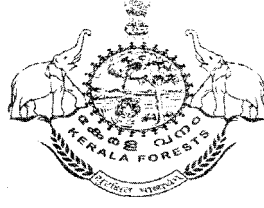


FC2- 3774/2022



Forest Headquarters,
Vazhuthacaud,
Thiruvananthapuram - 14.
Ph: 0471-2529150, 2529151
Mob: 9447979014
Email: cf-sano.for@kerala.gov.in
Date : 16.05.2023

From

The Additional Principal Chief Conservator of Forests,
Nodal Officer, F(C) Act &
Chief Executive Officer, CAMPA,
Forest Headquarters, Vazhuthacaud,
Thiruvananthapuram.

To

The Additional Chief Secretary,
Forest & Wildlife Department,
Government Secretariat,
Thiruvananthapuram.

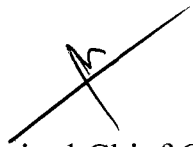
Sir,

Sub:- Forest & Wildlife Department - Diversion of 7.414 ha of forest land for upgradation of 9.93 KM existing 66 KV Attingal - Palode SC Feeder to 110 KV double circuit from Mithirmala to Palode in favour of Assistant Executive Engineer, Transmission, Sub division, KSEB Ltd, Nedumangad - reg.

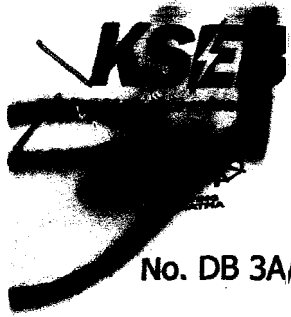
Ref:- MoEF&CC Ir.No.4-KLC 1436/2023-BAN/93 dt.29.03.2023.

Kind attention is invited to the subject cited. The information/clarification sought by Government of India vide reference cited is furnished by the user agency (KSEBL). The same is submitted herewith for onward transfer to Government of India.

Yours faithfully,


For Additional Principal Chief Conservator of Forests
Nodal Officer, F(C) Act &
Chief Executive Officer, CAMPA

Copy to Divisional Forest Officer, Thiruvananthapuram.



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Indian Companies Act, 1956) CIN:U40100KL2011SGC027424

Office of the Executive Engineer, Transmission Division, Kazhakuttom

Thiruvananthapuram – 695 582.

Telephone: +91 471 2994838, 9446008107

E-mail: eetdptvm@gmail.com

No. DB 3A/TDP/Palode upgradation/2023-24/ 128

Date: 19.04.2023

From

The Executive Engineer

To

The Divisional Forest Officer,
Thiruvananthapuram.

Sir,

Sub: Upgradation of 9.93 km existing 66 kV Attingal Palode SC feeder to 110kV Double circuit using ACSR Wolf conductor from Mithirmala to Palode – Forest clearance – additional details - reg.

- Ref: 1. AS No. BO (FTD) 216 /2020/(D(T&SO&S/T1/Palode) dated 19.03.2020.
2. Online Proposal No. FP/KL/TRAN/50187/2020 dated 10.11.2020.
3. Letter No 4-KLC1436/2023-BAN/93 dated 29-03-2023 of the Assistant Inspector General of Forest (Central), Integrated Regional Office, MoEF&CC, Bangalore dated 14.03.2023
4. Letter No. DB 07/TSD-NDD/TCS-NDD/23-24/11 dated 01-04-2023 of the Assistant Executive Engineer, Transmission Sub Division, Nedumangad

KSEBL had applied online for Forest Clearance for Right Of Way (ROW) for the work of Upgradation of 9.93km existing 66kV Attingal Palode line as per proposal no. FP/KL/TRANS/50187/2020 dated 10.11.2020. The 70th Regional Empowered Committee (REC) meeting held on 28.03.2023 has requested information / clarification on the technical details / feasibility of shifting the overhead transmission line to underground cable and details of other alternatives examined.

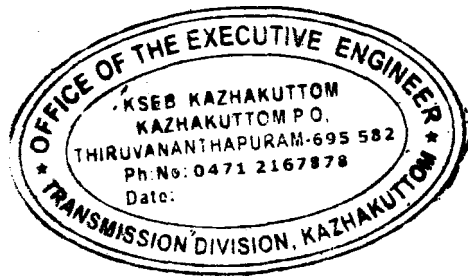
In this regard, it is submitted that while an underground cable may seem to be a viable alternative, laying seven runs of 110 kV, 630 mm² underground cable using concrete cable trench and construction of seven nos of concrete cable jointing chambers, each of size 12m x 2m x 2m along the 4 km of forest land would cause more environmental damage than constructing an overhead line. It requires extensive excavation and backfilling, which would lead to soil erosion, deforestation and habitat fragmentation. Additionally, the construction of cable trench would be a complex and expensive process and future maintenance of the underground cable could also pose challenges. Also at the tapping point, construction of an isolator station would be required, which would necessitate acquisition of more forest land. On the other hand, drawing 110 kV Overhead line would require construction activities only at the existing 13 tower locations.

Moreover, the Ministry Of Power, Government of India has issued Techno-economic norms on undergrounding of power lines vide Circular No. 25-7/42/2019-PG dated 01.08.2022, specifying the broad principles which should be followed for undergrounding of power lines. It states that "*Undergrounding of transmission lines of 66 kV and above voltage level is not technically feasible for evacuation of bulk power. The power evacuation lines shall be allowed to be constructed over ground as any outage in*

*underground line due to any fault / damage would require much longer time for
oration compared to overhead line and would amount to huge generation losses."*

In view of the above and considering the increasing demand for electricity in Palode and nearby villages, it is very much essential to upgrade the existing 66kV substation, Palode to 110kV by drawing overhead line. It is pertinent to note that since the substation lies within the Reserve forest area, there is no other alternative for feeding 110kV supply to Palode substation. KSEBL undertakes to strictly adhere to environmental regulations and guidelines during and after the construction process.

It is once again requested that necessary sanction may be granted for carrying out the upgradation work of the existing 66kV Attingal – Palode line to 110 kV from Mithirmala to Palode by drawing overhead line through forest area at the earliest in order to provide reliable and quality power to the north eastern region of Thiruvananthapuram District.



Yours faithfully,

Executive Engineer

Copy submitted to:-

The Deputy Chief Engineer, Transmission Circle, Thiruvananthapuram.

Copy to:-

The Assistant Executive Engineer, Transmission Sub Division, Nedumangad.

No.25-7/42/2019-PG
Government of India
Ministry of Power

Shram Shakti Bhawan,
Rafi Marg, New Delhi
Dated, the 1st August, 2022

Chairperson
Central Electricity Authority
Sewa Bhawan, R K Puram
New Delhi-110066

Subject: Techno-economic norms on under-grounding of power lines

Sir

I am directed to say that of late, number of issues related to undergrounding of power lines had arisen and accordingly, a Technical Expert Committee (TEC) under Member (Power System), Central Electricity Authority (CEA), with representatives of Central Transmission Utility of India Ltd and Ministry of Environment Forest and Climate Change, was constituted to clearly lay down the techno-economic norms on undergrounding of power lines, so that adhoc decision on case to case basis is replaced by decision making based on transparently announced norms framed by the TEC.

2. The Committee had examined the Technical feasibility of under-grounding of transmission lines and submitted their report. The report has been approved and based on recommendation of the Committee, it has been decided that following broad principles for undergrounding of power lines should be followed:

- a) Undergrounding of transmission lines of 66 kV and above voltage levels is not technically feasible for evacuation of Bulk power on account of the different constraint as mentioned in the report. The power evacuation lines be allowed to be constructed over ground as any outage in the underground line due to any fault/damage would require much longer time for restoration that compared to overhead line and would amount to huge generation losses.
- b) In respect of 33 kV and below rated lines, which are used for transfer of lower volumes of power over shorter distances, the undergrounding of transmission lines is technically feasible and can be adopted, keeping in view local circumstances.
- c) The following guidelines may be followed for installation of bird diverters, wherever felt necessary:
 - i) In respect of EHV transmission lines with two or more conductors per phase (bundle conductors), placement of bird diverters on the Earth wire(s)/ OPGW may suffice.
 - ii) In respect of transmission lines with single conductor in each phase, the bird diverters can be placed on the phase conductors as well as on the Earthwire(s)/ OPGW.

- iii) The bird diverters shall be placed on central 80% span of the line and at an interval of 10 m.
- iv) Technical specification for Bird Diverters as finalized by the Hon'ble Supreme Court appointed Committee in consultation with CEA shall be followed.

3. This issues with the approval of the Hon'ble Minister of Power and New and Renewable Energy.

Yours faithfully,



(Sanjeev Jain)

Under Secretary to the Govt. of India

Tel. 23710264

E-mail: pgdesk-mop@gov.in

Copy to:

1. Secretary, Ministry of New & Renewable Energy, New Delhi
2. Secretary, Ministry of Environment Forest and Climate Change, New Delhi
3. Chief Operating Officer, Central Transmission Utility of India, Gurugram
4. Managing Director, Solar Energy Corporation of India Ltd, Gurugram
5. CMD, Power Grid Corporation of India Ltd, Gurugram
6. All Transmission Developers
7. Director, NIC, Ministry of Power -for uploading the same in the Ministry of Power's website.