

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 42 of 2021

In the Matter of:

Application seeking approval for the investment on the project covering the construction of 03 No. 33/11 kV Substations alongwith their associated 33 kV Line and 33 kV Line from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat.

And

In the Matter of:

Uttarakhand Power Corporation Ltd.,
VCV Gabar Singh Bhawan, Kanwali Road,
Dehradun.

...Petitioner

Coram

Shri D.P. Gairola Member (Law)

Shri M.K.Jain Member (Technical)

Date of Order: January 03, 2022

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 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 and 33 kV Line from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat.

Background

2. The Petitioner vide its letter No. 3160/UPCL/Com/RMC-6/D(P) dated 13.08.2021 submitted its application for investment approval under the provisions of the Clause 11 of Distribution and Retail Supply License and Clause 40 of UERC (Conduct of Business) Regulations, 2014 read with relevant provision of the Electricity Act, 2003, and the Rules and Regulations made thereunder.

3. The Petitioner has filed its Petition under following legal Provisions:-

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1. Specific Legal Provision under which Petition is being filed:

...

- (i) *Hon'ble UERC has issued a Distribution and Retail Supply Licence to the applicant on 20th June, 2003, the clause 11 of the said licence stipulates that the licensee shall make an application to the Hon'ble Commission for obtaining prior approval of the Commission for schemes involving major investments as per procedure which the Commission may specify from time to time. Here, major investment means any planned investment in or acquisition of distribution facilities, the cost of which, when aggregated with all other investments or acquisitions (if any) forming part of the same overall transaction equals or exceeds Rs. 250.00 lacs.*
- (ii) *Clause-40 of Uttarakhand Electricity Regulatory Commission (Conduct of Business) Regulations, 2014 stipulates that licensee shall obtain prior approval of the Commission for making investment in the licensed business if such investment is above the limits laid down by the Commission in the Licensee Conditions.”*

4. The Petitioner under the facts of the case has submitted that :

“...

- (i) *With a view to ensure reliable power supply, improved voltage profile and to meet future load growth, the applicant company has proposed the construction of 03 No. 33/11 kV Substations alongwith their associated 28.20 km 33 kV lines in different regions of the state of Uttarakhand and 8.50 km 33 kV Line from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat. The estimated cost of the project is Rs. 21.76 Cr., which will be met through Internal Resources (100%) of UPCL. The land for Construction of Substations will be made available by the respective Electricity Distribution Division of UPCL. The project is proposed to be implemented partially on turnkey basis. The duration of the project is 02 years (F.Y. 2021-22 to F.Y. 2022-23). 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	Gular Kodyala	Tehri Garhwal	2x3	2.96	20.50	2.83	5.80
2	Kuraiya	US Nagar	2x8	5.43	6.50	3.25	8.68
3	Satyaun	Almora	2x5	4.57	1.20	0.297	4.87
4	33 KV Line from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat	Almora	-	-	8.50	2.40	2.40
Total			32	12.97	36.70	8.78	21.76

(ii) The detailed project report showing examination of an economic technical system together with the outline of the work to be undertaken, the salient features and particulars demonstrating the need for investment alongwith relevant cost benefit analysis is enclosed herewith at **Annexure-A**. The work to be undertaken does not have any adverse environmental effect. The proposed investment will be financed 100% through Internal Resources of UPCL.

Further, certified true copy of the resolution passed by UPCL Board of Director for 03 No. 33/11 kV Substations alongwith their associated 28.20 km 33 kV lines in different regions of the state of Uttarakhand and 8.50 km 33 kV Line from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat is attached as **Annexure-B**."

5. UPCL has submitted a Detailed Project Report (DPR) for the aforesaid Substations & Lines alongwith its aforesaid Petition. Further, UPCL has also enclosed copy of resolution passed by the Board of Directors in its 98th BoD meeting held on 23.06.2021 in support of its aforesaid application.
6. On examination of the Petition & DPR certain deficiencies/infirmities were identified and accordingly, the Commission vide its letter No. 565 dated 21.09.2021 directed the Petitioner to submit/furnish its compliance on the following latest by **21.10.2021:-**

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(A) General

1. UPCL is required to furnish soft copy of payback period calculations in excel format 03 nos. 33/11 kV S/s and their associated 33 KV Lines and 33 KV Lines from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat for which investment approval has been sought.
2. With regard to financing of the proposed investment, UPCL at Page no. 02 of its Petition has mentioned '100% through Internal Resources of UPCL'. Whereas at page no. 11, 21, 29 & 38 it is mentioned 'Internal Resource proposal submitted to M/s REC for financial assistance'. UPCL is required to confirm regarding financing for the proposed investment.
3. As per Clause 11 of UERC (Conduct of Business) Regulations, 2014, UPCL is required to seek prior approval for works exceeding Rs. 2.5 Crore. However, UPCL is seeking investment approval for the works '33 kV Line from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat' amounting to Rs. 2.40 Crore. UPCL is required to furnish a justification in this regard.
4. UPCL is required to furnish the details of forest clearance for the 03 nos. 33/11 kV S/s and their associated 33 kV Lines and 33 kV Lines from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat.
5. UPCL is required to furnish the details of Land acquisition for the '03 nos. 33/11 kV S/s and their associated 33 kV Lines and 33 kV Lines from Solar Power Generator's Switching S/s Kafaltana to 33/11 kV S/s Deghat' alongwith documentary evidence for the same.

(B) 2 X 3 MVA, 33/11 kV S/s Gular Kodyiala

1. UPCL has mentioned under scope of work '20.50 Km, 33 kV line from 33/11 kV S/s Tapovan'. Whereas, in line chart the said length is shown as 19 Kms. UPCL is required to clarify the same.
2. With regard to the composite main of 33 kV and 11 kV, UPCL is required to furnish the reference document of CEA/any other competent authority/Standard for the said composite main duly complying to the relevant Rules/Regulations. Further, UPCL is required to furnish a drawing of such composite main depicting the span between towers, allowable sag for 33 kV and 11 kV line, Horizontal & vertical clearances between 33 kV and 11 kV lines, placement of LA for 33 kV and 11 kV and pole earthing arrangement.
3. UPCL at page 64 of the Petition has enclosed REC approval for financial assistance for 2x3 MVA Gular Kodyiala S/s. UPCL is required to clarify the same in light of query mentioned at (A) 2 above.

(C) 2 X 8 MVA, 33/11 kV S/s Kuraiya

1. *It appears that UPCL is proposing 'N-1' line contingency for the aforesaid S/s by connection at M/s KM Paper Mill. UPCL is required to clarify regarding the proposed connection type whether LILO or tapping.*

(D) Kafaltana to Deghat 8.5 Kms 33 kV line

1. *UPCL is required to furnish Power Evacuation Study report for the said solar power plants.*
 2. *UPCL is required to furnish the Hourly average Voltage Profile and load (in MW) detail of 33 kV incomer feeder from 9:00 AM to 5:00 PM for each day of June-August, 2021 and December-February, 2020.*
 3. *UPCL is required to furnish the relevant Regulations/Clauses/Provisions under which UPCL is proposing to construct the power evacuation line for the Renewable Energy generators.*
 4. *UPCL is required to give necessary technical approval/ clearance details for the aforesaid switching station and its 33 kV line upto Deghat as no detail for the switching station has been provided at clause 8 'Interconnection Facilities' of PPA dated 23.07.2020 of M/s Bhudev Udyog enclosed with the application.*
 5. *UPCL is required to confirm regarding the appearance/inclusion of the 05 no. solar generators namely M/s Solar Solution LLP, M/s Bhudev Udhyog, M/s RU Enterprises, M/s Tanay Solar Power Solution LLP and M/s SPE Renewable in the list of generators as per GoU letter 805/I 2019-05/14/2019 enclosed with the application or submit relevant GoU approval letter for the aforesaid Solar generators.*
 6. *UPCL is required to furnish the detail of power purchase cost of the aforesaid 05 nos. generators and confirm that whether power purchase cost is inclusive or exclusive of expenditure against power evacuation line upto Deghat."*
7. In compliance to the deficiencies, UPCL vide its letter dated 22.10.2021 requested time extension upto 30.11.2021. The Commission vide its letter dated 29.10.2021 allowed time extension upto 30.11.2021. Thereafter, UPCL vide its letter dated 25.11.2021 submitted its point-wise compliance as mentioned below:-

“

A. General:

1. *The soft copy of Pay back period calculations in excel format for all the projects in Petition is being enclosed. (Copy enclosed as Annexure-A)*

2. *The financial assistance upto 70% has been arranged as loan from financial institution M/s REC. A copy of loan sanction letter from M/s REC is enclosed herewith (Copy enclosed as Annexure-B).*
3. *Although the cost of construction of proposed 33 kV line is Rs. 2.40 Cr. but as construction of proposed 33 kV line for evacuation of power generated from Solar Photovoltaic Power (SPP) plant is very first case of its own type. Therefore, in view of above the project was put up to the Hon'ble Commission.*
4. *No forest clearance is involved for the project mentioned in Petition.*
5. *Land for construction of 03 Nos. 33/11 kV Substation have already being arranged and acquired (Letter of land transfer are enclosed as Annexure-C). It is also to mention here that transfer of land is not involved in case construction of line.*

B. 2x3 MVA, 33/11 kV Substation Gular Kadiyala:

1. *The length of proposed 33 kV line from 33/11 kV S/s Tapovan is 20.50 km. The revised line chart is being attached herewith (Copy enclosed as Annexure-D).*
2. *The standards for constructing 33 kV and 11 kV composite line have been derived according to provisions as mentioned in Rural Electrification and Secondary System Planning Organization (RESSPO) manual issued by UP State Electricity Board/UPPCL which are also inline with CEA Measures Relating to Safety And Electric Supply Regulations, 2010. Drawing of composite main depicting the span between supports, sag Horizontal and Vertical clearances placement of LA and pole earthing are enclosed (Copy enclosed as Annexure-E).*
3. *The financial assistance upto 70% has been arranged as loan from financial institution M/s REC. A copy of loan sanction letter from M/s REC is enclosed at Annexure-B.*

C. 2x8 MVA, 33/11 kV Substation Kuraiya:

For compliance of N-1 contingency at proposed 33/11 kV Substation Kuraiya, underground 33kV line by tapping the Lalpur feeder has been proposed. The revised line chart is being attached herewith (Copy enclosed as Annexure-F).

D. Kafaltana to Deghat 8.5 kms 33 kV Line:

1. *Power evacuation study survey report is being enclosed herewith (Copy enclosed as Annexure-G).*
2. *The hourly average Voltage Profile and load detail of 33 kV incomer feeder from 9:00 AM to 5:00 PM for each day of June-August, 2021 and December-February, 2020 is enclosed herewith (Copy enclosed as Annexure-H).*
3. *UPCL is proposing to construct the power evacuation line for the Renewable Energy Generator's in line with Clause no. 15. (1)(c) of UERC (Tariff and Other Terms of Supply of Electricity from Renewable Energy Sources and non-fossil*

fuel based Co-generating Stations) Regulation, 2018 dt: 06th Sept. 2018 is enclosed herewith (**Copy enclosed as Annexure-I**).

4. Switching Substation is being constructed by Solar Power Generator's in accordance with PPA signed with UPCL.
5. Generator wise list as per GoU letter no. 805/I/2019-05/14/2019, dated: 17th July, 2019 is as follows:

S. No. (of GoU Letter)	Name of Applicant	Name of Generator	Capacity of Plant (kWp)	Unit Cost of Power
1	2	3	4	5
178	Rakesh Upadhyaya	M/s Tanay Solar Power Solution LLP	500	Rs. 4.67/Unit
182	Rakesh Upadhyaya	M/s Mukesh Solar Solution LLP	500	Rs. 4.68/Unit
194	Rakesh Upadhyaya	M/s Bhudev Udhyog	500	Rs. 4.69/Unit
196	Rakesh Upadhyaya	M/s SPE Renewable	1000	Rs. 4.69/Unit
208	Rakesh Upadhyaya	M/s RU Enterprises	500	Rs. 4.71/Unit

6. *Tariff as mentioned in column no. 5 of above table are exclusive of expenditure against line being constructed for evacuation of power."*

8. On receipt of the aforesaid reply from the Petitioner dated 25.11.2021, the Commission decided to admit the instant Petition of the Petitioner.
9. Further, in order to seek clarification with respect to the tapping arrangement for N-1 contingency provision for the proposed 33/11 kV S/s Kuraiya, a discussion was held with officers of Petitioner on 14.12.2021. In compliance to the aforesaid discussion petitioner vide its letter dated 22.12.2021 furnished that "...the proposal for connecting the M/s KM Paper Mill from proposed 33/11 kV Substation Kuraiya is being prepared and existing line beyond point of connection of 33 kV line Kuraiya upto metering point of M/s KM Paper Mill shall be dismantled after connecting it to 33/11 kV Substation Kuraiya."

Commission's Observations, Views & Directions:-

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

2x3 MVA, 33/11 kV Substation Gular Kodyala:-

- (1) The proposed Substation at Gular Kodyala is situated near Rishikesh-Badrinath Highway (NH-58) on Char-Dham Yatra Marg which is of prime

importance. The proposed S/s is expected to serve the fast developing area w.r.t. tourism, hotels and home stay scheme of GoU. At present the region is being fed through 150 Km. long 11 kV Tapovan-Byasi feeder emanating from 33/ 11 kV Substation, Tapovan (Rishikesh), District-Tehri. Due to this extensive length of 11 kV feeder passing through forest area at several places, the problem of low voltage (about 9.00 kV) as well as delay in restoration of power supply in case of fault/ breakdown is prevalent in the region. As a result of this, approximately 7,500 consumers are affected due to inadequate power supply. After commissioning of the proposed substation, it is expected that not only reliability and quality of power supply would improve but also it would cater to the future load requirements in the region.

- (2) The proposal for 33/11 kV S/s at Gular Kodyala was earlier rejected by the Commission in its Order dated 03.03.2015 due to unavailability of acquisition of land for the proposed Substation. However, now the Petitioner has acquired the land and accordingly has filed its Petition for seeking approval of the Commission.
- (3) The Petitioner has furnished the cost benefit analysis in support of its proposal for the Substation at Gular Kodyala stating that the pay back period for the proposed Substation would be 11 years considering an annual load growth of 15% which appears to be a fair period for recovery of capital investment on the proposed Substation.

2 X 8 MVA, 33/11 kV S/s Kuraiya:-

- (1) The Kuraiya and surrounding region (Malsa Road Industrial area, Kuraiya, Lalpur, Bahedi, SERL, Darau & Chinki) are being fed from 33/11 kV substation (2x8+1x10 MVA) Lalpur (Rudrapur) and 33 /11 kV Substation (2x12.5+8 MVA) Kiccha through cumulative 155 Km. long 11 kV feeders namely Lalpur-II, Lalpur Industrial, Kuraiya, Bahedi, SERL, Darau.
- (2) Due to the overloading of Lalpur substation there is problem of inadequate power supply which results in low voltage and high T&D losses. Due to which approximately 3,000 consumers are unable to get reliable and quality power supply.

- (3) The proposed new Substation would also cater to future load growth in view of growing urbanization & industrialization in the area. After commissioning of the proposed substation, voltage profile, reliability and quality of power supply shall improve.
- (4) This area covers more than 3000 consumers with an approximate increase of 10% each year and thus increasing the load also at the same rate. Therefore, above 33/11 kV Substation and associated 33 kV line is required to improve the network.
- (5) The Petitioner has furnished the cost benefit analysis in support of its proposal for the Substation at Kuraiya stating that the pay back period for the proposed Substation would be 08 years considering an annual load growth of 10% which appears to be a fair period for recovery of capital investment on the proposed Substation.

2 X 5 MVA, 33/11 kV S/s Satyaun:-

- (1) The proposed Substation Satyaun is expected to serve the nearby areas and Kapileshwer Banari Devi Pumping Scheme and other such pumping schemes in the region, which at present is being fed through 120 km. long 11 kV Palna feeder emanating from 33/11 kV S/s Bakh (2x5 MVA) and 90 km. long 11 kV Lamgara feeder and 110 km. long 11 kV Sheherfatak feeder both emanating from 33/11 kV S/s Lamgara (2x3 MVA).
- (2) Due to the extensive length of 11 kV feeders passing through forest area at several places, the breakdowns in lines are prevalent alongwith delay in restoration of power supply of the same. As a result of this, reliability and quality of power supply to approximately 2,200 consumers residing in the region is getting affected.
- (3) The proposed Substation is expected to not only facilitate power evacuation of Solar Power in the region but also would cater to the future load growth in the region.
- (4) Post construction of 2x5 MVA proposed 33/11 kV Substation Satyaun, the reliability and voltage profile of power supply in the area would improve and the consumers of the area would avail the power supply of high quality.

- (5) The Petitioner has furnished the cost benefit analysis in support of its proposal for the Substation at Satyaun stating that the pay back period for the proposed Substation would be 07 years which appears to be a fair period for recovery of capital investment on the proposed Substation.

Kafaltana to Deghat 8.5 kms 33 kV Line:-

- (1) The Petitioner has proposed construction of 33 kV line between Solar generator's switching station, Kafaltana to 33/11 S/s Deghat Almora for evacuating the power generated from the solar photovoltaic power generators.
- (2) The Petitioner has submitted that earlier Power Purchase Agreements were signed with different solar photovoltaic power generators namely M/s Mukesh Solar Solution LLP, M/s Bhudev Udhyog, M/s RU Enterprises, M/s Tanay Solar Power Solution LLP & M/s SPE Renewable at different places in District-Almora. The aforesaid solar PV generators opted not to construct the power evacuation infrastructure, therefore, evacuation infrastructure is required to be created by the Petitioner in line with 'Uttarakhand Solar Energy Policy' 2013 (As amended 2018) of Govt. of Uttarakhand.
- (3) The Petitioner has furnished the cost benefit analysis in support of its proposal for construction of 33 kV line from switching station Kafaltana to 33/11 kV S/s Deghat, stating that the pay back period for the proposed Substation would be 07 years considering a Capacity Utilization Factor of 12% which appears to be a fair period for recovery of capital investment on the proposed 33 kV line.
11. With regard to the 33 kV & 11 kV composite main proposed in case of 33/11 S/s Gular Kodyala, the Commission has observed that the Petitioner has furnished drawings of pole structure of 33 kV and 11 kV composite main. The Commission is of the view that construction of composite mains should be carried out duly considering the safety provisions as provided/illustrated in CEA (Measures Relating to Safety and Electric Supply) Regulations, 2010 and amendments thereof especially Regulation 62 & Regulation 69 of the aforesaid safety Regulations.
12. In the instant Petition, the Petitioner has proposed 'N-1' contingency provision for 33 kV incoming supply at the proposed 33 kV S/s Kuraiya & 33 kV S/s Satyaun

which is in line with Regulation 3.6 (4) of UERC (Distribution Code) Regulations, 2018 which provides that: -

“(4) 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 a failure in the incoming supply.”

In this regard, the Commission is of the view that the responsibility of long-term planning of distribution system lies with the distribution licensee and the Petitioner has made an attempt towards providing redundancy in distribution system in the instant Petition which is good and is expected to be ensured in future investment Petitions as well.

13. With regard to the financing of the projects, the Commission would like to caution the Petitioner from making unsubstantiated information in its Petitions and expects that the same should not be repeated in future.
14. With regard to the 33 kV power evacuation line from Solar power generator's switching Substation Kafaltana to 33/11 kV S/s Deghat, the Commission has observed that the cost of construction of proposed 33 kV line is Rs. 2.40 Crore which do not explicitly fall under the ambit of prior investment approval as per the provisions of Clause 11 of Distribution & Retail Supply Licence. Therefore, the Commission has decided not to critically analyze the same and go into the merits of the said investment for qualifying the criteria of prior investment approval.
15. Considering the expected improvement in the quality & reliability of electricity in the Gular Kodyala, Kuraiya & Satyaun, the Commission hereby grants in-principle approval for the proposed construction works of 33/11 kV S/s Gular Kodyala, 33/11 kV S/s Kuraiya & 33/11 kV Satyaun and their associated lines subject to the fulfillment of the conditions mentioned below:
 - (1) The Petitioner is directed to obtain the prices through competitive bidding for the works allowed by the Commission under the prevailing Rules & Regulations.
 - (2) 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.

- (3) 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.
- (4) After completion of the aforesaid schemes, the Petitioner shall submit the completed cost and financing of the schemes.
- (5) 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.
- (6) **The existing line beyond point of connection of 33 kV line Kuraiya (emanating from 33/11 kV S/s Lalpur) upto metering point of M/s KM Paper Mill shall be dismantled immediately post commissioning of proposed 33/11 kV S/s Kuraiya and submission of compliance in this regard before the Commission within 1 month of commissioning of proposed S/s.**

Ordered accordingly.

(M.K. Jain)
Member (Technical)

(D.P. Gairola)
Member (Law)