JHARKHAND URJA SANCHARAN NIGAM LIMITED (JUSNL)

COST BENEFIT ANALYSIS

Cost benefit analysis for 132 Kv D/C Chhatarpur - Japla Transmission Line In Jharkhand state is estimated as per the guidelines of Govt. of India, issues with letter no. 7-69/2011-FC(Pt.) dated: -01-08-2017, and given below

Table-A: Estimation of cost of forest diversion:-

SL. No.	Parameters	Cost Rs. Lac
1	Ecosystem services losses due to proposed forest diversion (Economic value of loss of eco-system services due to proposed forest diversion has been taken as the "net present value (NPV)"of the forest land being NPV rates taken **as Rs. 9.39 Lacs. Per ha**. Under Class II of medium density forest born by the project works out to be **Rs. 36.057lscks (23.2676Ha. x 9.39)**	**218.48**
2	Loss of animal husbandry productivity (taken at 10% of NPV)	**21.84**
3	Cost of human resettlement (there is no human resettlement due to proposed forest diversion)	**NIL**
4	Loss of public facilitates and administrative infrastructure (Road, Building, School, Dispensaries, Electrical lines, Railways etc. on Forest land, which would require forest land if these facilities were diverted due to project (No public facilities and administrative infrastructure are involve)	**NIL**
5	Possession value of forest land diverted (Taken at 30% of NPV)	**65.54**
6	Cost of suffering to ousters (There are no ousters due to proposed forest diversion)	**NIL**
7	Habitat suffering to ousters (Taken at 50%of NPV)	**109.24**
8	Compensatory a forestation and soil & moisture conservation cost (CA arrived at Rs. 2,50,000/-Per Ha.) (cost for double area)	**58.16**
9	Project Cost : Fixed assets, inclusive of investment, Current assets Loans & advances. Other Expenditures like preoperative expenses, interests, during construction etc.	**1586.34**
Total		**2059.6**

Table-B: Estimating Benefit of forest diversion:-

SL. No.	Parameters	Cost Rs. Lac

1	Increase in productivity attributable ot the specific project:-
	Power Flow = 4.65 MW (2x2.324)
	Load Factor = 60%
	Losses = 2.5%
	Average Value Added = Rs. 6.00 per kwh
	Energy sent out per year = 4.65x1000x0.6x8760x0.975 kwh
	                                      = 23.8293×10^7 kwh
	Value Added = 23.8293×10^7 x6.00
	                                      = Rs. 142.9758 crore/year
	                                      = Rs. 143 crore / year
	Value added for 50 years = 50x143=7150 crore
		715000.00

2	Benefit to economy due to the specific project. The power will be transmitted through this line to the power deficit of Palamu District of Jharkhand State. This Project will provide sustained and incessant supply of power to this district which will be utilized by large industrial, commercial, domestic and agriculture growth leading to increased output which in turn will lead to increase in GDP (Gross Domestic product) of Jharkhand.	NA
3	No. of population benefited due to specific project. Assuming average 10 units consumption per day per household. Total 3.10 million household can be provided electricity per year.	NA
4	Economic benefits due to of direct and indirect employment due to the project. During project stage, the project will provided employment to the 06 nos. of permanents and 185 temporary employments for a period of 18 month (for permanent employment benefit of Rs. 5.30 lacs / year per person and temporary employment Rs. 0.96 lacs / year per person)	209.4
5	Economic benefits due to Compensasary a forestation. (The NPV of the CA land considered as prescribed by the guidelines 7-69/2011 –FC (pt.)dated 01-08-2017 NPV rates taken as Class III Medium Density forest Rs.8.03Lacks / Ha. For 23.2676 Ha.	186.84
Total		715396.24

Cost Benefit Ratio:-

i)   Table – A Estimation of Cost of Forest diversion :- **2059.6** lacks

ii)   Table – B Estimating Benefit of forest diversion :- **715396.24**lacks

Cost Benefit Ratio = 1: **715396.24** lacks / 2059.6 lacks

= 1: 347.347

Say 1:347.35

The Cost Benefit Ratio of the Project is estimated at 1:347.35

Date: 22/12/2021   Signature:

SENIOR MANAGER
TRANSMISSION DIVISION
DALTONGANJ

Name in Block Letter:Dharamveer Singh

Designation: Senior Manager

Transmission Division, Daltonganj Jharkhand