

JHARKHAND URJA SANCHARAN NIGAM LIMITED

Office of The Electrical Executive Engineer
Transmission Division Hazaribagh

COST BENEFIT ANALYSIS

FOR CONSTRUCTION OF 132/33 KV GRID SUB-STATION AT VILLAGE: BARKI
SARIA, TOLA: MANDHNIYA, BLOCK: SARIA, DISTRICT: GIRIDIH UNDER
HAZARIBAGH (EAST) FOREST DIVISION

Assumption:

Power Flow Capacity	=	100 MVA
Load Factor	=	80%
Power Factor	=	0.95%
Losses	=	2.5%
Average Value Added	=	Rs. 6.0 per kWh
Energy sent out per year	=	$80 \times 1000 \times 0.8 \times 0.95 \times 8640 \times 0.975$ kWh
	=	640.224×10^6 kWh
Value added	=	$640.224 \times 10^6 \times \text{Rs. } 6.0$
	=	Rs. 384.13 Crore / year

Cost of Forest / Environment

In this case the total involvement of forest area is 4.05 Ha. Assuming the value of Forest / Environment @ Rs. 126.74 Lakh per Ha. for maximum forest density of 1.0

Total value of Forest / Environment

	=	4.05 Ha. x Rs. 126.74 Lakh
	=	Rs. 513.297 Lakh
	=	Rs. 5.13 Crore
Hence Cost: Benefit Ratio	=	5.13 : 384.13
	=	1 : 74.88 Say 1: 75

Thus the construction of 132/33 KV Grid Sub-station would be advantageous in monetary terms.

Date: 13/08/2016

Place: Ranchi

Signature:

Name in Block: SURESH SHARMA

Designation: Electrical Executive Engineer

Address of Agency:

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