

COST BENEFIT ANALYSIS

BENEFITS FROM PROJECT

The CONSTRUCTION OF 132 KV S/C NOKHA DAIYA TO KHAJUWALA TRANSMISSION LINE providing following benefits considering 35 years of life

S.N.	Description	Unit	Qty	Rate (in Rupees)	Total Benefit (in Crores)
1	Cost of Transmitted power in the span of 35 years with 80% loading and 97.5% of the line availability (50 MW x 1 Ckt x 365 days x 24 hr x 35 years x 97.5 % availability of the line x loading of 80%)	KWH	11957400000	Rs. 0.19 per unit	227.1906
(X)				Total Benefit (in Cr.)	227.1906

<u>PROJECT EXPENSES/COST, LOSS & OTHER MISCELLANEOUS EXPENSES FROM PROJECT</u>		
Y1	Cost of the Project (in Cr.)	8.0400
Y2	C.A. (Rs. 129000/ Hect.)	0.4570
Y3	N.P.V. (Rs. 803000/ Hect.)	2.8450
Y4	Operation & Maintenance Cost of the line - @ 0.1003 Cr. Per year x 35 year (in cr.)	3.5105
Y5	Annual depreciation of transmission line (Net value of TL/Estimated Life of Total cost of the Line = 8.04 Cr. Expected life of transmission Line = 50 years Scrap Value at the end of 50 years of life (10% of cost) = 2.006 Cr. Net value (cost of line - scrap value) = (8.04-0.804) = 7.236 Cr. Annual Depreciation of the line = (7.236/35)= 0.2067 Cr.	7.2360
Y6	Annual interest on capital diminishing annually (1.6048 Cr x 35)(in Cr.)	56.1680
Y7	Losses in forest (Loss of Timber/fule wood/Minor forest produces/ Loss of fodder)	0.0203
Y8	Environmental loss (@ Rs. 1.2674 Cr. Per hectare for density 1) (in Cr.)	17.9611
Y9	Losses : cost of Human Resettlement , loss of public facility, suffering to outsees (in	0.0000
Y	Total loss i.e. (Y1+Y2+Y3+Y4+Y5+Y6+Y7+Y8+Y9) (In Cr)=	96.2380
X/Y	Cost benefit ratio i.e. Project benefit (X) / Loss (Y)	2.36

The CB Ratio is 1 : 2

The benefit from this transmission lines is more than 2.36 times in 35 year if flow of power is continued through this transmission system where as the cost of project including the compensation and other losses against forest area involved is Rs. 96.238 Crore Which is less in compared to profit from this transmission line project.


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ANNEXURE VI (a)

CATEGORY OF PROPOSAL FOR WHICH COST- BEBENEFIT ANALYSIS IS APPLICABLE

Full Title of the Project: CONSTRUCTION OF 132 KV S/C NOKHA DAIYA TO KHAJUWALA TRANSMISSION LINE

Sr.No.	NATURE OF PROPOSAL	APPLICABLE/ NOT APPLICABLE	REMARKS
1	All categories of proposals involving forest land up to 20 hectares in plains and up to 5 hectares in hills	APPLICABLE	
2	Proposal for defense installation purpose and soil prospecting (prospecting only)	NOT APPLICABLE	
3	Habitation, establishment of industrial unit, tourist lodges/ complex and other building construction	NOT APPLICABLE	
4	all other proposals involving forest land more than 20 hectares in plains and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation projects, hydel projects, mining activity, railway lines, location specific installation like micro-wave stations, auto-repeater centres, TV towers etc.	APPLICABLE	The Diversion of 35.4291 Hect. Forest land is proposed for the CONSTRUCTION OF 132 KV S/C NOKHA DAIYA TO KHAJUWALA Transmission Line, the cost Benefit Analysis is applicable.



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**DIVERSION OF 35.4291 HACTRE FOREST LAND FOR CONSTRUCTION OF 132 KV S/C NOKHA
DAIYA TO KHAJUWALA TRANSMISSION LINE**

PARAMETERS FOR EVOLUTION OF LOSS OF FOREST (AS PER FORM VI-B OF MoEFCC HANDBOOK)

S. 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 per annum of people who derived livelihood and wages from the harvest of these commodities	Loss of value of timber is less/ negligible since there will be minimum falling of tree for construction work of Transmission line in sandy terrain where sufficient ground clearance maintained. moreover, the minimum No. of trees required to be felled, will be in possession of the state forest Deptt. for which the operational cost/ timber extraction cost will be beared by RVPN in addition to Net Present Value (NPV) will be paid against the value of timber, fuel wood etc proposed land for diversion since construction of transmission line dosen't deprive people from earning of livelihood in forest area, hence loss of man - hour of the people is also not applicable overall, it is assumed that there will be negligible loss of value of timber, fuel wood, minor, forest product etc. due to construction of the transmission line on over the forest area.
2	Loss of animal husbandary productivity including loss of fodder	There are no major animal husbandry operation existing or proposed in the area under consideration due to construction of transmission line.
3	Cost of human resettlment	Since there is no displacement of people due to the project hence there would be No cost of human resettlement.
4	Loss of public facilities and administrative infrastructure (Road, Building, Schools, Dispensaries electric lines, Railway etc.) on forest land if these facilities were diverted due to project	No public facilities and/ or administrative infrastructure i.e. roads, building, schools, dispensaries, electric lines, railways etc. are not available in side the corridor of route / alignment of the line. Hence there is no any kind of loss of facilities or there diversion to forest land.
5	Enviromental losses (Soil errosion effect on hydrological cycle, wildlife habitat, microclimateupsetting of ecological balance.	Environmental losses is quantified as follows:- Total Forest Area Proposed for diversion (Under Chhatargarh Territorial & Bikaner IGNU -II Forest Division)- 35.4291 Hect., Environmental value of 01 Hect. of fully stocked forest forst (Density 1.0) for a period of 50 Year is 126.74 Lacks. Density of the Proposed PF:- 0.4, therefore Total Environmental loss for aperiod of 35 Year is worked out as 126.74 Lacks * 0.4 * 35.4291 Hect.= 1796.114 Lacks. The Project suitated in mostly open area and line is passing through least possible and inescapable forest areas. Hence there is no chances of soil erosion. There is no presence of wild life also and there is no effect on micro climate. The over all environmental losses due to the presence of this line is less/ Negligible.
6	Suffering to ouster	NOT APPLICABLE



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PARAMETERS FOR EVOLUTION OF BENEFIT OF FOREST (AS PER FORM VI-C OF MoEFCC HANDBOOK)

S. NO.	PARAMETERS	TRANSMISSION LINE
1	Increase in productivity attributable to the specific Project	The Solar Power Generation in western Rajasthan will be major source of power in coming time. The construction of 132 KV S/C Nokha daiya - Khajuwala transmission line is required for radially fed 132 KV Sub Station Khajuwala from a ring system for reliability of supply, a large number of solar power plant are envisaged nearby Gajner and Kolayat. It also contribute in the growth of the area for the development of state and the nation.
2	Benefits of economy.	Socio economic benefit due to the project will be: 1. Realible supply of power to rural areas will promote modernised way of agriculture activities and up gradation of construction of new industries and economy zone. 2. Realible supply of power to industries will promote
3	Number of population benifited	A population of about 100000 residing in rural areas will be
4	Employment potential	8 permanent and 18250 (temperary man-days) employees including both permanent & temperary will be working directly /
5	Cost of acquisition of facility on non-forest land wherever feasible	We have proposed our project alignment while keeping in mind that the forest land requirement is at it's barest minimum and
6	Loss of (a) Agriculture & (b) Animal husbandary production due to diversion of forest land	No such agricultural or animal husbandry operations are being undertaken in the land coming in route of our proposed project.
7	Cost of rehabilitant the displaced person as difference from compensatory amount given for displacement	Project involes no rehabilitation
8	Cost of supply free fuel wood to workers residing in or near forest area during the period of construction	No fuel wood will be supplied to the workers during the construction

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