest Length	km	1.644
8	Towers		
	- A Type	No.	272
	- B Type	No.	24
	- C type	No.	18
	- D/DE Type	No.	34
	Special Tower	No.	0
	Transposition tower	No.	2
	Gantry (PLC)	No.	2
	Total Towers	No.	352
	Suspension Towers	No.	272
	Tension Towers	No.	78
	Substation side Gantry	No.	2
	Total		354
9	Average Span	Mtrs	389
10	Pile / Spl. Locations	Loc	0
11	Crossing Details		
	NH / SH Crossing	No.	4
	Minor / Major River	No.	2
	Power line Crossing (>110kV)	No.	12
	Railway (Electrified)	No.	1
12	Aviation Requirement		0
	0-10kM	No.	0
	10-20kM	No.	0

Route Selection & Summary

A. Routing of 400kV D/C (Quad) Koppal Narendra (New) Transmission Line

The transmission line was drawn keeping in mind to avoid high habitation areas / Maintaining the requisite clearance from AIRPORT/ minimum intervention in Forest / minimum cutting of trees as extent possible / and considering all the power line / Railway/ NH/ SH crossings as per the requirement of RFP. Following are the major points as detailed below:-

- The line is passing through Terrain/ Undulated terrain in majority. The minimum and maximum elevation of the line is 491 M & 698 M respectively.
- There are scattered houses in the corridor and sufficient clearances have been maintained to avoid the rehabilitation & resettlement to extent possible.

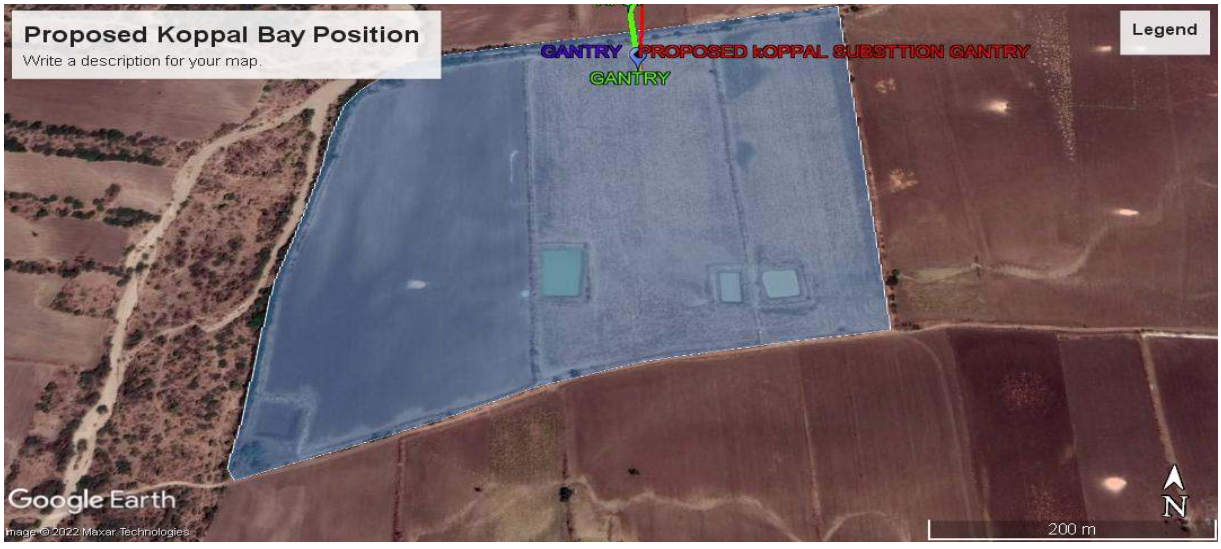


B. <u>Selection of Bays at Narendra (NEW) Substation (Existing Substation of Power Grid Corporation of India Limited)</u>

Bays for termination of 400kV D/C (Quad) Koppal Narendra (New) Transmission Line at Narendra (New), PGCIL Substation was done as per the bays positions confirmed in Survey Reports/ SLD/ GA Drawings/ Clarifications provided by Bid Process Authority (PFC Consulting Limited)

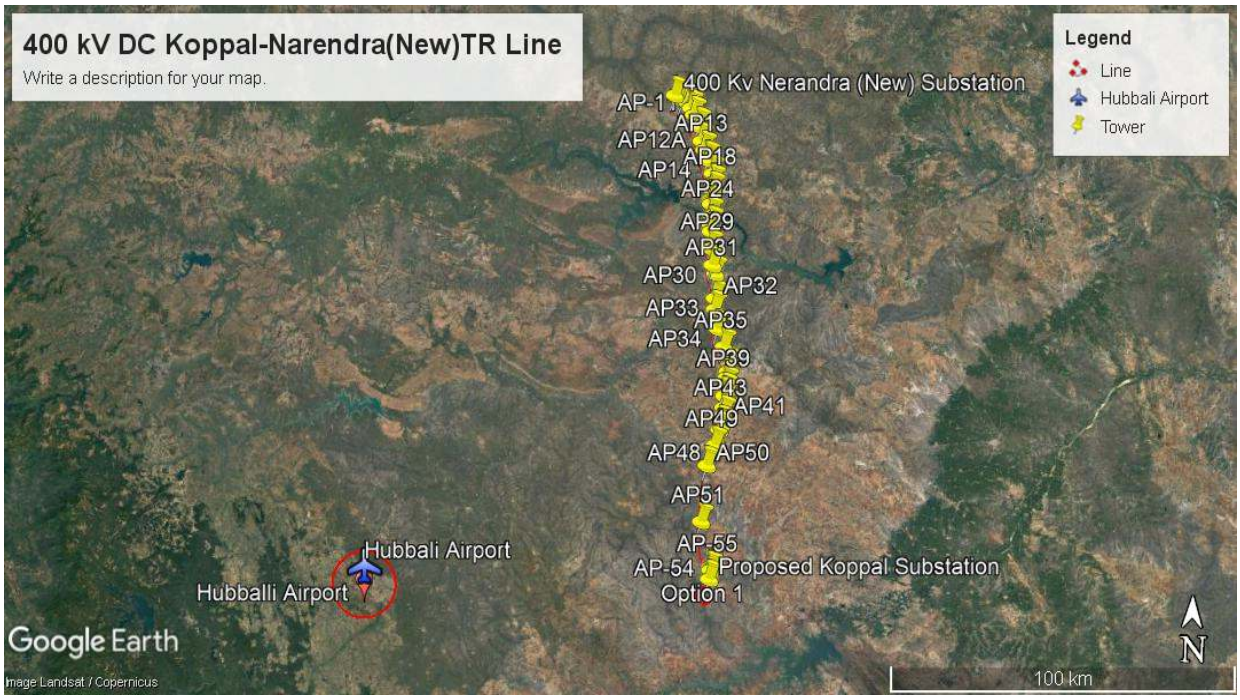
C. <u>Selection of Bays at Koppal (Proposed) Substation (Being Constructed by Koppal-Narendra Transmission Limited)</u>

Bays for termination of 400kV D/C (Quad) Koppal Narendra (New) Transmission Line line at Koppal Substation was done considering the feasibility of entering of line and minimizing the route length. The location of Substation was considered as per the given boundary limits by Bid Process Authority (PFC Consulting Limited) for evacuation of Renewable Energy power from the Koppal Region.



D. <u>Maintaining sufficient tower height clearance as per NOCAS Hubballi Airport:</u>

The Hubballi Airport is 95 Kms away from the Runway to ensure the sufficient height clearance & NOC from NOCAS.



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Koppal-Narendra Transmission Limited
Pawar