

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Pet. No. 13 of 2019

In the Matter of:

Application seeking approval for the investment on the project covering the construction of 03 Nos., 33/11 kV Substations & their associated 33 kV line.

And

In the Matter of:

Uttarakhand Power Corporation Limited. (UPCL),
VCV Gabar Singh Urja Bhawan, Kanwali Road,
Dehradun.

...Petitioner

Coram

Shri Subhash Kumar Chairman

Date of Order: April 08, 2019

ORDER

This Order relates to the Petition filed by Uttarakhand Power Corporation Limited (hereinafter referred to as "UPCL" or "the Petitioner" or "the licensee") seeking prior approval of the Commission for the investment on the project covering the construction of 03 Nos. 33/11 kV Substations & their associated 33 kV line.

Background

2. The Petitioner vide its letter No. 4109/UPCL/Comm/RMC-6/D(F) dated 15.11.2018 submitted Petition for prior approval of investment under the provisions of the Clause 11 of Distribution and Retail Supply License and Clause 40 of UERC (Conduct of Business) Regulations, 2014.
3. The Petitioner in its Petition has submitted that for ensuring reliable power supply, improved voltage profile and for meeting future load growth, the construction of 03 No. 33/11 KV Substations & their associated 10.50 km 33 KV lines namely Khari, Madhmanley & Takula have been proposed. The estimated cost of the project is Rs. 13.83 Cr., which would be met through loan (70%) from REC and Equity (30%) from State Government. The land for Construction of

Substations will be made available by the respective Electricity Distribution Division of UPCL. The details of substations and lines are as follows:-

| Abstract of Details of 33/11 kV Substations along with their 33 kV associated lines | | | | | | | |
|--|-----------------------------------|-----------------|----------------------------------|-------------------------------------|---------------------------------|-------------------------------|-------------------|
| (Rs. In Crores) | | | | | | | |
| Sl. No. | Name of 33/11kV Substation | District | Substation Capacity (MVA) | Estimated cost of Substation | Length of 33KV line (Km) | Estimated cost of line | Total Cost |
| 1 | Khari | Tehri | 2x3 | 3.99 | 1.00 | 0.29 | 4.28 |
| 2 | Madhmanley | Pithoragarh | 2x5 | 3.85 | 6.20 | 1.37 | 5.22 |
| 3 | Takula | Almora | 2x5 | 3.72 | 3.30 | 0.61 | 4.33 |
| Total | | | 26.00 | 11.56 | 10.50 | 2.27 | 13.83 |

4. The Petitioner has submitted the detailed project report along with its Petition covering techno-economic aspects of the project and outline of the proposed works. The Petitioner has enclosed certified true copy of approval of 87th Board Of Directors meeting held on 02.08.2018.
5. On preliminary examination of the Petition, certain deficiencies/infirmities were observed, which were forwarded to UPCL vide Commisison's letter No. 1596 dated 08.02.2019, the same are as follows:

- "1. UPCL is required to furnish a soft copy in excel format for the payback period calculations for all the three projects namely 33/11 kV S/s Khari (2x3 MVA), 33/11 kV S/s Madhmanley (2x5 MVA) & 33/11 kV S/s Takula (2x5 MVA) .*
- 2. UPCL has not indicated the loading of the interconnecting lines in the existing and proposed scenarios. UPCL is required to re-submit line chart (with pre & post creation of substations and lines) of all the three projects including the same.*
- 3. UPCL is required to furnish copy of rate schedules for material, erection and civil works which have been considered while preparing the estimates for the proposed works.*
- 4. UPCL is required to submit the information that whether GST has been considered in the rates of centralized material.*
- 5. UPCL is required to furnish the details of forest clearances, if any, of the lines associated with the proposed three substations.*
- 6. UPCL in its Petition has submitted a copy of resolution passed by BoD in 87th BoD meeting held on 02.08.2018 pertaining to the proposed projects of total Rs. 15.00*

Crore, which is different from the estimated cost of the petition submitted to the Commission i.e. Rs. 13.83 Crore. UPCL is required to clarify the same.

- 7. In its proposals UPCL has submitted that the reliability and voltage profile of power supply in those areas would improve and the consumers would avail the power supply of high quality. UPCL is required to submit the details of the same.*
- 8. UPCL is required to submit the documents confirming the acquisition of land for the proposed projects."*

6. In compliance to the same, UPCL vide its letter No. 968 /UPCL/Comm/RMC-6/C(E) dated 29.03.2019 submitted its compliance as following:-

- 1. Soft copy of payback period calculations for all the 03 projects 33/11 kV Sub-station-Khari (2X3 MVA), 33/11 kV Sub-station-Madhmanley (2X5 MVA) and 33/11 kV Sub-station-Takula (2X5 MVA) is enclosed herewith as Annexure-1.*
- 2. Load flow diagram of all these substations with pre and post load profile is enclosed herewith as Annexure-2.*
- 3. Rate schedule of material, erection and civil work are enclosed herewith as Annexure-3.*
- 4. GST has been considered only on the decentralized material and labour portion of the estimate.*
- 5. Forest clearance is not required for the proposed substations and their associated lines.*
- 6. Earlier project cost was estimated Rs. 15.00 Crs. Taking into account the GST on centralized material, whereas GST was applicable on decentralized material and labour portion, so after deducting the GST on centralized material the cost of 03 substations is Rs. 13.83 Cr.*
- 7. Improvement of Voltage Profile Sheet of all the 03 sub-stations is enclosed herewith as Annexure-4.*
- 8. Land has already been acquired for all the 03 sub-stations and their details are enclosed herewith as Annexure-5.*

Commission's Observations, Views & Directions:-

7. On examination of the Petition and subsequent submissions made by the Petitioner, following has been observed:-

8. On examination of the Petition and subsequent submissions, following has been observed:-

33 kV (2X3 MVA) Khari S/s, Tehri :-

- (1) Presently power supply to the Khari region is being fed through three 11 kV feeders i.e. (1) approx. 80 Km. long Narendra Nagar-Agarakhal feeder emanating from 33/11 kV Sub-station, Narendra Nagar, (2) 110 Km. long Gaja-Khari feeder emanating from 33/11 kV Sub-station, Gaja and (3) 60 Km. long 11 kV Chamba-Nagni feeder emanating from 33/11 kV Sub-station Chamba. All these feeders are passing through dense forest, due to which issues relating to low voltage and delay in timely restoration of power supply in case of fault are prevalent in the region. Due to aforesaid reasons the quality power supply is not maintained in Khari region and consumers are regularly making complaints & also show their dissatisfaction from time to time.
- (2) Post construction of the proposed 2x3 MVA, 33/11 kV Substation, Khari the load of existing 11 kV Narendra Nagar-Agarakhal feeder (30 amps) & 11 kV Gaja-Khari feeder (20 amps) would be transferred to the proposed substation thus this sharing/reduction of loads of the aforesaid 11 kV feeders would improve the reliability and voltage profile of the consumers connected to the same. Moreover, with the extension of 33 kV line for the proposed substation close to the load centre, would also help in reduction of 11 kV line length from approx. 180 Kms to 118 Kms, which would certainly contribute in reduction of the line-losses. Further, with the implementation of All Weather Road Project, future load growth in the region is expected to be 10% annually. Therefore, above 33/11 kV Substation and associated 33 kV line is required for improving the network.

33 kV (2X5 MVA) Takula S/s, Almora:-

- (1) The construction of 33/11 kV S/s, Takula has been proposed under Hon'ble CM Declaration No. 313/2017. Presently the 33/11 kV Substation, Kafligair with a capacity of 2x3 MVA is feeding the concerned area through 65 Kms 11 kV Takula-Kafligair feeder. Due to excessive length of 11 kV line, problem of low voltage and delayed restoration of power supply is experienced by the

consumers of the region and approximately 55-60 villages of the region would be benefitted by the proposed S/s. An annual load growth of 5% is expected in the region.

- (2) The proposed 33 kV S/s at Takula has been proposed to facilitate better quality, uninterrupted power supply to the consumers of the region. The proposed substation has higher overall construction cost due to site development of the land available in hilly region. Post construction of the proposed 2x5 MVA, 33/11 kV Sub-station-Takula, reliable and good quality power supply would be ensured for improving the overall quality of life of the people residing in the region. Further, power supply to the prime tourist destinations such as Deenapani, Kasar Devi Temple and Crank's Ridge are also expected to be benefitted from the proposed S/s.

33 kV (2X5 MVA) Madhmanley S/s, Pithoragarh:-

- (1) The construction of 33/11 kV S/s, Madhmanley has been proposed under Hon'ble CM Declaration No. 7323/2015. Presently Madhmanley region is being fed through 150 Km. long 11 kV Madhmanley-Pithoragarh feeder emanating from 33/11 kV Sub-station, Pithoragarh. Due to this extensive length of 11 kV feeder which is often passing through dense forest area, the problem of low voltage as well as delay in restoration of power supply in case of fault/breakdown is a common phenomenon in the region. Approximately 6,000 consumers shall be benefitted from this new substation. It will also cater to expected approx. 10% annual future load growth in and around the region.
- (2) The proposed 33 kV S/s at Madhmanley has been proposed to facilitate better quality, uninterrupted power supply to the consumers of the region. The load of approx. 20 amps would be shifted from existing 11 kV Pithoragarh-Madhmanley feeder to the proposed substation resulting in improved power supply to the consumers connected to the same. Further, with the construction of the proposed substation the reliability and voltage profile of power supply in Madhmanley region would improve and the consumers would avail the quality power supply. Moreover, with the extension of 33 kV line of the proposed substation close to the load centre, it

would also help in reduction of 11 kV line length from approx. 150 Kms to 19 Kms thus contributing to reduction in the line-losses.

9. It is observed that the Petitioner should ensure to plan N-1 contingency provision for incoming feeders while planning for the new substations as per Regulation 3.6 (4) of UERC (Distribution Code) Regulations, 2018 which states that *“In every Sub-Station of capacity 10 MVA and above there shall be a provision for obtaining alternate 33 kV supply to the Sub-Station in case of failure in the incoming supply”*. Whereas, the Commission has observed that UPCL has shown N-1 contingency provision for incoming feeder in case of 2X3 MVA Khari S/s, whereas, for 2X5 MVA capacity substations namely Takula and Madhmanley no such provision has been proposed. In this regard, the Commission is of the view that proper planning of 33 kV network is vital for creating a robust & reliable distribution network for meeting consumer load demands for atleast 05 ensuing years. Hence, from the instant Petition, it is observed that Petitioner is not serious towards creating N-1 contingency provisions in its distribution network which plays an important role in planning of sub-transmission network of the State.
10. The Commission has also observed that the Petitioner has not judiciously planned its aforesaid capital investment considering the future load growth as proposed Khari S/s is achieving full installed capacity in 16th year. Whereas, Takula S/s and Madhmanley S/s are achieving their full capacity in 20th year of operation. From this it is apparent that the proposed substations would be under utilized for several years depicting that it is not a very prudent investment, the same is also evident from the cost benefit analysis submitted along with the Petitions. However, considering the requirement of the proposed electrical network infrastructure in the State, the Commission is of the view that the proposed investment would bring several intangible benefits to the consumers of the State and would also help in socio-economic upliftment of the people residing in the said regions.

Moreover, the Commission also finds the need to spread the reach of 33 kV network in the far-flung areas of the State so that on one hand the electricity consumers would get quality power supply and on the other it would help in reduction of distribution losses.

11. The Commission is of the opinion that the Petitioner should judiciously decide the installed capacity of the proposed substations duly figuring the expected load growth for atleast five ensuing years and should refrain from over projection/over design of the proposed substation capacity as it would result in sub-timized use of distribution assets.
12. Therefore, in view of the above, the Commission hereby grants in-principle approval for the proposed works subject to the fulfillment of the conditions mentioned below:-
 - (1) The Petitioner is directed to execute the proposed works duly adopting the safety norms prescribed by the authorities.
 - (2) The Petitioner is directed to obtain the prices through competitive bidding for the works allowed by the Commission under the prevailing Rules & Regulations. Prudence of the prices will be scrutinized at the time of fixation of tariff after completion of the proposed works.
 - (3) All the loan conditions as may be laid down by the funding agency in their detailed sanction letter are strictly complied with. However, the Petitioner is directed to explore the possibility of swapping this loan with cheaper debt option available in the market.
 - (4) The Petitioner shall, within one month of the Order, submit letter from the State Government or any such documentary evidence in support of its claim for equity funding agreed by the State Government or any other source in respect of the proposed schemes.
 - (5) After completion of the aforesaid schemes, the Petitioner shall submit the completed cost and financing of the schemes.
 - (6) The cost of servicing the project cost shall be allowed in the Annual Revenue Requirement of the Petitioner after the assets are capitalized and subject to prudence check of cost incurred.

Ordered accordingly

(Subhash Kumar)
Chairman