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Name of project: ± 800 KV HVDC RAIGARH - PUGALUR TRANSMISSION LINE

JUSTIFICATION

Selection of Route by minimizing the forest area involvement

During selection of route for ± 800 KV HVDC Raigarh-Pugalur Transmission Line utmost emphasis was given to align the route through non-forest land and where ever it was not possible to avoid the forest land in the route, it was ensured that the line passes through minimum forest land by keeping the line length as short as possible. Initially three alternate routes were explored with respect to the BEE line. The route selection was done by marking the route on Topo sheet and obtaining the corresponding GPS coordinates of all the angle points of these three alternative routes. Thereafter the walkover survey was carried out at all the three alternative lines corresponding to the available GPS coordinates along the complete route of the three lines. Thus an exhaustive exercise was done to select the route with bare minimum forest land.

The length of BEE line connecting both the sub-station at Raigarh & Pugalur is 1838 Km. In Maharashtra Portion the route length of alternative I, II & III are approximately 209.787, 211.175, 225.75 Km. respectively. The comparative statement showing forest land involved in all the three alternative routes and BEE line is given below:-

The Salient Features of the three alternative routes can be summarized as below:-

- 1) **Alternative Route-I:-** The Route of Alternative-I in the Maharashtra Portion originates from AP-1 which is near to the Maharashtra-Chhattisgarh Border near Village Allitola, Thasil-Korchi, Dist Gadchiroli. This area comes under Bedgaon Range of Wadsa Forest Division. The line is further routed by avoiding the hilly areas and protected forest near village Allitola. Then the line traverses further by avoiding the habitation areas and the forest patches where mostly the cultivated land is encountered along the route. The line further crosses the Malewada Forest in the Bedgaon and Purada Forest range where the hilly areas and Broken land have been encountered along the route. However utmost care has been taken to avoid the hilly forest patches and tower spotting in the hill slopes and the broken land areas have been avoided. After the end of Malewada forest, the Alternative-I and Alternative-II traverse more or less in a parallel way in the Kurkheda and Delanwadi Forest Range. Then the route traverses by crossing the Wairagad Forest area by the shortest possible way and further crosses the Wainganga River perpendicularly in Bramhapuri Forest Division. Thereafter the line is routed through the Chandrapur and Central Chanda Forest divisions, where the route passes by avoiding the ecosensitive zone of Chaprala Wildlife sanctuary, also the proposed Kothari Reserve Forest area has been avoided. The total length of the Alternative-I comes out to be 209.787 Kms. Total Forest Area involved is 432.821 Ha. and the total length of the Forest Area is 67.390 Kms.
- 2) **Alternative Route-II:-** The Route of Alternative-II also originates from AP-1 near to the Maharashtra-Chhattisgarh Border near Village Allitola, Thasil-Korchi, Dist Gadchiroli. This line is further routed by marginally avoiding the hilly areas and protected forest near village Allitola. However the slopes of the hills and dense forest are encountered in this route near village Allitola. This Route crosses the Malewada Forest in the Bedgaon and Purada Forest through the comparatively dense forest as that of Alt-I. After the end of Malewada forest, the Alternative-I and Alternative-II traverse more or less in a parallel way in the Kurkheda and Delanwadi Forest Range. However, the route covers more forest area as that of Alt-I while crossing the Wairagad Forest and then the crossing to the Wainganga River is not perpendicular in Bramhapuri Forest Division. Thereafter the line is routed through the Chandrapur and Central Chanda Forest divisions, where this route also passes by avoiding the ecosensitive zone of Chaprala Wildlife sanctuary and the proposed Kothari Reserve Forest area has also been avoided. The total length of the Alternative-II comes out to be 211.175 Kms. Total Forest Area involved is 498.87 Ha. and the total length of the Forest Area is 72.30 Kms..

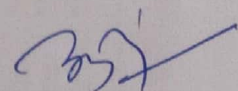
- 26
- 3) **Alternative Route-III:-** The Route of Alternative-III also originates from AP-1 near to the Maharashtra-Chhattisgarh Border near Village Allitola. However, this route further passes through the hilly areas and dense protected forest near village Allitola where the spotting of towers will be very difficult. Then the line traverses further by avoiding the habitation areas, but forest patches are largely encountered along the route. This Route crosses the Malewada Forest in the Bedgaon and Purada Forest through the comparatively most dense forest as that of Alt-I & Alt-II. After the end of Malewada forest, the Alternative-III is routed through the Kurkheda Forest Range, which involves the additional forest area as that of Alt-I & Alt-II. Then the route covers even more forest area as that of Alt-I & Alt-II while crossing the Wairagad Forest and then it is routed through the Armori Reserve forest then the route crosses the Wainganga River in Bramhapuri Forest Division where the crossing is not perpendicular. Thereafter the route moves far away from the bee line and it also encounters the Kharaapet Reserve Forest and nearly touches the boundary of Dongargaon Reserve forest. However, further this route passes by avoiding the ecosensitive zone of Chaprala Wildlife century and the proposed Kothari Reserve Forest area has also been avoided. The total length of the Alternative-III comes out to be 225.75 Kms. Total Forest Area involved is 548.55 Ha. and the total length of the Forest Area is 79.50 Kms.

The above mentioned facts comparing all the three Alternatives are tabulated as below:-

| Sr. No. | Alternative route No. | Route length in Km. | Route length in Forest in Km. | Forest land involved in Ha. | Remarks |
|---------|-----------------------|---------------------|-------------------------------|-----------------------------|--|
| 1. | Route - I | 209.787 | 67.390 | 432.679 | Minimum forest land involved 432.679 Ha. (Wadsa division 328.78 Ha. Bramhapuri division 46.229 Ha. , Chandrapur division 52.821 Ha. & central Chanda-4.849 Ha) |
| 2. | Route - II | 211.175 | 72.30 | 498.87 | More Forest and hilly terrain involved. 498.87 Ha. Route length is more as compared to Alt-I and the tower spotting is difficult in this route. |
| 3. | Route - III | 225.75 | 79.50 | 548.55 | Most. Forest and hilly terrain involved. 548.55 Ha. Line passes through more forest ranges. Route length is more and the tower spotting is difficult in this route. |

Thus the length of proposed route i.e. alternative Route – I is finalized due to minimum route length, minimum involvement of forest area and ease of spotting of Towers.

The route map of the three alternatives marked in 1:50000 Scale Topo sheet are enclosed fore ready reference.


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