CIN: U40102DL2016GOI290060

KOHIMA-MARIANI
TRANSMISSION LIMITED
A wholly owned subsidiary of:
KALPATARU POWER TRANSMISSION LIMITED
House No. – 6, C/o Bhabani Prasad Sarmah,
Chilarai Path, Ward No. – 28, Survey Beltola,
Guwahati. 781 028. Assam
Tel +91 361 - 2233144

COST BENEFIT ANALYSIS

Project: Diversion of 20.64 Ha of forest land for construction of 400 kV D/C (Twin) Transmission Line from New Mariani to New Kohima.

- Total length of the Transmission Line passing through RF area (Under Golaghat Forest Division) = **4.487 KM**
- Total Forest area proposed for diversion = **20.64 Ha**

Parameters for evaluation of Loss of Forest (as per Form VI – B of MoEF Handbook)

S. N.	Parameters	Roads, Tr. Lines & Railway lines
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 negligible since there will be minimum felling of trees for construction of transmission line (3 meter below each bundle of conductor as per MoEF guideline). Trees in the remaining area of the RoW will be looped/pruned as per site conditions during stringing of conductors. In the areas where required ground clearance is available, trees will not be cut. 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 deposited by KMTL to Forest Department. In addition to this Net Present Value (NPV) will be paid against the value of timber, fuel wood etc. (Total ecological value of the forest) of the proposed land of diversion. Since construction of transmission line doesn't deprive people from earning of livelihood in forest area, hence loss of man-hours of people is also not applicable. Overall, it is assumed that there will be negligible loss of value of timber, fuel wood, minor forest produce etc. due to construction of the transmission line in and over the forest area.
2	Loss of animal husbandry productivity, including loss of fodder	**Not applicable.** Productivity of livestock will not be affected due to construction of the transmission line.

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3	Cost of human resettlement	Since there is no displacement of people due to the project hence there would be no cost of human resettlement
4	Loss public facilities and administrative infrastructure (roads, building, schools, dispensaries, electric lines, railways etc.) on forest land, or which would require forest land if these facilities were due to project.	**Not applicable,** since these facilities are not available inside the proposed forest area for diversion.
5	Environmental losses: (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance	Environmental loss is quantified as follows: • Total RF area proposed for diversion (Golaghat Forest Division) = **20.64 Ha** • Environmental value of one hectare of fully stocked forest (density 1.0) for a period of 35 years = 126.74 x 35/50 = **Rs. 88.718 Lakhs** • Considering density of the proposed RF = **0.1** Therefore, total environmental loss for period of 35 years is worked out as = 88,71,800 x 0.1 x 20.64 = **Rs. 18311395**
6	Suffering to oustees	**Not applicable** since there will be no displacement of people.
	TOTAL LOSS (Against the proposed diversion calculated for 35 years)	**Rs. 18311395/-**

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Annexure: A

COST BENEFIT ANALYSIS

PROJECT: 400kV D/C (Twin) New Mariani – New Kohima Transmission Line = 20.64 Hectares

Monetary Return of the Project for 35 years

Monetary Return of the project per year = Rs. 20274 Lacs

Monetary Return of the Project for 35 years = Rs. 20274 x 35 = Rs. 709590 lacs

Environmental Loss for a period of 35 Years

Total Diversion of Forest Land (As per Annexure B) = 20.64 Ha
Environmental loss value of Ha of fully stocked forest (density 0.1)
For a period of 35 years as per Forest Conservation Act, 1980
= Rs. 126.74 Lacs per Ha

Considering the Density of the said forest = 0.1
Environmental Loss for a period of 35 Years =
126.74 x 35 x 20.64 x 0.1/50 = Rs.183.11 Lacs

Cost Benefit Ratio = Monetary return of the Project for 35 years/ Environmental loss for a period of 35 years

= 709590 / 183.11

= 3875

Cost Benefit Ratio = 3875 : 1

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