No. 116
H.P. Forest Department.

Dated Shamshi, the/ 12/6/2024

From: Conservator of Forests,
GHNP Circle, Shamshi

To: Nodal Officer-Cum-APCCF (FCA)
O/O Pr.CCF, H.P.Shimla.

Subject: - Diversion of 0.8223 Ha. Forest Land in favour of M/S Behal Motors Plot No.6-7, Industrial Area, Phase No.III , Suketi Khad Mandi HP for the construction of Jiwa –II, SHEP (1.75 MW) in Sub division Banjar, District Kullu HP, within the jurisdiction of GHNP Shamshi, Distt.Kullu HP(Online Proposal No.FP/HP/HYD/147118/2020).

Memo:

Kindly refer EDS received through Parivesh dated 14-03-2024 on the subject cited above.

The point wise reply of the observations as pointed out vide letter under reference has been attached as under:-

Sr. No	Observations	Reply
1.	In reference to the observation-1, Reply not Accepted, this office sought clarification/ rectification in S.No. 4-(i),Part-II and NPV bill /calculation sheet. In reference to this CF GHNP Shamshi intimated that the density of the proposed area has been revised and the same has been uploaded & the NPV bill has been prepared accordingly. However no rectification in S.No.4 (i) and NPV bill/calculated sheet has been done. Therefore, State Govt. shall rectify the vegetation density (at Sr. No.(i) of Part II) and accordingly NPV bill/Calculation sheet, duly authenticated by DFO concerned.	Density of the proposed area has been revised and same has been uploaded in Sr.No.4 (i) of Part-II & the NPV bill has been prepared accordingly and uploaded at Sr.No.5 in additional information of Part-II.

2.	In reference to the observation-2, Reply not accepted, this office sought clarification from State Govt. to upload/provide the legible copy of the detailed evacuation plan of the extant proposal with layout plan. Also, the details & dimensions of transmission line was sought. In reference to the letter, State Govt. intimated that according to the guidelines established by the GoI, the corridor width for 11kv underground transmission lines has been fixed at 300 mm. However, in order to the enhance reliability; we have implemented double circuit configuration for the underground transmission line, necessitating a corridor width 600 mm. State Govt. shall clarify under which guidelines/norms 600mm trench width has been proposed for 11 KV, also provide the supportive documentary proof for the same, duly authenticated by DFO concerned.	As per User Agency "According to the Van (Sanrakshan Evam Samvardhan) Rules, 2023, Chapter 10 (Transmission Lines), Clause 10.2 (attached), "The norms/standards for laying underground insulated cables through forest areas shall be as below:- • Line Voltage : 11 KV • Trench Width: 300 mm For laying double circuit (D/C) underground cables through forest areas, the trench width shall be twice the aforementioned width stipulated for the single circuit cable, "i.e. 600 mm in this case. Additionally, as per the minutes of the meeting (MOM) dated 29/01/2016 (document attached for your reference.

Encls. As above

Conservator of Forests,
GHNP Circle, Shamshi

Chapter-10
Transmission lines
(Bare conductor and underground/Insulated cable)

10.1 Transmission through bare conductor(s): As a general principle, where routing of transmission lines through the forest areas is unavoidable, these should be aligned in such a way that it involves the least number of trees cutting, and as far as possible, the route alignment through forest areas should not have any line deviation. The following table gives the width of Right of Way (RoW), clearance below each conductor, and minimum clearance between conductors for laying transmission line of different voltages.

Transmission Voltage	Width of Right of Way (Meter)	Width clearance below each conductor or conductor bundle for stringing purpose (meter)	Minimum clearance between conductor and trees (Meters)
11Kv	7	Not required	2.6
33KV	15	Not required	2.8
66KV	18	Not required	3.4
110KV	22	Not required	3.7
132KV	27	Not required	4.0
220KV	35	Not required	4.6
400KV S/C vertical delta configuration	46	3 twin bundle, 5 triple bundle	5.5
400 KV D/C	46	7	
+/- 500KV HVDC	52		7
765 KV S/C (With delta configuration)	64	7 quadruple bundle 10 hexagonal bundle	9
765 KV D/C	67		
1200 KV	89	To be decided	13

In case of the demand for reduction in the width of Right of Way (RoW) of transmission lines in forest areas in the cases where Aerial Bunched Cable (ABC) are used in place of overhead lines, it is clarified that as per definitions in Measures relating to Safety and Electric Supply, Regulations, 2010 conductor is defined as bare or insulated and as such the vertical & horizontal clearance specified in Regulation 61 have to be maintained for both bare and insulated conductors like ABC etc.

To prevent death of animals like elephants due to electrocutions the distribution companies shall preferably use ABC or underground cables in forest areas. In case of the overhead lines, the clearance above ground of the lower conductor of 11kv and 33 KV overhead lines should

be as per the CEA regulation 58(3) and 58(4) or above maximum trunk height of the elephant, whichever higher.

10.2 Transmission through insulated cable: The norms/ standards for laying underground insulated cables through forest areas shall be as below:

Lines Voltage	Trench Width	Trench Depth
33 KV	600 mm	1200 mm
11 KV	300 mm	900 mm

However, for laying double circuit (D/C) underground cables through forest areas trench width shall be twice the afore-mentioned width stipulated for the single circuit cable.

10.3. Compensatory afforestation (CA) and Net Present Value (NPV) will be regulated as per the concerned guidelines.

For DEHL NOTIFICATION

Divisional Forest Officer
Great Himalayan National Park
Shamshi, Kullu (H.P.)-175126

Government of India

Central Electricity Authority
Chief Electrical Inspectorate Division
3rd Floor, NRPC Building
18-A, Shahid Jeet Singh Marg
Katwaria Sarai, New Delhi-100 016

संख्या : CEI/1/2/2016/279 Dated: 22-02-2016

To

Sh. H. C. Choudhary
Director (MoEF& CC),
J-207, Jal Wing, Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi-110003

Subject: - Minutes of the meeting held on 29.01.2016 to discuss the issues relating to the problems encountered by MOEF in taking up the clearances for laying line 33 KV and below in the forest areas of the country and also electrocution of wild animals

Sir,

A meeting was taken by Chief Engineer (CEI Division) on 29.01.2016 at 3:30 pm in his office in NRPC Building, Katwaria Sarai, New Delhi, to discuss the above issues. The minutes of the meeting is enclosed herewith.

Encls: As above.

Yours faithfully,

22/2/16
(H.M.Rao)
Deputy Director

Copy to:

1. Shri. R.K. Verma. Chief Engineer(DP&D), CEA
2. Shri. Sandesh Kumar Sharma, Chief Engineer(Legal), CEA
3. Shri. S.K.Ray Mohapatra, Chief Engineer(SE&TD), CEA

89(A)

Minutes of the meeting held on 29.01.2016 to discuss the issues relating to the problems encountered by MOEF in taking up the clearances for laying line 33 KV and below in the forest areas of the country and also electrocution of wild animals

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A meeting was taken by Chief Engineer (CEI Division) on 29.01.2016 at 3:30 pm in his office in NRPC Building, Katwaria Sarai, New Delhi, to discuss the above issues. **The list of participants of the meeting is annexed.**

2. Chief Engineer (CEI) welcomed the participants from CEA and MOEF in the meeting. He asked Director, MOEF to intimate the concerns of the forest Departments (MOEF) relating to the laying of transmission lines through forest and electrocution of wild animals in the forest areas of the country.

3. Director, MOEF highlighted the following issues.

- Need to review the Right of way (ROW) requirement for 33 KV and below lines and cables.
- Reduction in ROW in forest areas in case ABC cables are used in place of OH lines.
- Death of animals like elephant etc. due to electrocution in the forest area by the distribution lines

4. These issues were discussed in details. The outcome of the discussions is as under:

i) **Reviewing the Right of way (ROW) requirement for 33 KV and below lines and cables.**

The participants from EI Division and DPD were of the view that Right of Way (ROW) for different voltage level is based on the figures given in IS 5613, which stipulates the ROW width for various voltage level distribution/transmission lines. The ROW have been arrived by the Bureau of Indian Standards (BIS) after giving a considerable thought, taking into consideration the minimum ROW required for erecting the transmission lines which includes safe horizontal clearance from outer phase to the adjoining structures/trees. Since, the BIS is a separate autonomous organization and they have different committees who decides on different standard and as such revision of IS is not under purview of CEA. In case, MOEF has any serious issue on the existing ROW of 33KV lines and below, then they need at approach BIS for amendment in the respective IS.

As regards to laying of cable through forest areas, the general practice as followed by the distribution companies for laying cables are as under:

	Trench Width	Trench Dept
33KV	600mm	1200 mm
11 kV	300 mm	900 mm

For D/C the trench width would be nearly double.

ii) **Reduction in ROW in forest areas in case ABC cables are used in place of OH lines.**

In this context, it was pointed out that as per definitions in Measures relating to Safety and Electric Supply, Regulations, 2010, conductor is deified as bare or insulated and as such the vertical & horizontal clearance specified in Regulation 61 have to be maintained for both bare and insulated conductors like ABC etc. However, IS 5613(Part 2/ Sec2) as amended in 2007 stipulates that Lower values of ROW may be adopted by power utilities by use of V –string or adopting smaller spans in the forest areas based on the Line Clearance(Right-of-Way) Requirement. The matter was further discussed and it was informed that it is responsibility of respective distribution company to maintain the distribution lines and should also periodically check the clearances from the conductors. As per the stipulations in the then IE Rules 1956, CEA have also issued guidelines in 2005 for laying transmission / distribution lines of 11 KV & 33 KV voltage levels in areas critical from wildlife point of view and circulated the same to all the concerned for compliance. **The relevant extract of the guideline is enclosed at annexure-I.**

iii) **Death of animals like elephant etc. due to electrocution in the forest area by the distribution lines**

As regards to the Death of animals like elephant etc. due to electrocution in the forest area by the distribution lines, it was viewed that there is no restriction in any CEA Regulation on use of insulated cable/ ABC in the forest corridors. As 33 kV lines and 11 kV lines are laid by the distribution companies, so the respective distribution companies are to decides whether to use bare conductor or insulated cable as per the site location. Since the issue of increased numbers of deaths of animals like elephants etc. due to electrocution in the forest area by the distribution lines has come to notice, so it was suggested by CE(CEI) that MOEF might advice the distribution companies to either go for ABC or U/G cable in the forest area and they may consider inclusion of the same in their NOC for laying lines in forest areas. Further. The clearance above ground of the lower conductor of O/H 11 kV lines and 33 kV lines should be as per CEA regulation 58(3) and 58(4) or above maximum trunk height of the elephant, which ever higher.

The meeting ended with thanks to the chair.

Statement Showing Details Regarding Double Circuit Under Ground Transmission Line in Jiwa SHEP 1.75 MW in Sub Tehsil Sainj, Jiwa Nala Forest Range, GHNP Shamshi Forest Division, Distt. Kullu (H.P.)

Sr. No.	Description of Item	Quantity	Unit	Remarks
1	Voltage of Transmission Line	11	KV	
2	Total Length of Transmission Line	380	m	
3	Length of Transmission Line Passing Through Forest Area	380	m	
4	Length of Transmission Line Passing Through Non Forest Area	42.6	m	
5	Right of Way/ Width of Corridor	0.6	m	Double Circuit U/G. T/L
6	No. of Two Pole structure to be erected	Nil	no.	
7	No. of Pole structure to be erected in Forest Area	2	No.	
8	No. of Pole structure to be erected in non-Forest Area	Nil		
9	Interconnection Point	99	Sqm.	
10	Height of Transmission Line	Nil (U/G Transmission Line)		

Date 07/06/2024
Place -Shamshi

For BEHL MOTORS
Auth. Signatory
Authorized Signatory

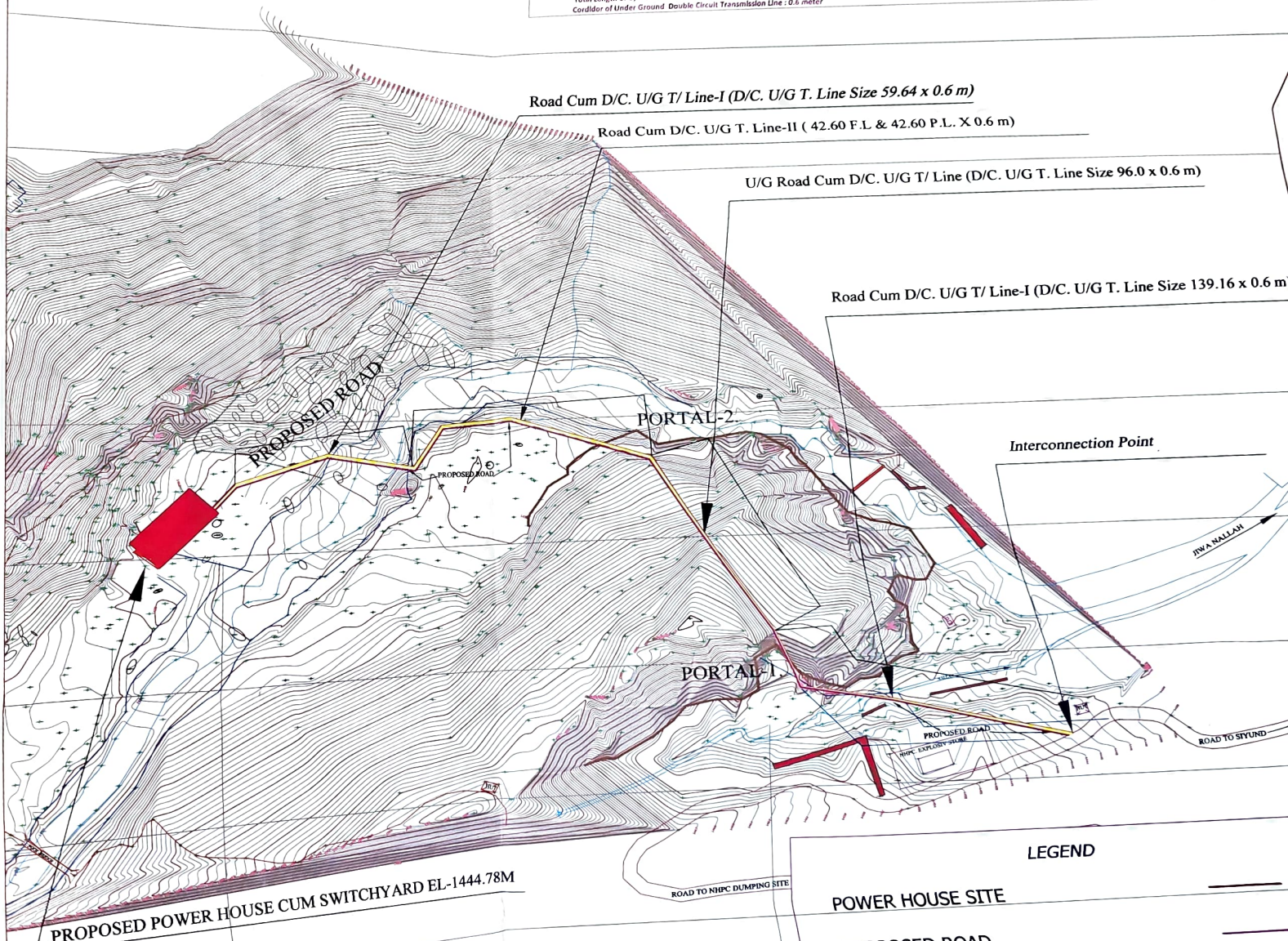
Divisional Forest Officer
Great Himalayan National Park
Shamshi, Kullu (H.P.)-175126

D/C. U/G TRANSMISSION LAYOUT PLAN OF JIWA-II SHEP 1.75 MW

LAND REQUIREMENT OF Jiwa-II SHEP For the component of Road Along with Double Circuit Underground Transmisiin Line (Cordidor of D/C. U/G Transmission Line Is 0.6 m.)

S No.	Name of Component	Khasra No / TUKDA NO.	MAHAL/ Phati	SIZE OF COMPONENTS IN		SIZE OF COMPONENTS IN		AREA OF LAND		AREA (Hec.) Private Land	AREA (Hec.) Forest Land	Total Land in Ha.
				Length	Width	Length	Width	FOREST LAND (Sq. m)	PRIVATE LAND (Sq. m)			
1	Road Cum D/C. U/G Transmission Line-I	Tukda No. 17	Shansher/ Shensher	42	2	59.64	2.84	169.00	—		0.0169	0.0169
2	Road Cum D/C. U/G Transmission Line-II	Tukda No. 18	Ralla/ Bhalan	30	2	42.60	2.84	121.00	121.0000	0.0121	0.0121	0.0242
3	Underground Raod Cum D/C. U/G	Tukda No. 19	Ralla/ Bhalan	67.1	2	96.00	2.84	273.00	—		0.0273	0.0273
4	Road Cum D.C. U/G Transmission Line-III	Tukda No. 20	Ralla/ Bhalan	98	2	139.16	2.84	395.00	—		0.0395	0.0395
5	Interconnection Point	Tukda No. 22	Ralla/ Bhalan	7	7	9.94	9.94	99.00	—		0.0099	0.0099
TOTAL LAND REQUIREMENT						347.34	21.30			0.0121	0.1057	0.1178

Total Length of U/G Transmission Line Along With Road : 347.34 meter
Cordidor of Under Ground Double Circuit Transmission Line : 0.6 meter



For BEHL MOTORS
Auth Signatory

For BEHL MOTORS
Auth Signatory

Divisional Forest Officer
Great Himalayan National Park
Shamshi, Kullu (H.P.)-175125