

No. FCA/Sub-Station Nadukhar/ 379  
Himachal Pradesh Forest Department

Dated Shimla-2, the 25-4-2023

From: DFO Shimla.

To: CCF (T), Shimla

Sub: Diversion of 2.8975 ha. Forest land for the Construction of 220/66 KV Sub Station Nadukhar & 220 KV LILO Tower for LILO of 220 Bhaba-Kunihar line Tehsil Suni District Shimla H.P in favour of Himachal Pradesh State Electricity Board Ltd. (Online Proposal No. (FP/HP/Sub-Station/46229/2020).

Memo,

Please refer to the Integrated Regional Director office letter No. FC/HPB/12/75/2022 dated 9<sup>th</sup> August, 2022 on the subject cited above.

2. The reply in respect of the observation raised by the Integrated Regional Office vide letter referred to above on 18 points is given as under:-

1. **Reply on Point No. 1:** - The User Agency by attending the observation has agreed that the extant proposal is a non site specific project. However, it is submitted that Shimla Jal Prabandhan Nigam Limited has proposed to establish a water supply scheme in three pumping stages for providing ample water to Shimla town and its surrounding areas on 66 KV level and the nearest existing source to provide the same is Jutogh-Gumma-Sainj-Hulli transmission line only. This transmission line is already catering 5 No. 66kV EHV sub-stations namely Craignano, Gumma, Sainj, Hulli & Lastadhar (Chopal) which in turn are responsible for providing reliable power supply to Mashobra, Sunni, Basantpur, Theog, Sainj, Kotkhair, Chopal, Nerwa and surrounding regions. Moreover, it is atleast 14 km away from the nearest pumping stage and about 22-24 km away from the farthest pumping stage. As such, it is not possible to meet SJPNL's round the clock voltage & load requirements from it because it is already overloaded and during winters a maximum load of 500 Amperes has been recorded on it against a current carrying capacity of 400 Amperes. Providing power supply through this source would only lead to non availability of ample operating voltage at proposed pumping sites which in turn would defeat the purpose of providing reliable power supply to SJPNL as water pumping activity would continuously remain affected. Further loading this line would repeatedly lead to its failure and power supply to general public would also be affected. With no alternative left it was decided to construct a 220/66 KV sub-station by LILOing 220 KV double circuit Bhaba-Kunihar double circuit line which passes through the area for which a 220/66 KV sub-station is required to be constructed. The land for construction of proposed sub-station at Nadukhar has been prudently selected keeping in view the following factors: -
  - a. The Assistant Inspector General of Forests while communicating the guidelines for laying transmission lines through forest areas has conveyed

that width of ROW for constructing a 220 KV transmission line shall be 35 metres (**Annexure-A-1**). The same has also been notified in the compendium of tested tower design for EHV transmission line notified by Central Electricity Authority, New Delhi, Ministry of Power, GoI (**Annexure-A-2**). Keeping these guidelines in view it was envisaged to keep route of 220kV line as short as possible and on need basis only as construction of a lengthy 220kV line in the area would have resulted in increase of forest/govt/pvt area to be diverted for its construction. Hence, instead of constructing the proposed 220kV sub-station elsewhere, it was only prudent that the land proposed for its construction is in close proximity to the 220kV Bhaba-Kunihar line already passing through the area. Accordingly, to reduce the environmental impact involved and to minimize the length of emanating 220kV & 66kV transmission lines various sites were explored in Sunni & its surrounding areas. After many explorations no befitting private land to the required extent for setting up the sub-station was available in the area. Finally sites befitting the requirements were surveyed and subsequently the existing site was finalized since it was nearest to the existing 220kV transmission line, involved minimal environmental impact and construction of lengthy transmission line network (220kV & 66kV) was minimum.

- b. A state of the art Gas Insulated Switchgear (GIS) has been proposed to be constructed at site instead of a conventional 220kV sub-station. The environmental footprint & space requirements of a GIS sub-station are very less as compared to a conventional sub-station. It also prevents electromagnetic pollution because of its closed metal cabinets. This will ensure that bare minimum land is used for construction.
- c. The pumping stages I & II of SJPNL are only 2.1 km & 6 km away from the proposed sub-station site.
- d. The density of trees at site and in the surrounding area is less.
- e. Road connectivity nearby proposed sub-station site for transportation of heavy equipment & machinery.

Keeping in view of the above, it is evident that the proposed site for construction of the sub-station has been selected after much prudence and deliberation. Moreover, since no other suitable/feasible non-forest land is available in the area, there is no escape from using forest land.

2. **Reply on Point No-2:** - In the extant proposal for diversion of 2.8975 Ha, about 1652 saplings/trees (1650 saplings + 2 trees) (**Annexure-B-I**) of different categories were enumerated on the entire stretch of land proposed for diversion wherein only 822 saplings/trees (822 saplings+ 0 trees) were proposed for felling and the remaining 830 saplings/trees (828 saplings+2 trees) were not proposed for felling (**Annexure-B-II**). However, based on the advice rendered by the competent authority with the view to minimize the felling of saplings/trees, the entire proposal regarding diversion of forest land has been

the muck/debris generated during the construction of the project shall be re-used at the project site. A certificate to this effect has already been uploaded against the additional information details.

12. **Reply on Point-12:-** The density of the vegetation has been revised as Very Dense Forest from Open Forest as well as the Net Present Value calculation sheet has also been revised accordingly, please (**Annexure-J**).
13. **Reply on Point-13:-** In this respect, it is submitted that on the project site total 1650 sapling and 2 trees of various species have been enumerated out of which only 822 sapling of various species are required to be felled and other balance trees will be retained as it is.
14. **Reply on Point-14:-** As aforementioned and in the proposal submitted earlier out of 1652 saplings/trees (1650 saplings + 2 trees) (**Annexure-K-I**) only 822 saplings/trees (822 saplings+ 0 trees) were proposed for felling and the remaining 830 saplings/trees (828 saplings+2 trees) were not proposed for felling (**Annexure-K-II**). Based on the advice rendered by competent authority the extant proposal has been reviewed and revised and the area being proposed for diversion of forest land has been reduced from 2.8975Ha to 1.1333 Ha. Accordingly, the requisite revised enumeration list of trees/saplings (cutting/non-cutting) along with the serial number of trees/saplings is being enclosed as **Annexure-K-III**. Therein, 580 No. of saplings have been proposed for felling whereas 111 No. saplings under the RoW have been proposed for non-felling against the enumeration list submitted earlier wherein 822 No. saplings/trees were proposed for felling. It would be pertinent to mention here that the 830 No. trees not being felled and retained as submitted earlier have now been excluded from the scope since the area has been reduced as aforementioned whereas the Sr. No. of 111 No. trees not being felled have been provided.
15. **Reply on Point-15:-** It is submitted that in the proposal submitted earlier, 1.5 meter cable trench for 4 No. 66 KV circuits to be laid in trefoil arrangement and emanating from the sub-station was mentioned. It would be pertinent to mention that para 10.2 of the FCA guidelines lays down the norms/standards for laying 11 KV & 33 KV voltage level single & double circuits only through underground cables in forest areas. Whereas in the instant case underground cables with 66 KV voltage level are to be laid. Nonetheless based on the advice rendered the cable trench component has been reviewed. Now, the cable trenches for laying the cables of emanating circuits have been propositioned to be constructed inside the sub-station premises (instead of outside the boundary) to further reduce the area proposed for diversion and to ensure that maximum area proposed for diversion is utilized. Trenches of various sizes i.e. 1.9m (ID-1.6m) & 1.1m (ID-0.8m) has been approved by the authority and the same has now been considered for laying 66kV, 630mm<sup>2</sup> single core cables having current carrying capacity of 690Amps. Furthermore, instead of conventional flat method to lay the cables, trefoil (triangle) arrangement has been proposed


for laying to reduce the area of cable trenches. Copies of approved drawings in this regard have been enclosed as **Annexure-L-I**. As aforementioned the entire proposal has been reviewed and now revised wherein the entire forest area proposed for diversion has been reduced from 2.8975Ha to 1.1333 Ha. Accordingly, revised SoI & digital maps of CA & DA (**Annexure-L-2**) sites along with KML files have been uploaded in the designated columns of the Parivesh portal whereas necessary action to review the CA & NPV scheme is to be initiated by your good office.

16. **Reply on Point-16:-** The information/documents/justifications as desired have been uploaded on the Parivesh portal and is being submitted as under :-
- i. As advised interconnecting transmission lines emanating from the sub-station have been uploaded on Parivesh portal. The 220kV LILO tower portion has now been excluded from the instant proposal whereas inclusion of 66kV initial/starting towers shall remain the same. It is submitted that FCA case seeking approval of competent authority for diversion of forest land for construction of 66kV transmission lines (i.e. 66kV Nadukhar Shakrori & 66kV double circuit Nadukhar-Gumma bearing proposal No. FP/HP/TRANS/151522/2022 & FP/HP/TRANS/151073/2022 respectively) have been prepared separately and are currently under process at various stages. Furthermore, case seeking approval for diversion of forest land for construction of 220kV LILO at Nadukhar and 66kV transmission line from Nadukhar to Dwada is in inception stages and being prepared.
  - ii. All proposed components have been marked on the web portal.
  - iii. As aforementioned the revised list of saplings/trees to be felled and not to be felled/pruned/lopped under the towers & RoW of the transmission lines have been enclosed as **Annexure- M-I & Annexure-M-II**. A block cum single line power evacuation diagram depicting the same has also been enclosed herewith (**Annexure-M-III**) for ready reference.
  - iv. The proposal for providing 66kV gantry outside sub-station premises for future use (0.12Ha) was reviewed and has now been excluded from the revised proposal.
  - v. As suggested the 0.4928Ha area for open/circulation component has been reviewed and now revised to 0.00576Ha. Necessary corrections have also been made in the layout plan submitted and uploaded on Parivesh portal.
17. **Reply on Point-17: -** The 2.8975Ha area proposed for diversion has been revised to 1.1333 Ha. Accordingly, the DSS analysis calculation has been reviewed/ revised with rectified area of 1.1333Ha which is coherent with the current proposal.
18. **Reply on Point-18: -** In wake of advice rendered the proposal of 2.8975 Ha submitted earlier has now been reviewed and revised to 1.1333Ha. Due prudence has been given to the advice while accommodating present project

components to ensure that least amount of forest land is required for diversion. Since, the area/proposal has been revised the number of saplings proposed for felling has reduced from 822 No. to 580 No. whereas 111 No. saplings shall be retained in the Right of Way of initial 66kV towers. Nonetheless, an undertaking (**Annexure-N**) to pay the entire cost on account of Soil & Moisture Conservation Plan (SMCP) in respect of the subject cited project is also submitted herewith.

This is for favour of kind information and necessary action, please.

Encl: As above.

  
Divisional Forest Officer (Rural),  
Forest Division, Shimla

**FULL TITLE OF PROJECT: Construction of 220/66 KV Sub-Station Nadukhar & 220 KV LILO Tower for LILO of 220 KV Bhaba-Kunihar Line. Online Proposal No. FP/HP/SubStation/46229/2020.**

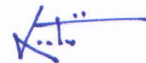
In consonance to the order dated 28.03.2008 of Hon'ble Supreme Court of India in Writ Petition (Civil) number 202 of 1996 in the matter of T.N. Godavarman Thirumalpad Vs. Union of India, the Net Present Value of the Forest being diverted is calculated as under.

The Ecological class VI includes the Forest type found in the Forest being diverted. The average density of the forest 0.355 i.e. Very Dense Forest.

The Hon'ble Supreme Court has fixed the Net Present Value of Rs. 15,16,230/- per hectare for the Eco-Class - VI, Very Dense Forest, hence the total value works out to be Rs. 43,93,277/- for 2.8975 ha. Forest land being diverted.

**Place: Shimla**

**Dated:**



Divisional Forest Officer (Rural),  
Shimla Forest Division,