

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION
Petition No. 03 of 2026

In the Matter of:

Investment Approval for revised DPR of “Augmentation of 132 kV S/s Majra from 3x40 MVA T/F to 2x40 + 1x80 MVA T/F at 132 kV Substation, Majra, Dehradun”.

And

In the Matter of:

Power Transmission Corporation of Uttarakhand Limited (PTCUL)
Vidyut Bhawan, Near ISBT Crossing,
Saharanpur Road, Majra,
Dehradun

...Petitioner

Coram

Shri M.L. Prasad	Chairman
Shri Anurag Sharma	Member (Law)
Shri Prabhat Kishor Dimri	Member (Technical)

Date of Order: February 03, 2026

ORDER

This Order relates to the Petition filed by Power Transmission Corporation of Uttarakhand Ltd. (hereinafter referred to as “PTCUL” or “the Petitioner”) vide letter No. 1781/Dir. (Operations)/PTCUL/ dated 26.10.2024 for “Augmentation of 132 kV S/s Majra from 3x40 MVA T/F to 2x40 + 1x80 MVA T/F at 132 kV Substation, Majra, Dehradun” under Para 11 of Transmission Licence. [Licence No. 1 of 2003].

1. Background

- 1.1. In the aforesaid Petition, the Petitioner has submitted the following proposal for investment approval:

Particulars	Total Project Cost as per DPR (including IDC) (in Crore)
Augmentation of 132 kV S/s Majra from 3x40 MVA T/F to 2x40 + 1x80 MVA T/F at 132 kV Substation, Majra, Dehradun	23.35

- 1.2. The Petitioner has submitted a copy of the extract of Minutes of 94th meeting of the Board of Directors (BoD) of PTCUL held on 26.09.2024, wherein the Petitioner's Board has approved the Corporation's aforesaid proposals as stated below:

"After consideration, the Board passed following resolution unanimously.

RESOLVED THAT the consent of the Board be and is hereby accorded to approve the revised Detailed Project Report for Augmentation of 132 kV S/s Majra from 3x40 MVA T/F to 2x40 + 1x80 MVA T/F at 132 kV Substation, Majra, Dehradun at a total scheme cost of Rs. 23.35 Cr. with IDC and Rs. 22.61 Cr. without IDC.

Resolved Further That the DPR submitted and approved in the 92nd BoD meeting held on 27/08/2024 vide agenda item no. 92.06 on the same project shall be treated as null & void and shall be deemed to have been withdrawn by the management.

RESOLVED FURTHER THAT the aforesaid revised DPR is submitted to Hon'ble UERC for investment approval.

RESOLVED FURTHER THAT Managing Director, Director (Operations) or any other functional Director jointly and severally are hereby authorized to sign, seal and certifies all the documents, petitions and all other legal paper that might be required for sending the proposal for investment approval for signing all clarifications and to do all other such legal acts may be necessary to be acted upon in furtherance of the investment approval.

RESOLVED FURTHER THAT the Managing Director and/or Director (Finance) and /or Company Secretary be and are hereby jointly and severally authorized to approach to REC/PFC/NABARD/HUDCO/ Nationalized Banks and other

financial institution as they deem fit and proper and tie-up the loan component with a debt equity ratio of 70:30."

- 1.3. To justify the need of the proposed work, the Petitioner through its Petition has submitted his submission is as follows:

"...

The 132/33 KV substation, Majra (Dehradun) is one of the oldest substation of PTCUL in Garhwal Zone of Uttarakhand which was commissioned in year 1966. This substation caters to the power need of domestic, commercial, industrial and agricultural consumers of urban as well as rural areas of capital city Dehradun. At present, the total installed capacity of 132/33 KV Transformer at 132 KV substation Majra is 120 MVA as there are 03 no. 40 MVA Transformers Emco, Kanohar and Alstom make installed at 132 KV substation Majra.

During this summer all 03 Transformers are fully loaded and roistering is also being carried out to avoid overloading of transformers. Approx. 30%, load growth has been observed in current year. Substation is also not meeting N-1 contingency requirement Keeping in view the growth in load demand in recent times as well as to meet T-1 contingency conditions, It is necessary to increase the Transformer capacity of 132 KV Substation Majra including other necessary related works. Therefore, this Detailed Project Report is being submitted for execution of following works required for Augmentation of Transformer capacity from 120 MVA to 160 MVA (2X40 MVA + 1X80 MVA) at 132 KV Substation Majra.

The scope of work includes the following work:

- a) Dismantling of old 40 MVA Transformers and other equipment in 132 KV and 33 KV Bay as per BOQ..*
- b) Supply, Erection, Testing and Commissioning of New 80 MVA Transformer and other 132 KV and 33 KV equipments as per BOQ.*
- c) Miscellaneous Civil works.*

The Detailed estimates of the above-mentioned works have been made on basis of rates from latest Schedule of Rates of PTCUL, budgetary offer from OEM as well as rate of previously executed contract agreements and current market rates."

- 1.4. The Petitioner in its Petition has mentioned that the estimated cost proposed in the DPR has been prepared on the basis of the PTCUL's SoR 2024-25.

- 1.5. The Petitioner in its Petition has enclosed the Bar chart for the project with an execution period of 23 months. Further, the Petitioner under the financial analysis has projected an IRR of 15.06% with breakeven in the 10th year of operations.
- 1.6. On examination of the proposal submitted by the Petitioner, certain queries were raised on the deficiencies/shortcomings observed in the Petition, which were communicated to the Petitioner vide the Commission's letter dated 29.12.2025. In response to the queries, the Petitioner, through its letter dated 02.01.2026 submitted the reply to the Commission. The queries and respective replies are as follows:

Query 1	<p>PTCUL has not provided sufficient data, documents and evidence in its petition to justify its claims. In this regard, PTCUL is required to submit the:</p> <p>a. Detailed Study Report of the proposed scheme, duly justifying the projected load growth for the next five (05) years, including comprehensive analysis under N-1 contingency conditions to ensure system reliability and adequacy with the supporting documents.</p> <p>b. Submit the coloured Single Line Diagram (SLD) of the Majra Substation, clearly indicating Load (in MVA) of all outgoing 33 kV feeders.</p> <p>c. Submit the Maximum Loading details of all 03 nos. of transformer from September, 2024 to November, 2025.</p> <p>d. Submit the details of expected future load with name and capacity (in MW).</p>
Reply 1	<p>a. Detailed attached.</p> <p>b. Detailed attached.</p> <p>c. Detailed attached.</p> <p>d. Detailed attached.</p>
Query 2	<p>In the Petition, it has been proposed that the source of financing will be 70% through a loan from Financial Institution and 30% through equity from the Government of Uttarakhand (GoU). In this regard,</p>

	PTCUL is required to submit supporting documents/approval letters from REC and GoU confirming their commitment to the proposed financing arrangement.
Reply 2	<i>Documents provided by finance wing attached.</i>
Query 3	At Page no. 17 of the petition, technical details of the ALSTHOM transformer (proposed to be replaced) is provided, wherein, year of manufacture is mentioned as 1993, whereas at Page no. 22 in the SLD, it is mentioned as 1995. In this regard, PTCUL is required to justify the reason for the variation.
Reply 3	<i>At page no. 17, year 1993 is the manufacturing year of ALSTHOM Make Transformer whereas at page no. 22, Year 1995 is the year of commissioning.</i>
Query 4	At page no. 21 of the petition, PTCUL has proposed the load growth in 12 nos. of 33 kV feeders @10% till 2026-27, in this regard, PTCUL is required to substantiate the projected load growth of 10% on each feeder with the help of supporting documents.
Reply 4	<i>Demand letters regarding additional Power requirement from UPCL are attached.</i>
Query 5	PTCUL in its Petition has submitted that all 03 nos. of transformers were presently operating at nearly 90% of its installed capacity. In view of the above, PTCUL is required to submit a detailed plan for load management and outage mitigation during the period of augmentation of the proposed transformer, so as to ensure reliable and uninterrupted power supply.
Reply 5	<i>Installation of transformer shall be carried out during lean season and if required partial load of Majra substation shall be shifted to Bindal, Jhajra and IIP substation.</i>

Query 6	PTCUL in its Petition has submitted that after proposed augmentation, T-1 contingency condition will be met to improve the overall transmission availability. In this regard, PTCUL is required to justify the possible T-1 contingency requirements to be met through the proposed work.
Reply 6	<i>After augmentation, shut Down of any one 40 MVA transformer can be taken to carry out maintenance work since 120 MVA capacity shall be available for supply and for 80 MVA partial load of Majra substation can be shifted to Bindal Jhajhra and IIP substation.</i>

2. Commission's Observations, Views and Directions:

2.1. On examination of the Petition and subsequent submission of the Petitioner, it has been observed that:

2.1.1. 132/33 kV S/s Majra (Dehradun) is one of the oldest S/s of PTCUL in Garhwal zone, which was commissioned in the year 1966. Presently, there are 03 nos. of 40 MVA, 132/33 kV Transformers with cumulative capacity of 120 MVA. Further, 12 nos. of 33 kV feeders with connected load of 280 MVA are emanating from the 132 kV Majra S/s to cater to the load requirements of domestic, commercial, as well as Industrial consumers of the Discom. The location of the S/s is strategically of much importance as it is located in the densely populated area with important establishments of the State Capital such as inter-State bus terminals (ISBT), Transport Nagar, Mohabbewala Industrial area, several State level offices of the Government and commercial institutions alongwith domestic consumers.

2.1.2. The Petitioner has submitted that all the three 40 MVA Transformers are approximately loaded upto 95% - 98% against their rated capacity. In June, 2025 the maximum cumulative loading of 03 transformers was 516 Ampere against the total rated capacity of 525 Ampere. Further, the Petitioner has submitted that during summer months all 03 transformers get fully loaded and rostering is being carried out by PTCUL to avoid overloading of transformers.

The maximum individual loading of these 03 transformers is presented below:

Maximum Loading at 132/33 kV Substation Majra (Amp)			
Months	40 MVA Tfr I	40 MVA Tfr II	40 MVA Tfr III
May, 2025	143	153	138
June, 2025	165	177	174
July, 2025	138	149	157
August, 2025	147	158	157

2.1.3. With regard to the increasing load demand, the Petitioner has submitted that UPCL has requested one (01) 33 kV bay for the proposed 33 kV underground double-circuit line from 132/33 kV S/s Majra to 33/11 kV S/s Bhandari Bagh. In addition, UPCL has also sought one (01) additional bay/feeder for establishing an E-Charging Station at Transport Nagar to cater to the proposed E-bus depot, with an estimated load requirement of 5-6 MW, to meet the operational needs of the rapidly expanding electric bus fleet.

In view of the above requirements only an additional load of about 10-12 MW is expected to be imposed on 132 kV S/s Majra in the immediate term. Considering the continuous and rapid annual load growth in the area, coupled with the confirmed demand projections submitted by UPCL, the existing 132 kV Substation, Majra is likely to get overloaded shortly, which in turn may adversely impacting system reliability, quality of supply and operational flexibility.

The Petitioner has further submitted that the load projected for the next five years, i.e. up to FY 2029-30, is approximately 177 MW, considering an annual load growth rate of 10%. In the absence of timely augmentation of the substation capacity, the system would not be in a position to safely accommodate the projected demand, which may lead to overloading of equipment, increased outages and non-compliance with planning and reliability criteria. Hence, the proposed augmentation is essential to ensure reliable power supply, meet future demand and maintain power system security in the Majra area.

2.1.4. With regard to the T-1 contingency requirement, the Petitioner has submitted that in the event of tripping or outage of any one of the existing 40 MVA

transformers, the remaining two transformers are insufficient to cater to the prevailing load demand. This results in overloading of the remaining transformers, possible system tripping and consequent threat to grid stability, reliability of supply and public safety.

Further, the Petitioner has submitted that after augmentation/upgradation with proposed 80 MVA T/F, even if shutdown of any one of 40 MVA T/F is taken for the purpose of maintenance, then the remaining available transformers would be in a position to cater the prevailing load/demand. Also, in order to ensure system adequacy and security of supply under contingency conditions, it is imperative that the substation infrastructure must comply with the T-1 reliability criteria as prescribed under the applicable CEA Regulations and Central Government norms.

2.1.5. Accordingly, the rational in support of the work and benefits as stated by Petitioner in its Petition are summarised as follows:

- a. Meeting the T-1 contingency conditions, thus improving the overall transmission system availability.
- b. Meeting the expected future load growth demand in the region.
- c. Enhanced power handling capacity that would provide adequate and reliable power supply in the area.
- d. Improved voltage profile leading to better consumer satisfaction.

2.1.6. With regard to the proposed utilisation of the one (01) number of 40 MVA power transformers to be replaced from the 132 kV Substation Majra, the Petitioner submitted that the spare 40 MVA transformers is proposed to be gainfully utilised at the 132 kV Substation Laltappar, considering the rapidly increasing load demand at aforesaid substation. The proposed reutilization of existing assets is aimed at ensuring optimal asset deployment, cost efficiency, and timely augmentation of transformation capacity to meet the growing demand.

2.2. The Commission, after due examination of the submissions made by the Petitioner is of the view that the proposed augmentation work is in the interest of maintaining system reliability and adequacy. The Commission notes that the existing transformers and outgoing feeders at the 132 kV Substation, Majra are operating under high loading conditions and are approaching their permissible limits. With the expected immediate load addition and sustained annual load growth, the

existing infrastructure is likely to face overloading, leading to increased outages and reduced system reliability.

The proposed augmentation would provide additional transformation capacity and enable effective load sharing, thereby relieving the existing transformers and feeders from continuous high loading. This would improve operational margins, enhance reliability and provide the required flexibility to meet future demand.

Further, the Commission notes that the scheme is essential to ensure compliance with the T-1 contingency criterion, thereby enhancing the reliability, availability, and operational security of the 132 kV Majra substation and the associated transmission network.

In view of the above, the Commission finds merit in the Petitioner's proposal, as it is necessary to cater to the projected future load growth in the Dehradun region and provide adequate system robustness to cater to the anticipated load surges. Hence, the proposed work seems to be justified.

The Commission directs the Petitioner to redeploy the spare one (01) number of 40 MVA transformers after carrying out requisite inspection and testing in accordance with applicable CEA standards to the substation identified by it. The Petitioner shall submit the commissioning details and asset utilization report to the Commission, and the tariff treatment, if any, shall be subject to prudence check at the appropriate stage.

The Commission emphasizes the need for meticulous planning for Load Management and effective coordination with UPCL during erection and commissioning of the 80 MVA transformers in a systematic manner and to ensure uninterrupted power supply to all affected areas. Accordingly, the Petitioner is directed to submit detailed information, including outage-management and contingency plans on quarterly basis to the Commission until completion of the project.

2.3. The Petitioner has submitted that the financing of the project will be done from the REC and in this regard, it has submitted letter from REC, wherein, REC vide its letter dated 28.07.2025, has agreed to grant loan assistance of Rs. 16.35 Crore, which constitutes 70% of the total DPR cost for the proposed project. However, with regard to the equity portion, PTCUL has not provided any supporting documents from

Government of Uttarakhand, however it has stated that the entire equity of Rs. 7.00 Crore will be funded by the Government of Uttarakhand which shall be required in phases as per the progress of project during the entire completion schedule of the project. Hence, the year wise equity requirement against the above project will be demanded from Government of Uttarakhand (GoU) through State budget by submitting annual plan to the GoU, as it has been done for all earlier projects.

2.4. The Petitioner has proposed Price Contingencies @ 6.8%, Contingency @ 3% and Project Overheads @ 5% in the DPR. The Commission has not considered Price Contingencies @ 6.8% and instead in order to maintain uniformity with recent investment approvals, calculated the total project cost considering only Contingency @ 3% and Project Overheads @ 5%, based on past Commission's practice.

Further, as the issue of SoR revisions is currently under deliberation before the Commission, the revised rates in SoR of FY 2024-25 cannot be considered final. Accordingly, estimates based on these rates are also provisional in nature. After finalizing the SoR, the Commission will carry out a prudence check of the costs incurred and financing thereof, in accordance with Licence conditions and MYT Regulations during ARR scrutiny.

2.5. In this regard, the Commission hereby grants in-principle approval for the work given below in the table for the expenditure of Rs. 21.32 Crore only with the direction that the Petitioner should go ahead with the aforesaid works subject to fulfilment of the terms & conditions mentioned below:

Capital Cost Approved by the Commission

Name of the work	Project Cost including IDC as per DPR (Rs. Crore)	Project Cost Considered by the Commission (including IDC) (Rs. Crore)
Augmentation of 132 kV S/s Majra from 3x40 MVA T/F to 2x40 + 1x80 MVA T/F at 132 kV Substation, Majra, Dehradun	23.35	21.32

- (i) The Petitioner shall undertake competitive bidding for obtaining the most economical prices from bidders.
- (ii) All loan conditions as may be laid down by the funding agency in their detailed sanction letter shall be strictly complied with.

- (iii) The Petitioner shall ensure to obtain an undertaking/approval from GoU regarding infusion of required equity before issuance of Letter of Award (LoA) for the proposed work.
 - (iv) The Petitioner to redeploy the replaced one (01) number of 40 MVA transformers after carrying out requisite inspection and testing in accordance with applicable CEA standards. The Petitioner shall submit the commissioning details and asset utilization report to the Commission, and the tariff treatment, if any, shall be subject to prudence check at the appropriate stage.
 - (v) The Petitioner is directed to submit detailed information, including outage-management and contingency plans on quarterly basis to the Commission until completion of the project.
 - (vi) Upon completion of the aforesaid project, the Petitioner shall submit the completed cost and financing details of the project.
 - (vii) The cost of servicing the project shall be allowed in the Annual Revenue Requirement of the petitioner after the assets are capitalized and subject to prudence check of the cost incurred.
- 2.6. The approval is given subject to the above conditions and on the basis of submissions and statement of facts made by the Petitioner in the Petition under affidavit, therefore, violations of the condition and in case any information provided, if at any time, later on, is found to be incorrect, incomplete or relevant information was not disclosed, and which materially affects the basis for granting the approval, in such cases the Commission may cancel the approval or refuse to allow the expenses incurred in the ARR/True-up apart from initiating plenary action.

Ordered accordingly.

(Prabhat Kishor Dimri)
Member (Technical)

(Anurag Sharma)
Member (Law)

(M.L. Prasad)
Chairman