



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,


(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

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

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 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. 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 decide 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 advise 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, whichever is higher.

The meeting ended with thanks to the chair.

List of participants:

CEA

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|----|-------------------|----------------|---------------|
| 1. | Sh. Goutam Roy | Chief Engineer | CEI Division |
| 2. | Sh. Vivek Goel | Director | DP&D Division |
| 3. | Sh. Upendra Kumar | Director | RIO(N) |
| 4. | Sh. U. M. Rao | Dy. Director | CEI Division |

MOEF

- | | | | |
|----|---------------------|----------|---------|
| 5. | Sh. H. C. Choudhary | Director | MOEF&CC |
|----|---------------------|----------|---------|

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भारत सरकार

Government of India

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युत निरीक्षण प्रभाग

Electrical Inspectorate Division

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No. CEI/1/28(Wildlife)/2004/134-161

Dated 17 January, 2005


As per list

Subject : Guidelines for laying transmission/distribution lines of 11KV and 33KV voltage grade in area critical from wildlife point of view.

- Ref. : (1) Minutes of Brainstorming Session on Protection of Wildlife issued vide Ministry of Power letter No. 11/2/2003-Trans. dated 20.4.2004.
(2) Ministry of Power D.O. letter No. 11/2/2003-PG dated 6th January, 2005 addressed to Member (PS), CEA

Based on Pilot Project Report on Rajaji National Park for protection of wildlife from electrocution, CEA has prepared guidelines for laying and maintenance of 11KV and 33KV Transmission/ Distribution lines in areas critical from wildlife point of view.

A copy of these guidelines is enclosed for further necessary action at your end.


17/1/05
(S.P. SINGH GAHARWAR)
CHIEF ENGINEER(EI)

ok

Guidelines for laying and maintenance of 11KV and 33KV Transmission/
Distribution lines in areas critical from wildlife point of view

- ✓ (1) Laying/maintenance of lines shall conform to IS 5613, REC Construction Standards and applicable guidelines of CBI &P.
- 9 (2) [Suitable guard spikes may be provided on 400 Volts, 11KV and 33KV poles at height of 4 ft. and 7 ft. to ward off animals coming close to poles and likely to damage it by rubbing against them.] ✓
- ✓ (3) Tower accessories as stipulated in IE Rules shall be provided on all the towers.
- ✓ (4) Concerned Electricity Department should undertake rigorous exercise to inspect the lines so as to ensure that mandatory ground clearances are not violated as stipulated in the I.E. Rules, 1956. Lines should be inspected periodically, say, at least once in a year by Electricity Department officials and corrective actions shall be taken in this regard. Maintenance of the minimum ground clearance and periodical inspection should be certified by an officer not below the rank of Executive Engineer.
- 7 (5) Joint inspection of every transmission/ distribution line by officials of Electricity Department and Forest Department may be undertaken twice in a year, say, once before onset of monsoon and once after monsoon so as to identify any need for lopping of trees and ensuring necessary action in this regard.
- ✓ (6) Every tripping of Electric line should be investigated by the owners of line and they should take suitable measures to avoid recurrence of the same.
- ✓ (7) Forest Department shall inform the concerned power supplier/line owner of the area about every electrical accident occurring in and around forest area involving human/animals which in turn shall submit an accident report in Performa as given at Annexure-XIII of I.E. Rules, 1956 duly completed in all respects to Electrical Inspector of the State. All electrical accidents should be investigated by Electrical Inspector and suitable measures should be taken as proposed in the investigation report.

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1. Shri Vinod Rishi,
Addl. Director General of Forests (Wildlife),
Ministry of Environment & Forests,
New Delhi - 3.
2. Shri S.C. Sharma,
Addl. Director General of Forests (Wildlife),
Ministry of Environment & Forests (Retired)
New Delhi
3. Chief Wildlife Warden,
Assam Forest Department.
4. Chief Wildlife Warden,
Meghalaya Forest Department
C/o of Office of the Principal Chief Conservator of Forests,
Sylban House, Lower Lai Chumere,
Shillong-793001.
5. Principal Chief Conservator of Forests (Wildlife),
Maharashtra Forest Department.
6. Principal Chief Conservator of Forests (Wildlife),
West Bengal Forest Department.
7. Chief Wildlife Warden,
Uttaranchal Forest Department,
87 Rajpur Road, Dilram Market,
Dehradun.
8. Shri Gireesh B. Pradhan,
Joint Secretary (Trans),
Ministry of Power, New Delhi.

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- Dr. Rajesh Gopal,
Inspector General of Forests (PT),
Ministry of Environment & Forests,
Bikaner House, New Delhi
10. Shri S.S. Bisht,
Inspector General of Forests (PE),
Ministry of Environment & Forests,
New Delhi.
11. Shri Santosh Kumar,
Member (GO),
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi.
12. Shri Sailesh,
Chairman,
Assam State Electricity Board,
Bijulee Bhawan,
Guwahati.
13. Smt. Rachael Chatterjee,
Chairman & Managing Director,
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14. Shri ~~Ashok Rajan~~, *SPS Raghav*
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Uttanchal Power Corporation Ltd.,
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15. Shri J. Tayeng,
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16. Shri P. Patnaik,
Chairman & Managing Director,
Grid Corporation of Orissa,
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17. Shri A.V. Singh,
Chairman,
Madhya Pradesh Electricity Board,
Shakti Bhawan, PO Box No. 34,
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18. Shri K.C. Misra,
Principal Secretary (Power),
Government of Bihar,
Patna-800008.
19. Shri T.M. Manoharan,
Chairman,
Kerala State Electricity Board,
Vidyut Bhawan, Patarn,
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20. Shri S.C. Misra,
Director (Projects),
Power Grid Corporation of India Ltd.,
Plot No. 2, Sector-29,
Gurgaon-122001 (Haryana).
21. Ms. Belinda Wright,
Executive Director,
Wildlife Protection Society of India,
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New Delhi-110048.
22. Dr. Bharat Bhushan,
Associate Professor (Environment Planning),
Yashada, Raj Bhawan Complex,
Baner Road, Pune-411007.

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23. Dr. C.L. Trisal,
Coordinator of Wetlands International-
South Asia, Wetland International,
South Asia Office, A-127,
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24. Dr. A.J.T. Jonsingh,
Wildlife Institute of India,
Dehradun (Uttaranchal).
25. Shri P.P. Sharma,
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26. Shri Samir Sinha,
Conservator of Forest,
O/o Chief Wildlife Warden,
Govt. of Uttaranchal 85,
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27. Shri Vikas Saxena,
GM (Engg. S/S),
PGCIL, SAUDAMINI,
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28. Shri G.S. Pandey,
Director, Rajaji National Park,
Dehradun.