

CIN-U40108CT2003SGC015820

**CHHATTISGARH STATE POWER TRANSMISSION CO. LTD.**

(GOVERNMENT OF CHHATTISGARH UNDERTAKING)

O/o EE:EHT(Maint.)Dn.CSPTCL Bhilai

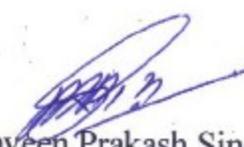
Q-C-7&8, Bijall Nagar colony Bhilai-3 District-Durg(CG.) Pin No.490021

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Bhilai Dt. 20/08/2016

Sub:- Details of Cost benefit analysis for the project.

In this regard it is to intimate that, details of cost benefit analysis for the project is to be prepare by concern Divisional Forest Office Dantewada / Bijapur.

  
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**COST BENEFIT ANALYSIS**

**Project:-** Construction of 132 KV Barsoor- Bijapur Transmission line.

- Total length of 132 KV Transmission line from Barsoor Grid Substation to Bijapur passes through Orange area, Reserve forest, & Protected forest area under forest division of Dantewada & Bijapur and Revenue Forest of District Dantewada & Bijapur = 99.419 km ( in patches)
- Total area of forest for diversion:-

Sr. No	Forest Division	Reserve Forest/ Protected Forest	Orange area	Revenue forest	Total
1	Dantewada	48.742	00	22.963	71.705
3	Bijapur	11.383	3.345	12.986	27.714
Total					99.419

**PARAMETERS OF EVALUATION OF LOSS OF FOREST**

( As per Form IV-b of MOEF Handbook)

Sl No.	Parameters	Transmission line
1	Loss of Value of timber fuel, wood and minor forest produce on an annual basis including loss of man hours wages from the harvest of these commodities	<p>Due to construction of transmission line the required land width corridor will be deforested and loss of timber will be taken in account under the Environmental loss due to transmission line. The cut/ removed timber will be auctioned .</p> <p>There is no live hood who is falling on the transmission line alignment but surrounding forest area people may have fuel wood, minor forest loss from the harvest of these commodities. These may be taken Rs. 10,000 Per year per Hact. of land.</p> <p>The loss of wages is negligible due to this Transmission line, because local people may get work opportunity due to construction &amp; maintenance of Transmission line</p> <p>Hence effective loss only due to loss of fire wood and minor forest product for 50 year = Rs 10000x99.419x50= Rs.49709500 (say 497.Lacs).)</p> <p>Loss per year = Rs. 994190 (9.94 Lacs)</p>
2	Loss of animal husbandry productivity including loss of fodder	<p>Productivity of animal husbandry including loss of fodder will not affected due to transmission line because these line will be drawn overhead in air and area below the line is totally free for animal husbandry productivity including fodder</p>

3	Cost. Of human resettlement	There is no inhabitant as per record in transmission line corridor forest land . Hence there would be no loss due to human settlement.		
4	Loss of public facilities and administrative infrastructure(roads, buildings, school, Dispensary, Electric lines, Railway etc., on forest land if these facilities were diverted due to the project.	The route/corridor of Transmission line not affecting any public facilities on forest land.		
5	Environment losses (soil erosion effect o hydrological cycle, wildlife habitats of Ecological balances.)	<p>Environment losses is quantified as fallows.</p> <ul style="list-style-type: none"> <li>• Total forest area proposed for diversion=99.419 Hact.</li> <li>• Environmental value of one Hectare of fully stocked forest (density 1.0) for period 50 year is =126.74 lacks.</li> <li>• Considering density of proposed forest 0.5</li> <li>• Therefore total Environmental loss for a period of 50 rear is worked out as =Rs. 126.74x0.5x99.419x100000 =Rs630018203 (6300 lacs)</li> <li>• Therefore total Environmental loss for a period of 01 year=Rs.12600364 (126.00 lacs)</li> </ul>		
6	Suffering to oustees.	Not applicable since there is no displacement of people.		
7	NPV of proposed area to be diverted @ Rs. Lacks per hectere			
	Compartment no	Area	Rate	Amount
		99.419	4.65	462.29 lacs
	Total Loss( Calculated for 01 years)	598.23 lacs		



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## BENEFIT ANALYSIS

**Project:-** Construction of 132 KV Barsoor- Bijapur Transmission line.  
Calculation of cost benefit due to construction of Transmission line.

1. Demand when proposed Transmission line commissioned=30 MVA.
2. Expected sale of Energy in KWH/ year=  $30 \times 1000 \times 0.7 \times 0.9 \times 8760$   
= 165594000 units
3. Weighted average incremental tariff of state (Rs. Per unit) =0.25
4. Value of benefit to CSPTCL for sale of Energy/year  
=  $0.25 \times 165594000 = \text{Rs } 4,13,91,250$  (4.14 Crore)
5. Benefit due to Reduction on line loss @ 10% to CSPDCL= 0.41 Crore
6. Net benefit (4+5) = 4. 55 Crore
7. Project cost =78.76 Crore
8. Percentage Gross Return =5.78%

  
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## COST BENEFIT ANALYSIS

**Project:-** Construction of 132 KV Barsoor- Bijapur Transmission line.

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### A. BENEFIT-

1) Net Benefit = 22750 lacs/year - ₹

### B. COST-

2) Investment Cost of the Project - 7875Lacs  
3) Total Loss due to Forest Diversion - 598.23 Lacs.  
4) Total Loss (2+3) - 8473.23 Lacs

### C. COST BENEFIT RATIO-

= 22750/8473.23  
= 2.68  
= 1:2.68



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