

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION
Petition No. 06 of 2024

In the Matter of:

Application seeking approval for the investment on the following projects:

- (a) Construction of 2x5 MVA, 33/11 kV Substation at Akri Barjula, Tehri (G) and its associated 33 kV line on ACSR Dog Conductor and XLPE cable from 33/11 kV S/s Nyulisain (Kirtinagar) alongwith 01 no. 33 kV Bay at 33/11 kV S/s Nuylisain.
- (b) Construction of 2x12.5 MVA, 33/11 kV Substation at Lodhiwala, Bhagwanpur (Roorkee) and its associated 33 kV line & 33 kV "Bay" at 33/11 kV S/s Dada Jalalpur Line alongwith 06 no. 11 kV O/G Feeders.

And

In the Matter of:

Uttarakhand Power Corporation Ltd.,
Victoria Cross Vijeta Gabar Singh Urja Bhawan,
Kanwali Road, Dehradun.

...Petitioner

Coram

Shri M.L. Prasad Member (Technical)

Date of Order: April 18, 2024

ORDER

This Order relates to the part (b) of the Petition i.e., 'Construction of 2x12.5 MVA, 33/11 kV Substation at Lodhiwala, Bhagwanpur (Roorkee) and its associated 33 kV line & 33 kV "Bay" at 33/11 kV S/s Dada Jalalpur Line alongwith 06 no. 11 kV O/G Feeders' filed by Uttarakhand Power Corporation Limited (hereinafter referred to as "UPCL" or "the Petitioner" or "the licensee") seeking approval of the Commission. Further, pertaining to the part (a) of the Petition i.e., 'Construction of 2x5 MVA, 33/11 kV Substation at Akri Barjula, Tehri (G) and its associated 33 kV line on ACSR Dog Conductor and XLPE cable from 33/11 kV S/s Nyulisain (Kirtinagar) alongwith 01 no.

33 kV Bay at 33/11 kV S/s Nuylisain' was dealt separately and an Order dated 02.02.2024 in the matter has already been issued.

Background

2. The Petitioner vide its letter No. 2868/Dir (Project)/UPCL/UERC (C-4) dated 22.11.2023 submitted its Petition for investment approval of two projects mentioned as (a) & (b) above under the provisions of the Clause 11 of Distribution and Retail Supply Licence 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. Since, the Order on the Part (a) of the Petition has already been issued, therefore, facts of the case related to Part (b) are mentioned hereunder:
 - (1) To ensure reliable power supply, improved voltage profile and to meet future load growth, the Petitioner is proposing the construction of 2x12.5 MVA, 33/11 kV Substation at Lodhiwala, Bhagwanpur, Roorkee and its associated 33 kV line (2.5 km. underground + 15 km overhead) from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur and (2 km. underground + 10 km. overhead) from 33/11 kV S/s Dada Jalalpur to proposed substation & 33 kV Bay at 33/11 kV S/s Dada Jalalpur line alongwith 26 km. 06 No. 11 kV out going feeders.
 - (2) The Petitioner in its DPR has mentioned that presently the power supply to Village-Farakpur, Haspur, Data Patti, Khedi, Danda, Jhiwaredi, Alawalpur, Kalawala and Lodhiwala area is being fed through approx. 115 Km. (including all branches) long single 11 kV Khedi feeder (approx. load 200 amp.) emanating from 33/11 kV Substation, Dada Jalalpur, which is often passing through agrarian fields having dense poplar crops and trees which leads to frequent tripping and breakdowns, as a result of this, approximately 4,000 consumers are affected.
 - (3) Further, the Petitioner under Justification in its DPR has mentioned that in near future Lodhiwala is expected to become an industrial hub and uninterrupted and quality power supply cannot be provided to the upcoming industries by the existing single 11 kV Khedi feeder.

- (4) The construction of proposed substation would result in smaller feeder sections emanating from new substation, consequently SAIFI/SAIDI & MAIFI as mandated in the regulations would considerably improve and would be in-line with 24x7 power supply vision.
- (5) It would provide a more reliable source of electricity, reducing downtime and disruptions caused by line faults, weather-related issues, or other unforeseen events and would strengthen the electrical infrastructure for alternate supply options during natural calamities/disasters.
- (6) With construction of this substation, the consumer services shall improve and would facilitate revenue realization and lodging of complaints by the consumers. Therefore, in view of maintaining qualitative and quantitative power supply the construction of a new substation is of prime importance. The construction of the substation would generate regional employment and stimulate economic activity in the area. It would also attract potential investors and businesses, fostering economic development and prosperity for the community.
- (7) The construction of 33/11 KV substation in area is not only necessary but also beneficial for the community and the region as a whole. At present 33 KV line (Panther conductor) emanating from 220 kV substation, Piran Kaliyar (Imlikheda) is feeding 33/11 KV substation Dada Jalalpur and Buggawala and is overloaded and no spare capacity is available on this line.
- (8) Besides above, the Petitioner has mentioned that a new line from 220 kV substation, Piran Kaliyar (Imlikheda) is proposed for new substation Lodhiwala via 33/11 kV substation Dada Jalalpur.
- (9) The 33 kV line proposed in the Petition would be constructed in 2 parts as follows:
 - (i) 33 KV line from 220/132/33 kV substation Piran Kaliyar (Imlikheda) to 33/11 KV substation Dada Jalalpur. The proposed line would also comply N-1 contingency upto substation Dada Jalalpur.
 - (ii) 33 KV line from 33/11 KV substation Dada Jalalpur to propose substation Lodhiwala.

- (10) Further, the Petitioner has also submitted that at present 33 kV line emanating from 132/33 kV substation Bhagwanpur up to Solani bridge is spare due unavailability of capacity at 132/33 kV substation Bhagwanpur. As soon as capacity enhanced from current capacity, spare capacity would be available on this line and the same can be connected to 33 KV Piran Kaliyar-Dada Jalalpur line at Solani bridge and in future alternate 33 KV line (approx. 15 km.) may be connected from Solani bridge to proposed substation to comply the provision N-1 contingency.
- (11) Approval for the above has been accorded by the 113th BoD on dated 13.10.2023 and the estimated cost of the project is Rs. 25.83 Cr., which shall be met through loan (70%) from REC or any other financial institution and Equity (30%) from the State Government or from internal resources and the land for the proposed substation has already been acquired.
- (12) The details of substation and lines are as follows: -

Sl. No.	Name of the Project	District	Fund Resources	BoD Approval	Capacity in MVA	Length of 33 kV Line (km.)	Length of 11 kV Feeders (Km.)	Total Cost (Rs. in Crore)
1.	Construction of new 2x12.5 MVA, 33/11 kV S/s at Lodhiwala (Bhagwanpur) and its associated 33 kV lines and 06 no. 11 kV feeders	Haridwar	70% Loan from financial institutions & 30% State Equity	Yes (113 TH BoD dt. 13.10.2023)	2x12.5	29.50	26.00	25.83
Total					-	29.50	26.00	25.83

- (13) The Petitioner has provided Detailed Project Report (DPR) alongwith its Petition furnishing of the techno-economic feasibility, outline of works to be undertaken, salient features & particulars and cost benefit analysis. The Petitioner has submitted that the proposed works shall not have any adverse environmental effect.
4. The Petitioner has also enclosed copy of resolution passed by the Board of Directors in its 113th BoD meeting held on 13.10.2023 in support of its aforesaid Petition. Since this Order pertains to the construction of new 2x12.5 MVA 33/11

kV S/s at Lodhiwala (Bhagwanpur), the relevant extract of resolution passed by BoD pertaining to the financing of the said project is detailed below: -

“

ITEM NO. 113.09: Construction of new 2x12.5 MVA, 33/11 kV Sub-Station at Lodhiwala (Bhagwanpur) and its associated 33 kV lines and 11 kV Feeders.

RESOLVED THAT in view of deliberations in the meeting, approval of the Board of Directors be and is hereby accorded for construction of 01 no. new 2x12.5 MVA, 33/11 KV Sub-Station at Lodhiwala under EDD Bhagwanpur and its associated 2 no. 33 kV lines and 06 no. 11 kV feeders with an estimated cost of approximately Rs. 2582.65 Lakh with a variation of +25% in the total estimated cost subject to the investment approval from Hon'ble UERC:

Sl. No.	Name of 33/11 kV Sub-station	Capacity (MVA)	Length (km.)	Estimated Cost (Rs. in Lakh)
1	Lodhiwala, (Bhagwanpur), Hridwar	2x12.5	-	483.94
2	SGR Building and Other civil work	-	-	115.87
3	New 33 kV Line from 220kV S/s Piran Kaliyar, (Imlikhera) to 33/11 kV S/s Dada Jalalpur on Panther Conductor and XLPE Cable.	-	17.50	738.64
4	New 33 kV Line from 33/11 kV Dada Jalalpur to proposed S-s Lodhiwala on Panther Conductor and XLPE Cable and 33 kV Bay at 33/11 kV S/s Dada Jalalpur	-	12.00	840.62
5	New 6 no. 11kV Feeders from proposed 33/11 kV S/s Lodhiwala on Dog/Rabbit Conductor and UG XLPE Cable	-	26	291.68
6	Cost of Land	-	-	12.81
7	Interest During Construction (IDC)	-	-	99.09
TOTAL		25	55.50	2582.65

'RESOLVED FURTHER THAT 70% of the project cost shall be met by arranging debts from the Financial Institution i.e. M/s REC Ltd./M/s PFC or any other financial institution and 30% of the above amount shall be met either from State Government or from UPCL through its own resources.'

...”

5. On preliminary examination of the Petition & DPR certain deficiencies/infirmities were identified and accordingly, the Commission vide its letter No. 1280 dated 01.03.2024 directed the Petitioner to submit/furnish its compliance on the following latest by **20.03.2024**: -

“

‘Construction of 2x12.5 MVA, 33/11 kV S/s at Lodhiwala, Bhagwanpur (Roorkee), and its associated 33 kV line & 33 kV ‘Bay’ at 33/11 kV S/s Dada Jalalpur line alongwith 26 km. 06 no. 11 kV O/G Feeders’.

1. UPCL is required to confirm regarding any forest clearances/railway crossing approval requirement for the proposed 33/11 kV S/s at Lodhiwala, Bhagwanpur (Roorkee) and its associated lines.
2. UPCL is required to furnish a general arrangement drawing of proposed 2x12.5 MVA 33/11 kV S/s Lodhiwala, Bhagwanpur depicting the overall dimension of the Substation, transformers and incoming & outgoing feeders.
3. UPCL is required to submit a typical cross section drawing of underground cabling arrangement with details of safety clearances/Standards which would be adopted at site [within the Sub-station and outside the Sub-station with clearance from municipal/civic facilities namely telephone, sewer, drainage etc] for safe underground cable laying.
4. UPCL is required to furnish schematic drawings for the earthing mechanism for the underground XLPE cables.
5. UPCL is required to furnish Pole/Section-wise drawing for the proposed 33 kV line & XLPE cable sections for ‘33 kV line Dada Jalalpur to Lodhiwala’ & ‘33 kV line Piran Kaliyar to Dada Jalalpur’.
6. On examination of the line chart, following has been observed:-

- (1) Regulation 3.6 (4) of UERC (Distribution Code) Regulations, 2018 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.”

However, from the line chart it is observed that 2x10 MVA, 33/11 kV Substation Dada Jalalpur & proposed 2x12.5 MVA 33/11 kV Substation Lodhiwala both do not qualify the aforesaid condition of ‘N-1’ line contingency. The Petitioner is proposing for providing ‘N-1’ line contingency common for both the aforesaid Substations through 132/33 kV Substation Bhagwanpur via spare 33 kV line upto Solani Bridge. Whereas, at present no spare capacity is available at 132/33 kV Substation Bhagwanpur.

'N-1' line contingency criteria is not being satisfied fully for both the aforesaid 33/11 kV Substation i.e. 33/11 kV Substation Dada Jalalpur & proposed 2x12.5 MVA 33/11 kV Substation Lodhiwala. UPCL is required to clarify in this regard.

- (2) *From the line chart, it is observed that UPCL is planning to convert existing single circuit 33 kV line between 220 kV Substation Piran Kaliyar Imlikheda and 33/11 kV Substation Dada Jalalpur to double circuit. It is known that the double circuit line on common 33 kV pole provides challenges for Operation & Maintenance of lines as incase of fault both the double circuit on common 33 kV poles would be shutdown for maintenance purpose.*

UPCL is required to clarify in this regard as till the time alternate provision is available from 132/33 kV Substation Bhagwanpur the Quality & Reliability of power supply for 3 nos. 33/11 kV Substations namely 33/11 kV Substation Dada Jalalpur, 33/11 kV Substation Bugawala and proposed 33/11 kV Substation Lodhiwala would be under a critical condition.

- (3) *UPCL has shown 2.5 Km. 1Cx630 Sqmm XLPE cable between 220 kV Substation Piran Kaliyar and 33/11 kV Substation Dada Jalalpur. Further, shown 2.0 Km. 1Cx630 Sqmm XLPE cable between 33/11 kV Substation Dada Jalalpur & proposed 33/11 kV Substation Lodhiwala. UPCL is required to furnish a section drawing for the underground XLPE cable alongwith it current carrying calculation duly considering derating factors for underground cables.*

7. *UPCL is required to furnish the copy of schedule of rates based on which the estimates for the proposed works has been prepared.*
8. *UPCL has proposed 6 nos. 11 kV feeders in its proposal. UPCL is required to furnish feeder-wise details of 11 kV feeder length, length of 11 kV overhead/underground conductor/cable and anticipated load in kW for each feeder. Further, UPCL is required to furnish details of prospective industries which would be connected from the individual feeder. Further, UPCL has to confirm why the proposal including the 11 kV feeder length has been put forward before the Commission as under normal circumstances the consumer is liable to bear the expense of extending the necessary infrastructure required for release of connection.*
9. *UPCL in its Cost Benefit Analysis (CBA) calculation has considered 'loss savings (units)' as '1673764' units. However, the calculation basis for the same has been not provided. UPCL is required to furnish the same in soft copy in MS excel format. Further, it is observed that UPCL has not accounted for any AT&C losses while computing the total revenue generated by UPCL at column 'E' of CBA calculation."*
6. *Further, based on the field visit conducted by the Commission to the proposed site i.e. 33/11 kV S/s Lodhiwala on 07.03.2024, additional information was sought*

from the Petitioner vide the Commission's letter No. 1334 dated 15.03.2024 and directed it to submit its reply on the following points by 28.03.2024 and the Petitioner was also directed to make a Power Point Presentation before the Commission on 05.04.2024, which was further rescheduled to 08.04.2024 on the Petitioner's request: -

"

'Construction of 2x12.5 MVA, 33/11 kV S/s at Lodhiwala, Bhagwanpur (Roorkee), and its associated 33 kV line & 33 kV 'Bay' at 33/11 kV S/s Dada Jalalpur line alongwith 26 km. 06 no. 11 kV O/G Feeders'.

1. UPCL is required to substantiate the reasoning for proposing 2x12.5 MVA, 33/11 kV S/s at Lodhiwala, Bhagwanpur, keeping in view the optimum utilization of electrical infrastructure, existing electrical infrastructure in and around Lodhiwala and anticipated year-wise industrialization in the area.
 2. UPCL is required to furnish list of existing industries along with details of contracted load, supply voltage in the area of Lodhiwala, Bhagwanpur.
 3. UPCL is required to furnish the justification for the projected load growth and also required to furnish details of the prospective consumers who have intended to take new HT/EHT connections.
 4. UPCL is required to furnish pictorial representation of Lodhiwala industrial area along with industry names, contracted load, supply voltage along with details of all the 132 kV or 220 kV Substations within a radius of 20 Kms. of Lodhiwala with details of Substation installed capacity, existing load and availability of spare bays.
 5. UPCL is required to confirm whether the industrial area to be fed from the proposed substation is under any Industrial Infrastructure Plan of GoI or being developed by Private Developer. Copy of relevant document is required to be submitted."
7. In response to the deficiencies sent to the Petitioner vide the Commission's letter dated 01.03.2024, the Petitioner through its letter No. 579/Dir.(Project)/UPCL/UERC(C-4) dated 20.03.2024 submitted its compliance and furnished the following:

"

1. ...

Submission of UPCL:

It is to bring to kind notice of Hon'ble Commission that as of now no railway crossing is involved and no issue of forest clearance is known to be existing at proposed site of 33/11 kV S/s at Lodhiwala, Bhagwanpur (Roorkee) and its associated lines.

2. ...

Submission of UPCL:

A general arrangement drawing of proposed substation depicting the overall dimension of the substation, transformers and incoming & outgoing feeders is being enclosed as Annexure-A.

3. ...

Submission of UPCL:

A typical cross section drawing of underground cabling arrangement using trenchless method and manual method with safety clearances/standards which would be adopted at site is being enclosed as Annexure-B.

At present there is no provision of municipal/civil facilities namely telephone, sewer, drainage etc. from proposed right way of underground cable as most of the line route is along the rural chak road.

4. ...

Submission of UPCL:

The schematic drawings for the earthing mechanism for the underground XLPE cables is being enclosed as Annexure-C.

5. ...

Submission of UPCL:

The Pole/Section-wise drawing for the proposed 33 kV line & XLPE cable sections for "33 kV line Dada Jalalpur to Lodhiwala" is being enclosed as Annexure-D & for 33 kV line from 132/33 kV S/s Piran Kaliyar to 33/11 kV Dada Jalalpur is being enclosed as Annexure-E.

6. ...

(1) ...

Submission of UPCL:

It is to bring kind notice of Hon'ble Commission that in existing proposal there is a provision of conversion of single circuit line to double circuit from 132/33 kV Substation Piran Kaliyar (Imlikheda) to 33/11 kV Substation Dada Jalalpur. After construction of 33 kV double circuit line from 132/33 kV Substation Piran Kaliyar to 33/11 kV Substation Dada Jalalpur the criteria of N-1 line contingency upto 33/11 kV Substation Dada Jalalpur shall be meet out.

Moreover, in future when spare capacity will be available at 132/33 kV Substation Bhagwanpur, N-1 line contingency will be met out by using spare 33 kV line constructed upto Solani Bridge or based on proposal for new substation by PTCUL the N-1 contingency shall be work out.

A request letter No. 5163/D(O)/UPCL/T-38, dated 28.12.2023 has been sent to MD, PTCUL with a request to proposed 220/132 kV S/s with the capacity of 2x60 MVA and 132/33 kV S/s with the capacity of 2x80 MVA.

(2) ...

Submission of UPCL:

It is to bring to the kind notice of Hon'ble Commission that it is proposed that single circuit 33 kV line is to be converted in double circuit from 132/33 kV Substation Piran Kaliyar (Imlikhera) to 33/11 kV Substation Dada Jalalpur due to space constraint (ROW issues).

In the existing scenario 33/11 kV Substation Bugawala is being fed from 132/33 kV Substation Piran Kaliyar via 33/11 kV Substation Dada Jalalpur after construction of 33 kV double circuit line from 132/33 kV Substation Piran Kaliyar to 33/11 kV Dada Jalalpur. The reliability of Dada Jalalpur will improve and as a Dada Jalalpur will act as primary source for 33/11 kV Substation Bugawala and proposed 33/11 kV Substation Lodhiwala. Hence, the power reliability of all these substations will improve.

(3) ...

Submission of UPCL:

The Pole wise/section wise drawing for the underground XLPE cable for "33 kV line Dada Jalalpur to Lodhiwala" is being enclosed as Annexure-D & for 33 kV line from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur is being enclosed as Annexure-E. The current carrying calculation considering derating factors for underground cables is being enclosed as Annexure-F.

7. ...

Submission of UPCL:

- (A) The estimate of 33/11 kV S/s Lodhiwala and 33 kV line from 33/11 kV S/s Lodhiwala to 33/11 kV S/s Dada Jalalpur has been framed according to the Weighted Average Rates mentioned in SAP modeule of August, 2023. The rate which were not available in SAP module of August, 2023 has been taken from SIR March, 2023. The copy of Weighted Average Rates of stock material" for August,2023 is being sent via email.
- (B) Civil works: The rates have been taken from DSR 2018 and the copy is being sent via email.
- (C) 33 kV line from 132/33 kV S/s Piran Kaliyar to 33/11 kV Dada Jalalpur: The rates have been taken from SIR March, 2023.
- (D) 11 kV lines: The rates have been taken from SIR March, 2023.

8. ...

Submission of UPCL:

It is kindly request Hon'ble UERC to take reference of Lodhiwala industrial association letter dated: 12.03.2024 vide which it has been informed that approx. 4.5 MVA load is expected in near future from industry and commercial establishment. The copy of letter is being enclosed as Annexure-G. With regard to observation of Hon'ble Commission as to why this proposal has been submitted before the Hon'ble Commission as under normal circumstances the consumer is liable to bear the expense of extending the necessary infrastructure required for release of connection, it is humbly submitted before the Hon'ble Commission that at present the area falls at the tail end of 11 kV feeders passing through farms where poplar plantation is rampant. On account of this reason, it is not possible to provide 24x7 supply of all category consumers.

The present proposal aims to provide broad infrastructure to provide 24x7 and reliable power to all the categories of consumers of the nearby area of proposed substation at Lodhiwla viz. Domestic, Non-domestic, PTW, Industry etc. After putting in place this broad infrastructure the extension of the same network will be carried out as per UERC Rules and Regulations as applicable from time to time.

9. ...

Submission of UPCL:

The soft copy in MS excel format of 'calculation of loss savings (units)' is being sent via email. In column-F of Cost Benefit Analysis (CBA) the saving on account of technical losses have been computed, where as not difference in commercial losses is taken into account, since the proposed substation construction shall impact the technical losses in general.

Also while computing the column-F, the average sale rate of electricity itself includes the loss factor."

8. On the scheduled date i.e. on 08.04.2024, the Petitioner made a Power Point Presentation in the matter before the Commission and issues listed below were pointed out during the presentation, and the same were also forwarded to the Petitioner vide E-mail dated 09.04.2024 for submitting its reply/clarification:

“

1. UPCL was required to submit its reply on the following point no. 8 of the deficiency raised by the Commission vide its letter dated 01.03.2024.

“

- a. UPCL has proposed 6 nos. 11 kV feeders in its proposal. UPCL is required to furnish feeder-wise details of 11 kV feeder length, length of 11 kV overhead/underground conductor/cable and anticipated load in kW for each feeder.
- b. Further, UPCL is required to furnish details of prospective industries which would be connected from the individual feeder.

- c. Further, UPCL has to confirm why the proposal including the 11 kV feeder length has been put forward before the Commission as under normal circumstances the consumer is liable to bear the expense of extending the necessary infrastructure required for release of connection."
- (a) In this regard, UPCL against aforesaid point no. a has not submitted the desired information.
- UPCL is required to submit the desired information.
- (b) UPCL, in response aforesaid point no. b has submitted the list of prospective industries which would be fed by the proposed S/s.
- UPCL is required to submit the 11 kV feeder-wise line diagram clearly showing the distance of each industry from the proposed S/s Lodhiwala.
- (c) With regard to point no. c, UPCL in support of construction of 6 nos. 26 Km. length 11 kV feeder from proposed Lodhiwala S/s has stated the reason that the same has been proposed in order to provide 24x7 reliable power to the consumers which are located at the tail end of 11 kV feeders.
- UPCL is required to furnish details of 11 kV feeder-wise proposed as well as existing load separately against domestic, non-domestic, PTW, Industry etc.
- (d) Further, with regard to the single line diagram, UPCL is required to confirm that the load catered through the 3 nos. proposed rural feeders would be exclusively for catering non-industrial loads.
2. UPCL has submitted that after construction of 33 kV double circuit line from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur the criteria of 'N-1' line contingency upto 33/11 kV S/s Dada Jalalpur shall be met out. In this regard, UPCL is required to substantiate how the maintenance work /'N-1' line contingency would be ensured in a double circuit line (on common pole structure) for fault occurrence in one of the circuits.
3. UPCL is required to furnish its formal reply on the deficiencies/queries raised vide the Commission's letter dated 15.03.2024.
4. UPCL in the estimates has proposed the cost of laying underground cable from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur by considering four runs (including spare) however, the spare run has not been considered in the estimate for laying underground cable from 33/11 kV S/s Dada Jalalpur to proposed S/s Lodhiwala. UPCL is required to re-examine the same and submit the reason for deviation.
5. It has been observed that different unit rates of items have been considered while preparing estimates for 33 kV line from 132/33 kV S/s Piran Kaliyar to 33/11 kV

S/s Dada Jalalpur and 33 kV line from 33/11 kV S/s Dada Jalalpur to proposed S/s Lodhiwala viz. cost of 1Cx630 sq. mm XLPE cable, cost of trenchless laying of cable, cost of fixing of GI pipe etc. UPCL is required to maintain consistency in unit rates in its all estimates and furnish the revised estimates for the proposed capital investment.

6. *With regard to the deration factor furnished by UPCL in its submission dated 20.03.2024, UPCL is required to furnish the revised actual current carrying capacity of 33 kV underground cable considering the depth of laying in ground, variation in ground temperature and cable laying in horizontal formation in a non-trefoil arrangement as depicted in cross section drawing of underground cable.*
7. *With regard to the cost benefit analysis, UPCL is required to furnish revised calculation duly considering the losses while calculating the total revenue generated from sale of energy. Further, UPCL is required to furnish the basis for considering the average selling rate @ 6.72 per unit.*
8. *UPCL is required to confirm whether one end or both end earthing/bonding arrangement has been proposed for the underground cable. Further, UPCL is required to ensure that the proposed earthing/bonding arrangement should suffice the safety as well as the current carrying capacity of the 33 kV cable.*
9. *With regard to SLD of S/s, UPCL is required to confirm regarding the space availability for providing additional 33 kV incoming feeders/bay & 11 kV outgoing feeders from proposed S/s from future load growth perspective.*
10. *With regard to submission regarding UPCL's request letter sent to PTCUL for construction of new 220/132 kV S/s (2x60 MVA) and 132/33 kV S/s (2x80 MVA), UPCL is required to submit the details of location/vicinity of the proposed new EHT S/s."*

”

9. In response to the observations/additional information observed by the Commission and sent to the Petitioner vide E-mail dated 09.04.2024, the Petitioner through its letter No. 750/Dir.(Project)/UPCL/UERC(C-4) dated 16.04.2024 submitted its compliance and furnished the following:

“

1. *UPCL was required to submit its reply on the following point no. 8 of the deficiency raised by the Commission vide its letter dated: 01-03-2024:*
 - a. *“UPCL has proposed 6 nos. 11 kV feeders in its proposal. UPCL is required to furnish feeder wise details of 11 kV feeder length, length of 11 kV overhead/ underground conductor/cable and anticipated load in kW for each feeder.*

- (a) In this regard, UPCL against aforesaid point no. a has not submitted the desired information.

UPCL is required to submit the desired information.

Submission of UPCL:

The desired details of 6 nos. 11 kV outgoing feeders are as follows:

S. No.	Name of proposed 11 kV feeder	Length of existing 11 kV Khedi Feeder to be connected to proposed S/s (km.)		Proposed new length (km.)		Total length of 11 kV line in km.	Total anticipated load (kW) *
		O/H	U/G	O/H	U/G		
1	Industrial Feeder-I	-	-	2.5	2.5	5.0	1371.0
2	Industrial Feeder-II	-	-	1.5	2.0	3.5	2773.0
3	Rural Feeder-I	12.0	-	4.0	-	16.0	891.0
4	Rural Feeder-II	15.0	-	4.0	-	19.0	1170.0
5	Rural Feeder-III	17.0	-	8.0	-	25.0	686.0
6	Substation Feeder	-	-	-	0.05	0.05	5.0
Total		44.0	0.0	20.0	4.55	68.55	6896.0

* Power Factor has been consider as 0.85

- b. Further, UPCL is required to furnish details of prospective industries which would be connected from the individual feeder.

- (b) UPCL, in response aforesaid point no. b has submitted the list of prospective industries which would be fed by the proposed S/s.

UPCL is required to submit the 11 kV feeder-wise line diagram clearly showing the distance of each industry from the proposed S/s Lodhiwala.

Submission of UPCL:

The details of prospective industries which would be connected from individual feeder are:

S. No.	Name of proposed 11 kV feeder	Name of industry	Existing load (kVA/kW)	Supply voltage (kV)	Existing/ proposed
1	Industrial Feeder-I	Patanjali Foods	630 kVA	11	Existing
		DioGracia	160 kVA	11	
		Aadhya Enterprises Limited	88 kVA	0.4	
		Hast Nimrit	88 kVA	0.4	
		Naveen S/O Balwant	47 kVA	0.4	
		Ecobloom	600 kVA	11	Expected to be released
2	Industrial Feeder-II	Indusun Drilling Fluids P. Ltd.	90 kVA	11	Existing
		Marush Overseas	600 kVA	11	Expected to be released
		Nueve Healthcare	1500 kVA	11	

S. No.	Name of proposed 11 kV feeder	Name of industry	Existing load (kVA/kW)	Supply voltage (kV)	Existing/proposed
		Nueve Pvt. Ltd.	1000 kVA	11	
		Sanraksha Healthcare	73 kVA	0.4	
3	Rural Feeder-I	NIL	-	-	-
4	Rural Feeder-II	R.K. Industry	88 kVA	0.4	Existing
		H.L. Agro Food	88 kVA		
		Shifa Industries	88 kVA		
		Adroit Industries	88 kVA		
		A.K. Industries	88 kVA		
5	Rural Feeder-III	NIL	-	-	-
6	Substation Feeder	NIL	-	-	-

The details of 11 kV feeder-wise line diagram showing distance of industry from proposed substation Lodhiwala is being enclosed as Annexure-A.

- c. Further, UPCL has to confirm why the proposal including the 11 kV feeder length has been put forward before the Commission as under normal circumstances the consumer is liable to bear the expense of extending the necessary infrastructure required for release of connection.”

- (c) With regard to point no. c, UPCL in support of construction of 6 nos. 26 Km. length 11 kV feeder from proposed Lodhiwala S/s has stated the reason that the same has been proposed in order to provide 24x7 reliable power to the consumers which are located at the tail end of 11 kV feeders.

UPCL is required to furnish details of 11 kV feeder-wise proposed as well as existing load separately against domestic, non-domestic, PTW, Industry etc.

Submission of UPCL:

The details of 11 kV feeder-wise existing as well as expected to be released against domestic, non-domestic, PTW, Industry etc. as desired by Hon'ble Commission is as below:

S. No.	Name of proposed 11 kV feeder	Existing load to be transferred (in kW)					Proposed new load (in kW)					Total load (kW)
		Domestic	Non-Domestic	PTW	Industry	Others	Domestic	Non-Domestic	PTW	Industry	Others	
1	Industrial Feeder-I	-	-	-	861	-	-	-	-	510	-	1371
2	Industrial Feeder-I	-	-	-	76	-	-	-	-	2697	-	2773
3	Rural Feeder-I	559	35	72	-	-	155	30	40	-	-	891
4	Rural Feeder-II	383	92	96	374	-	145	40	40	-	-	1170
5	Rural Feeder-III	367	24	85	-	-	175	10	25	-	-	686
6	Substation Feeder	-	-	-	-	-	-	5	-	-	-	5
Total												6896

- (d) Further, with regard to the single line diagram, UPCL is required to confirm that the load catered through the 3 nos. proposed rural feeders would be exclusively for catering non-industrial loads.

Submission of UPCL:

The load catered through the 02 no. proposed rural feeders i.e. Rural Feeder-I & Rural Feeder-III would be exclusively used for catering non-industrial loads. However, 05 no. LT industries namely R.K. Industry (88 kVA), H.L. Agro Food (88 kVA), Shifa Industries (88 kVA), Adroit Industries (88 kVA) and A.K. Industries (88 kVA) would remain on Rural Feeder-II as these are around 2.8 Km. from proposed Lodhiwala Substation and physically fall in the directions in the proposed Rural Feeder-II.

2. *UPCL has submitted that after construction of 33 kV double circuit line from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur the criteria of 'N-1' line contingency upto 33/11 kV S/s Dada Jalalpur shall be met out. In this regard, UPCL is required to substantiate how the maintenance work/'N-1' line contingency would be ensured in a double circuit line (on common pole structure) for fault occurrence in one of the circuits.*

Submission of UPCL:

At present there is only one route available between 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur for construction of 33 kV line. Due to space constraint and RoW issues, it's a compulsion to make double circuit line (on common pole structure). However, the efforts would be made to carry out preventive maintenance timely so that duration of outages may be shortened.

Further, since there is no primary substation in the immediate vicinity of Lodhiwala area so at present it is difficult to fulfill N-1 contingency criterion. However, following are brought into the kind notice of Hon'ble Commission:

- (a) *In future, N-1 contingency criterion for proposed 33/11 kV S/s can be met out by constructing 33 kV line from Solani Bridge to proposed Lodhiwala site.*
- (b) *Further, in case one circuit of proposed double circuit 33 kV line (from Imlikheda to Dada Jalalpur) comes into breakdown, then in emergency power supply of 11 kV Khedi feeder (emanating from 33/11 kV S/s Dada Jalalpur) can be partially restored through proposed outgoing feeders from proposed 33/11 kV S/s Lodhiwala.*

3. *UPCL is required to furnish its formal reply on the deficiencies/queries raised vide the Commission's letter dated: 15-03-2024.*

Submission of UPCL:

The reply on queries-II raised by Hon'ble Commission vide letter no. UERC/5/Tech/ 782/Pet. No. 06 of 2024/1334, dated: 15.03.2024 is as follows:

- Q-II(1) UPCL is required to substantiate the reasoning for proposing 2x12.5 MVA, 33/11 kV S/s at Lodhiwala, Bhagwanpur, keeping in view the optimum utilization of electrical infrastructure, existing electrical infrastructure in and around Lodhiwala and anticipated year-wise industrialization in the area.*

Submission of UPCL:

At present only one 33 kV line (33 kV Dada Jalalpur line (Panther conductor)) emanates from 132/33 kV Substation Piran Kaliyar feeds 33/11 kV Substation Dada Jalalpur and 33/11 kV Substation Buggawala. It is further to inform that recorded peak load of 33 kV Dada Jalalpur line is 433 Amp (June-2023). On account of continuously rising load, the peak load on this line is expected to reach upto 470 Amp. in coming summer season. From preceding facts, it is apparent that, this line will not be able to cater rising load in near future. Lodhiwala Industrial Association (Copy of letter enclosed as Annexure-B) has informed that some industries are expected to come in FY 2024-25. Total load in the near around area of Lodhiwala is likely to reach around 5500 kVA in FY 2024-25. Due to rising load, there is requirement of construction of new 33 kV line for supplying power to the consumers. At the location of proposed substation, which is around 1 km away from Delhi-Dehradun National Highway, commercial and industrial activity are taking place power supply to which cannot be given from existing 33/11 kV Substation Dada Jalalpur due to overloading of present 33 kV line.

- Q-II(2). UPCL is required to furnish list of existing industries along with details of contracted load, supply voltage in the area of Lodhiwala, Bhagwanpur.*

Submission of UPCL:

List of existing industries along with details of contracted load, supply voltage in the area of Lodhiwala, Bhagwanpur is as follows:

Existing Industrial Consumers in Lodhiwala Area				
S. No.	Connection No.	Name of Connection	Contracted Load (kVA)	Supply Voltage (kV)
1	BH0K000009801	Patanjali Foods	630	11
2	BH0K000220045	DioGracia	160	
3	BH0K000220110	Indusun Drilling Fluids P. Ltd.	90	
4	BH0K000023011	Aadhya Enterprises Limited	88	0.4
5	BH0K000001015	Hast Nimrit	88	
6	BH0K000024009	Naveen S/O Balwant	47	
7	BH0K000210424	R.K. Industries	88	
8	BH0K000210419	H.L. Agro Foods	88	
9	BH0K000210426	Shifia Industries	88	
10	BH0K000210425	Adroit Industries	88	
11	BH0K000210420	A.K. Industries	88	
Total			1543	-

Q-II(3). UPCL is required to furnish the justification for the projected load growth and also required to furnish details of the prospective consumers who have intended to take new HT/EHT connections.

Submission of UPCL:

Details of Upcoming/Applied Industrial Connections in Lodhiwala area:

S. No.	Name of expected connection	Expected load (kVA)	Supply voltage (kV)
1	Ecobloom (Connection has been applied and under process)	600	11
2	Marush Overseas (Connection has been applied and under process)	600	11
3	Nueve Healthcare	1500	11
4	Nueve Pvt. Ltd.	1000	11
5	Sanraksha Healthcare	73	0.4
Total		3773	

The projected load growth in an around Lodhiwala area is as follows:

Expected Increase of Load in upcoming Financial Years					
S. No.	Financial Year	Present load	Expected new Load	Load by the end of year	Comment
1	2023-24	1543	-		-
2	2024-25	1543	3773	5316	
3	2025-26	5316	532	5848	Assumption of 10 % load growth
4	2026-27	5848	585	6432	
5	2027-28	6432	643	7076	
6	2028-29	7076	708	7783	
7	2029-30	7783	778	8561	

Q-II(4). UPCL is required to furnish pictorial representation of Lodhiwala industrial area alongwith industry names, contracted load, supply

voltage along with details of all the 132 kV or 220 kV Substations within a radius of 20 Kms. of Lodhiwala with details of Substation installed capacity, existing load and availability of spare bays.

Submission of UPCL:

The pictorial representation of Lodhiwala industrial area alongwith industry names, contracted load, supply voltage along with details of all the 132 kV or 220 kV Substations within a radius of 20 Kms. of Lodhiwala with details of Substation installed capacity, existing load and availability of spare bays is being enclosed as Annexure-C.

At present, there is no primary substation in the immediate vicinity of Lodhiwala area. Nearest primary substation is 220 kV Substation Imlikheda, Piran Kaliyar which is around 30 km away from Lodhiwala area.

<i>S. No.</i>	<i>Name of 220/132/ kV S/s</i>	<i>Capacity (MVA)</i>	<i>Load (Amp)</i>	<i>Availability of 33 kV bay</i>
<i>1</i>	<i>Piran Kaliyar</i>	<i>2x50</i>	<i>1100</i>	<i>Yes</i>
<i>2</i>	<i>Bhagwanpur</i>	<i>3x40</i>	<i>1450</i>	<i>No</i>

Note:

- 1. At present the maximum load at Piran Kaliyar Substation is 1100 Amp.*
- 2. The maximum load at full capacity of Bhagwanpur S/s is 1450 Amp. However, at present 1 no. 40 MVA transformer is damaged at 132/33 kV Substation Bhagwanpur.*

Q-II(5). UPCL is required to confirm whether the industrial area to be fed from the proposed substation is under any Industrial Infrastructure Plan of GoU or being developed by Private Developer. Copy of relevant document is required to be submitted.

Submission of UPCL:

No, the industrial area to be fed from the proposed substation is not under any Industrial Infrastructure Plan of GoU.

- 4. UPCL in the estimates has proposed the cost of laying underground cable from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur by considering four runs (including spare) however, the spare run has not considered in the estimate for laying underground cable from 33/11 kV S/s Dada Jalalpur to proposed S/s Lodhiwala. UPCL is required to re-examine the same and submit the reason for deviation.*

Submission of UPCL:

The revised estimate as per direction is being enclosed as Annexure-D.

5. *It has been observed that different unit rates of items have been considered while preparing estimates for 33 kV line from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur and 33 kV line from 33/11 kV S/s Dada Jalalpur to proposed S/s Lodhiwala viz. cost of 1Cx630 sq. mm XLPE cable, cost of trenchless laying of cable, cost of fixing of GI pipe etc. UPCL is required to maintain consistency in unit rates in its all estimates and furnish the revised estimates for the proposed capital investment.*

Submission of UPCL:

The revised estimate as per direction is being enclosed as Annexure-D.

6. *With regard to the derating factor furnished by UPCL in its submission dated: 20.03.2024, UPCL is required to furnish the revised actual current carrying capacity of 33 kV underground cable considering the depth of laying in ground, variation in ground temperature and cable laying in horizontal formation in a non-trefoil arrangement as depicted in cross section drawing of underground cable.*

Submission of UPCL:

The revised actual current carrying capacity of 33 kV underground cable considering the depth of laying in ground, variation in ground temperature and cable laying in horizontal formation in a non-trefoil arrangement as depicted in cross section drawing of underground cable is being enclosed as Annexure-E.

7. *With regard to the cost benefit analysis, UPCL is required to furnish revised calculation duly considering the losses while calculating the total revenue generated from sale of energy. Further, UPCL is required to furnish the basis for considering the average selling rate @ 6.72 per unit.*

Submission of UPCL:

The revised cost benefit analysis with duly considering the losses @ 15% while calculating the total revenue generated from sale of energy is being enclosed as Annexure-F.

S.No.	Financial parameter	Previous value	Revised value
1	Payback period	6 years 6 months	7 years
2	RoI	30.39%	24.62%
3	IRR	38.16%	32.24%

The average selling rate @ 6.72 per unit has been taken from Table 5.16 (Summary of category wise projected revenue at approved tariffs) of Tariff Order issued on March 30, 2023 by Hon'ble Commission.

8. *UPCL is required to confirm whether one end or both end earthing/ bonding arrangement has been proposed for the underground cable. Further, UPCL*

is required to ensure that the proposed earthing/bonding arrangement should suffice the safety as well as the current carrying capacity of the 33 kV cable.

Submission of UPCL:

Provision of earthing at one end has been proposed considering safety as per the prevailing practice in UPCL. The undergrounding work with all safety measures in Haridwar has been carried out in similar manner where so far system has run smoothly.

9. *With regard to SLD of S/s, UPCL is required to confirm regarding the space availability for providing additional 33 kV incoming feeders/bay & 11 kV outgoing feeders from proposed S/s from future load growth perspective.*

Submission of UPCL:

It is to bring to kind notice of Hon'ble Commission that sufficient space is available for providing additional 33 kV incoming feeders/bay & 11 kV outgoing feeders from proposed Substation for future load growth perspective.

10. *With regard to submission regarding UPCL's request letter sent to PTCUL for construction of new 220/132/33 kV S/s (2x60 MVA) and 132/33 kV S/s (2x80 MVA), UPCL is required to submit the details of location/vicinity of the proposed new EHT S/s.*

Submission of UPCL:

UPCL has requested to construct the new 220/132/33 kV Substation vide letter no. 5613/D(O)/UPCL/T-38, dated: 28.12.2023 is being enclosed as Annexure-G.

”

Commission's Observations, Views & Directions: -

10. On examination of the Petition and subsequent submissions made by the Petitioner, observations and views of the Commission are as follows:
 - (1) The Petitioner has proposed for construction of 2x12.5 MVA, 33/11 kV Substation at Lodhiwala, Bhagwanpur, Roorkee and its associated 33 kV line (4.5 km. underground + 25 km overhead) from 132/33 kV S/s Piran Kaliyar to the proposed substation including a 33 kV Bay at 33/11 kV S/s Dada Jalalpur line alongwith 26 km. 06 No. 11 kV out going feeders.
 - (2) The Petitioner in its DPR has mentioned that presently the power supply to the nearby villages viz. Farakpur, Haspur, Data Patti, Khedi, Danda,

Jhiwaredi, Alawalpur, Kalawala and Lodhiwala area is being fed through approx. 115 Km. (including all branches) long single 11 kV Khedi feeder (approx. load 200 amp.) emanating from 33/11 kV Substation, Dada Jalalpur, which is often passing through agrarian fields having dense poplar crops and trees which leads to frequent tripping and breakdowns, as a result of this, approximately 4,000 consumers are affected.

- (3) The Petitioner under Justification in its DPR has stated that in near future Lodhiwala area will be upcoming industrial hub and with existing single 11 kV Khedi feeder uninterrupted & quality power supply cannot be provided to the upcoming industries.
- (4) The construction of the proposed substation would provide a more reliable source of electricity, reducing downtime and disruptions caused by line faults, weather-related issues, or other unforeseen events and would strengthen the electrical infrastructure for alternate supply options during natural calamities/disasters.
- (5) The construction of 33/11 KV substation in the area is not only necessary but also beneficial for the community and the region as a whole. At present 33 KV radial line (Panther conductor) emanating from 220 kV substation, Piran Kaliyar (Imlikheda) is feeding 33/11 KV substation Dada Jalalpur and Buggawala and is overloaded and no spare capacity is available in this line.
- (6) Besides above, the Petitioner has mentioned that a new line from 220 kV substation, Piran Kaliyar (Imlikheda) is proposed for new substation Lodhiwala via 33/11 kV substation Dada Jalalpur.
- (7) The 33 kV line proposed in the Petition would be constructed in 2 parts as follows:
 - (i) 33 KV line from 220/132/33 kV substation Piran Kaliyar (Imlikheda) to 33/11 KV substation Dada Jalalpur. The proposed line would also comply N-1 contingency upto substation Dada Jalalpur.
 - (ii) 33 kV line from 33/11 kV substation Dada Jalalpur to the proposed substation Lodhiwala.

- (8) Further, the Petitioner has also submitted that at present 33 kV line emanating from 132/33 kV substation Bhagwanpur up to Solani bridge is spare due to capacity constraint at 132/33 kV substation Bhagwanpur. As soon as the transformation capacity restored from current capacity with repair of damaged/faulty transformers at Bhagwanpur, spare capacity would be available on this line and the same can be connected to 33 KV Piran Kaliyar-Dada Jalalpur line at Solani bridge and in future alternate 33 KV line (approx. 15 km.) from Solani bridge to the proposed substation may be connected to comply with the provision N-1 contingency.
- (9) The proposed investment has been accorded by the 113th BoD on dated 13.10.2023 and the estimated cost of the project is Rs. 25.83 Cr., which shall be met through loan (70%) from REC or any other financial institution and Equity (30%) from the State Government or from internal resources and the land for the proposed substation has already been acquired.
- (10) On examination of the estimates it has been observed that certain elements were not included in the estimates viz. spare run of underground cable and the estimates were not depicting unit prices same w.r.t. 'New 33 kV Line from 220kV S/s Piran Kaliyar, (Imlikhera) to 33/11 kV S/s Dada Jalalpur on Panther Conductor and XLPE Cable' and 'New 33 kV Line from 33/11 kV Dada Jalalpur to proposed S/s Lodhiwala on Panther Conductor and XLPE Cable and 33 kV Bay at 33/11 kV S/s Dada Jalalpur'. In this regard, the Petitioner was enquired for the same and accordingly, the Petitioner revised its estimates/total project cost and submitted the same vide its letter dated 16.04.2024 which has been found within the estimated cost as approved earlier by the Board of Directors.
- (11) On the observation made at point no. (10) above, the Commission cautions the Petitioner that it should make its all efforts that the same are inline with the latest stock issue rates and there should not be any ambiguity in estimates as observed by the Commission in the instant matter and conveyed to the Petitioner at point at Sl. No. 4 & 5 vide email dated 09.04.2024. In this regard, the Commission is of the strong opinion that **the Petitioner should give priority to the centralized procurement, this would**

not only help in achieving the benefits of economies of scale and quality supply of goods but also there would be uniformity of rates in the estimates.

- (12) With regard to the revised calculation of Cost Benefit Analysis (CBA), the Commission is of the view that the Petitioner should avoid portraying an optimistic picture about the proposed investment rather the same should be based on prudent approach duly considering the factors viz. techno-commercial losses, depreciation, interest on loan, O&M on the asset, load growth etc.
- (13) As far as 'N-1' line contingency is concerned, the responsibility of long-term planning of distribution system lies with the distribution licensee and the licensee is required to comply with the Regulation 3.6(4) of UERC (Distribution Code) Regulations, 2018, which stipulates 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."

Therefore, the Commission is of the view that the distribution licensee should make its utmost efforts for providing the 'N-1' line contingency in the matter, post availability of spare capacity at 132 kV sub-station Bhagwanpur.

- (14) With regard to the proposed 6 nos. 11 kV feeders emanating from the proposed 2X12.5 MVA 33/11 kV sub-station Lodhiwala, the Commission is of the view that under normal circumstances the prospective consumer is liable to bear the expense of extending the necessary infrastructure from the existing distributing mains. In the instant matter, the prospective consumers are industrial consumers and thus the cost of extending the 11 kV feeders emanating from the substation/nearest distribution mains upto their premise should be borne by the industrial consumers. In the instant Petition, the Petitioner has proposed 6 nos. 11 kV feeders as detailed below:

Sl. No.	Name of 11 kV feeder	Length in kms	Cost proposed in Rs Crore
1	Industrial feeder 1.	5.5	0.9833

Sl. No.	Name of 11 kV feeder	Length in kms	Cost proposed in Rs Crore
2	Industrial feeder 2.	3.5	0.5630
3	Rural feeder 1.	4.0	0.1928
4	Rural feeder 2.	5.0	0.2557
5	Rural feeder 3.	8.0	0.4348
6	Substation feeder.	-	-
Total			2.4298

Therefore, the Commission decides not to allow & socialize the expenditure of **Rs 1.5463 Crore** (Industrial feeder 1 & Industrial feeder 2) in the instant investment approval. The expenditure against the extending of the aforesaid industrial feeders should be borne by the industrial consumer whosoever wants to seek connection.

- (15) Further, the Commission is of the view that for maintaining quality & reliable power supply for the upcoming industrial hub in the area and future load growth in the area, the construction of a new substation at Lodhiwala is of prime importance from the perspective of taking an pre-emptive step towards operational readiness of the distribution licensee for catering to the future load growth demands of the consumers.
- (16) It would certainly attract potential investors and businesses, fostering economic development and prosperity for the community. Moreover, the proposed substation would relieve the overloading of the substations currently feeding to the area.
- (17) Relying upon the future load projections/growth made in the Petition and considering the expected improvement in quality & reliability of power supply to the residents of nearby areas, the Commission hereby grants in-principle approval for the proposed Construction of 2x12.5 MVA, 33/11 kV Substation at Lodhiwala, Bhagwanpur (Roorkee) and its associated 33 kV line (2.5 km. U/G + 15 km O/H) from 132/33 kV S/s Piran Kaliyar to 33/11 kV S/s Dada Jalalpur and (2 km. U/G + 10 km. O/H) from 33/11 kV S/s Dada Jalalpur to proposed substation & 33 kV 'Bay' at 33/11 kV S/s Dada Jalalpur line along with 17 km. 04 No. 11 kV O/G feeders [as discussed at para (7) above] subject to the fulfillment of the conditions mentioned below:

- (a) The Petitioner is directed to obtain the prices through competitive bidding for the works allowed by the Commission under the prevailing Rules & Regulations.
- (b) The Petitioner must submit the detailed sanctioned letter from the Financial Institution, if any, to the Commission as soon as they get approval for the same. All the loan conditions as may be laid down by the funding agency in their detailed sanction letter should be strictly complied with. However, the Petitioner is directed to explore the possibility of swapping the loan with cheaper debt option.
- (c) The Commission may verify/check the proposed works to be executed by the Petitioner at any point of time during/post execution of the works from the perspective of Quality, Optimum utilization of resources, Benefits accrued from the proposed investments etc.
- (d) The Petitioner shall ensure to furnish feeder-wise as-built drawings clearly depicting the works executed under the projects for the underground cabling works and overhead 33 kV network. Further, post execution of the proposed works, the Petitioner is directed to furnish the GPS co-ordinates of the 33 kV Poles/underground lines.
- (e) The Petitioner should comply to the following CEA and UERC Regulations and amendments thereof while Construction and Operation & Maintenance of the lines & S/s and should ensure the compliance of relevant standards and the Project should be executed with safety and due diligence so that minimal incidents of break downs/fault occurrences/ hindrances are faced during operation & maintenance and the underground network proposed under the instant Petition:
 - 1. Central Electricity Authority (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations, 2011.

2. Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022.
 3. Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2023.
 4. UERC (Distribution Code) Regulations, 2018
- (f) 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 (if any) agreed by the State Government or any other source in respect of the proposed schemes.
- (g) After completion of the aforesaid schemes, the Petitioner shall submit the completed cost and financing of the schemes.
- (h) 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.

(M.L. Prasad)
Member (Technical)