

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION
Petition No. 55 of 2025

In the Matter of:

Investment Approval for DPR of “Replacement of old Panther Conductor with HTLS Conductor of 132 kV Majra-Jhajra line”.

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
Shri Anurag Sharma
Shri Prabhat Kishor Dimri

Chairman
Member (Law)
Member (Technical)

Date of Order: September 26, 2025

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. 1783/Dir. (Operations)/PTCUL dated 26.10.2024 seeking Investment Approval of “Replacement of old Panther Conductor with HTLS Conductor of 132 kV Majra-Jhajra line” 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:

S. No.	Particulars	Length of the Line (KM)	Project Cost including IDC as per DPR (in Crore)
1	Replacement of old Panther Conductor with HTLS Conductor of 132 kV Majra-Jhajra line	16.00	19.19

1.2 The Petitioner has submitted a copy of 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 with a debt-equity ratio of 70:30.

1.3 To justify the need of the proposed works the Petitioner has submitted that:

- 132 kV Substation Majra is an important Substation of Dehradun District and is presently having capacity of 3x40 MVA (132/33 KV) Transformers.
- It is one of the most important substations of Dehradun, which was commissioned in year 1966. Presently there are 05 nos. of 132 KV Lines which are directly connected to Majra Substation to cater load requirement of domestic, commercial, as well as Industrial area via 12 No. 33 kV feeders of the capital city Dehradun.
- During the summer season, 132 kV Majra-Jhajhra and 132 kV Majra-Kulhal, the two main primary sources for Majra Substation, were fully loaded at peak hours.
- Whenever, 132 kV Bindal-Rishikesh Line is Breakdown/shutdown then 132 kV Bindal Substation also draws power from Majra Substation via 132 kV Majra-Bindal line.
- Similarly, when 132 kV Laltappar-Rishikesh Line is in Breakdown/shutdown, then 132 kV Laltappar Substation was also drawn power from Majra Substation via 132 kV Majra-Laltappar line, same goes for 132 kV Purkul Substation.
- Only 132 kV Purkul S/s have one other source of supply, i.e. 132 kV Purkul-Jhajhra line, due to which rostering is being carried out to avoid overloading of transformers and lines at 132 kV Majra Substation.
- As Majra-Jhajhra Line is main source of supply for Majra. The Details of Existing connected load at 132 kV S/s are as follows:

- 132 kV S/s Majra : 120 MVA
- 132 kV S/s Bindal : 120 MVA
- 132 kV S/s Laltappar : 80 MVA

4. 132 kV Purkul : 100 MVA

h. Presently the total maximum running load on 132 kV Majra-Jhajhra line is approximately 430 Amp. In case of other connected 132 kV Line is in Tripping /Breakdown/Shutdown condition, the load on 132 kV Majra-Jhajhra Line will be more than 800Amp. Keeping in view of the above load growth and loading on 132 kV Majra-Jhajhra line to meet out the demand of load and to provide uninterrupted power supply to consumers connected to 132 kV S/s Majra, it is essential to replace the Panther Conductor with HTLS, which is 48 years old.

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 revised SoR 2024-25 of PTCUL.

1.5 The Petitioner in its Petition has enclosed the Bar chart for the project with an execution period of 16 months from the date of award of the contract. Further, the Petitioner under the financial analysis has projected an IRR of 16.16% 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 22.07.2025. In response to the aforesaid queries, the Petitioner, through its letter dated 04.08.2025, submitted the reply to the Commission. The queries and respective replies are as follows:

Query 1	In the Petition, it is proposed that the source of financing as 70% loan from REC & 30% equity from GoU, in this regard, PTCUL is required to submit the supporting documents/approval letters from REC 7 GoU w.r.t. the proposed financing.
Reply 1	Sanction letter from REC is attached.
Query 2	In the Petition, it is submitted that due to restricted capacity of the existing line, the overload condition has occurred many time due to breakdown/shutdown of either 132 kV Bindal-Rishikesh line or 132 kV Laltappar-Rishikesh line, in this regard, PTCUL is required to submit the details of such instances occurred in past one year in the Table given below as certified by the SLDC:
Reply 2	Details attached.

Query 3	In the Petition, it is submitted that after the replacement of the aforesaid line, the exponential load growth of the system can be met. In this regard, PTCUL is required to submit the details of the existing and prospective loads at Majra S/s in the next 03 years.
Reply 3	Details attached.
Query 4	In the Petition, you have submitted the load flow diagram (SLD) for the different scenario as exhibit-I, II & III. In this regard, it is required to submit the details explanation of the each exhibit submitted with the DPR.
Reply 4	Details attached.
Query 5	In the Petition, it is submitted that contingency options will be met in the power system by upgrading the 132 kV Majra-Jhajra line. In this regard, PTCUL is required to submit the possible contingency options that will met through this upgraded line.
Reply 5	It is to submit that the proposed replacement with HTLS conductor will significantly enhance the current carrying capacity of the line. This will facilitate better power evacuation and reliable transfer of load under both normal and contingency conditions. At present, the existing conductor restricts load flow during failure or shutdown of adjacent lines such as 132 kV Bindal-Rishikesh, Purkul-jhajhra, Majra-Laltappar and Laltappar-Rishikesh. The upgraded HTLS line will act as a dependable alternative in such events, ensuring power system stability and minimizing the risk of load curtailment. The enhanced thermal capacity of HTLS conductor, coupled with improved sag characteristics and better performance under high-temperature conditions, will ensure the line can bear shifted load during outages or contingencies. Therefore, the line upgradation is not only a capacity enhancement measure but also a key contingency support within the regional network.

Query 6	In the Supply section of the estimate at Page no. 09 of the Petition has considered the considerable quantities w.r.t. Spares as per the ceiling given in the Regulation 21 (11) of UERC (MYT) Regulations, 2024, where, initial Spares for the Transmission Line should be 1% and if required, revise the estimate accordingly.
Reply 6	It is to submit that the initial spare mentioned in the said regulation is mainly for large new projects/lines. Proposed Reconductoring of line with HTLS is for old line and considerably less distance i.e 16 Ckt Km only and also at present there is Nil quantity of HTLS Conductor in nearby Substations. In Emergency situation, there is requirement of replacement of conductor from Tension to Tension tower. For existing small line length 1% spare will not be sufficient. Hence to mitigate the requirement, said quantity of spares have been taken.
Query 7	While calculating the cost benefit analysis, PTCUL has considered the energy drawn from the full capacity HTLS Conductor and that too for round the clock and round the year basis, however, in various explanations in the DPR it has stated that spare capacity will only be utilized during the contingency outage of some other line. Keeping in view, how relevant is the cost benefit.
Reply 7	It is to submit that while calculating the cost-benefit analysis, full capacity was not considered but 90% of full capacity energy was considered. Because this will be high-capacity line and more load will flow from this line. In the next year new 80 MVA Transformer is expected in Majra Substation (DPR submitted, Investment approval is awaited), New 132 kV Aaraghar Substation and additional capacity at Purkul Substation is also expected to come up in this year, and the complete load will be met by this line therefore average 90% loading was considered in the proposal. However as directed/suggested revised Cost Benefit analysis and Break Even point Analysis is attached considering 50% loading. (Annexure-5)
Query 8	Explain how PTCUL will manage the replacement of conductor which is operating at around 400amp., what would be the work plan and how the

	load would be managed. Further, details of deliberations and discussion with UPCL in the matter should also be provided, so as to enable evaluation of the genuine requirement of work and to establish that during replacement work, there is unhindered supply to the consumers.
Reply 8	In order to ensure unhindered supply to the consumers during the replacement of the conductor, the work shall be scheduled in phased manner during the off-peak load months., i.e. when the system load is relatively low. Moreover, the line will not be taken under continuous 24×7 shutdown. The shutdown will be exercised only during the active working hours of the contractor's team on a daily basis. During non-working hours, the line shall be charged and kept in service to maintain continuity of supply. Further, we would like to assure the Commission that deliberations with UPCL are being undertaken to align the execution strategy by Load shifting, alternate routing, to ensure uninterrupted supply during the implementation period.

2. Commission's Observations, Views and Directions:

2.1. Based on the submissions made in the Petition and subsequent submissions of the Petitioner, the Commission observes the following:

- 2.1.1 REC vide its letter dated 28.07.2025 has agreed to grant Rupee Term Loan Assistance of Rs. 13.43 Crore i.e. 70% of total DPR cost for the proposed project. However, PTCUL has not provided any details regarding the equity required for the project.
- 2.1.2 The Petitioner has submitted details of instances, duly verified by the Chief Engineer (SLDC), where another line was either opened due to overloading on the 132 kV Majra-Jhajra line, or the concerned 132 kV Majra-Jhajra line tripped by itself due to overloading. It is observed that there were instances when the load on the 132 kV Majra-Jhajra line approached or exceeded its rated capacity, requiring external measures to avoid tripping.
- 2.1.3 Regarding the N-1 contingency, the Petitioner has submitted that the existing conductor on the 132 kV Majra-Jhajra line restricts load flow during failure or shutdown of other associated lines in the connected system, such as 132 kV

Bindal-Rishikesh, Purkul-Jhajhra, Majra-Laltappar, and Laltappar-Rishikesh. The upgraded HTLS line will serve as a reliable alternative in such events, ensuring power system stability and minimizing the risk of load curtailment. The enhanced thermal capacity of the HTLS conductor, coupled with improved sag characteristics and better performance under high-temperature conditions, will enable the line to bear shifted load during outages or contingencies. Therefore, the line upgrade is not only a capacity enhancement measure but also a critical contingency support within the regional network.

2.1.4 Regarding the management of load during the replacement of the conductor, if approved, the Petitioner has stated that it will ensure uninterrupted supply to consumers by scheduling the replacement in a phased manner during off-peak months, in coordination with UPCL. However, the Commission acknowledges that this task is challenging and expresses concern. Nevertheless, the Commission accepts PTCUL's assurance to manage the process amicably and ensure uninterrupted supply to all associated areas. Proper information and outage-avoidance planning must be submitted to the Commission periodically until the work is completed.

2.2. The Petitioner has informed that the existing 132 kV Majra-Jhajra line with Panther conductor has been in service for almost 48 years; however, this alone cannot justify replacing/upgrading the conductor. Further, the Petitioner contends that load in the area is rapidly increasing, and the 132 kV Majra-Jhajra line is already facing constraints, which are expected to worsen over time, potentially leading to more frequent and prolonged load disconnections. This apprehension is considered reasonable and justifies the need for upgrading the existing Panther conductor to HTLS conductor, which will significantly enhance line capacity, eliminate overloading risks, and enable higher power drawal from Jhajra substation, thereby ensuring compliance with the N-1 contingency criterion.

2.3. The Petitioner has considered Price Contingencies @ 6.8%, Contingency @ 3%, and Project Overheads @ 5% in the DPR. To maintain uniformity with recent investment approvals, the Commission has not accepted Price Contingencies @ 6.8%. Instead, the total project cost has been calculated considering Contingency @ 3% and Project Overheads @ 5%, based on the Commission's past practices. Further, as the issue of SoR revisions is currently under deliberation before the Commission, the rates

considered in the SoR for FY 2024-25 cannot be regarded as final, and hence estimates based on these rates remain provisional. Following finalization on the SoR issue, the Commission will conduct a strict prudence check of the incurred costs and financing in accordance with the Licence conditions and MYT Regulations during the ARR scrutiny.

- 2.4. The Commission hereby grants in-principle approval for Rs. 18.00 Crore (including IDC), as shown in the table below, and directs the Petitioner to proceed with the work subject to the fulfillment of the following conditions:

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)
Replacement of old Panther Conductor with HTLS Conductor of 132 kV Majra-Jhajra line.	19.19	18.00

- (i) The Petitioner shall undertake competitive bidding to secure the most economical prices from bidders.
- (ii) All loan conditions prescribed by the funding agency in their detailed sanction letter shall be strictly complied with.
- (iii) Within one month of this Order, the Petitioner shall submit a letter from the State Government or equivalent documentary evidence supporting the claim for equity funding agreed by the State Government or any other source in respect of the proposed projects.
- (iv) The Petitioner shall regularly update the Commission on the project status, including outage management details, until project completion.
- (v) Upon completion of the projects, the Petitioner shall submit the final cost and financing details.
- (vi) The cost of servicing the project shall be allowed in the Annual Revenue Requirement after asset capitalization and subject to prudence verification of the costs incurred.

- 2.5. The approval is granted based on the submissions and statements made by the Petitioner under affidavit in the Petition. Any violation of these conditions, or if any information provided is later found to be incorrect, incomplete or if relevant

information was withheld, materially affecting the basis of approval, the Commission reserves the right to cancel the approval, disallow expenses in ARR/True-up, and initiate appropriate penal actions.

Ordered accordingly.

(Prabhat Kishor Dimri)
Member (Technical)

(Anurag Sharma)
Member (Law)

(M.L. Prasad)
Chairman