

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION
Petition No. 33 of 2024

In the Matter of:

Investment Approval for DPR of “Augmentation of 132 kV S/s Laksar from 3x40 MVA Transformer to 2x40 MVA+1x80 MVA Transformer”.

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: **October 13, 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. 1048/MD/PTCUL/UERC dated 02.04.2024 seeking Augmentation of 132 kV S/s Laksar from 3x40 MVA Transformer to 2x40 MVA+1x80 MVA Transformer under Para 11 of Transmission Licence. [Licence No. 1 of 2003].

1. Background

- 1.1. The Petitioner through the aforesaid letter has submitted the investment approval amounting to Rs. 18.43 Crore for the proposed work. The DPR for the same was passed by the Board of Director in its 89th Meeting of BoD held on 04.03.2024.
- 1.2. Subsequently, the Petitioner, vide its letter dated 08.04.2025, submitted a supplementary Petition in the matter, wherein, only the cost of the DPR was revised from Rs. 18.43 Crore to Rs. 24.36 Crore, based on the revision of the Schedule of Rates (SoR) and the scope of work remains the same as earlier DPR. The revised DPR was duly approved by the Board of Directors in the 94th meeting of BoD held on 26.09.2024.
- 1.3. In the aforesaid supplementary 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 Laksar from 3x40 MVA Transformer to 2x40 MVA+1x80 MVA Transformer	24.36

- 1.4. 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 Laksar from 3x40 MVA to 2x40 MVA + 1x80 MVA at a total scheme cost of Rs. 24.36 Cr. with IDC and Rs. 23.58 Cr. without IDC.

Resolved Further That the DPR submitted and approved in the 92nd Board meeting held on 27/08/2024 vide agenda item no. 92.33 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."

1.5. The augmentation work includes Supply, Installation, Testing & Commissioning (SITC) alongwith associated Civil works for:

1. One no. 80 MVA, 132/33 kV Power Transformer, 145 kV CT of ratio 400/200/1A, 132 kV LA, 132 kV Twin Moose CB 33 kV L, 33 kV twin Moose Bus etc.
2. Dismantling works of existing one no. 40 MVA T/f at 132/33 kV S/s.

1.6. To justify the need of the proposed work, the Petitioner through main Petition and supplementary submission has submitted as follows:

"It is apprise that, 132/33KV Substaion, Laksar is one of the Substaion of PTCUL IN Haridwar area was commissioned in 2007. This substation caters to the power need of domestic, commercial, Industrial and agricultural consumers of urban as well as rural areas of Laksar At present, the total installed capacity of 132/33KV Transformers at 132KV Substation, Laksar is 120MVA as there are 02Nos. 40MVA, 132/33KV Transformers (Areva make) and 01No. 1x40MVA132/33KV Transformer (CGL make) commissioned at substation.

132 kV Substaion Laksar is being fed through 132 kV Roorkee-Laksar (HTLS conductor of 800Amp capacity) & Manglore-Laksar line (Wolf/panther conductor of capacity 400Amp). The details of UPCL's existing total installed load connected with 132 kV Substaion, Laksar are as follows.

Name of connected 33KV Substation and connected Load

1. 33KV Khanpur : 20MVA

- 2. 33KV Mundlana : 21MVA
- 3. 33KV Birla : 18MVA
- 4 33KV Laksar : 25MVA
- 5. 33KV Raisi : 42.5MVA
- 6. 33KV Shree Cement : 9MVA
- 7. 33KV Madhav Solar : Generator
- 8. 33KV T.I.D.C : 20MVA

Total Connected Load to 132 kV S/S Laksar: 155.5 MVA

Hence the total installed load connected with 132 kV Substaion Laksar is 155.5 MVA against the total installed capacity of 132 kV Substation Laksar of 120 MVA. Presently, the total maximum running load on these 03Nos. transformers is 110 MVA which is more than 90% of the total installed capacity available at 132 kV Substaion Laksar.

That 132 kV Substation Laksar is an important Substation of District Haridwar, having 03 nos. of T/Fs of 40 MVA capacity at 132/33 kV and supplied power to Industrial/Urban/Rural areas of Laksar. The maximum load recorded on each transformer is approx. 161 Amp (on the HV Side) in the last summer season which is about 90% of the transformer capacity. The load demand has been increasing rapidly during previous years. Also, during the outage (Tripping/Shutdown) of one no. of 40 MVA transformer at the substation, the other available 40 MVA transformer does not bear the load independently therefore Substation is not complaint for T-1 contingency. Keeping in view the above load growth and maximum load on the 40 MVA Transformer, it is essential to increase the capacity of the Substation from 3x40 MVA Transformer to 2x40 MVA + 1x80 MVA Transformer. The total connected load at 132 kV S/s Laksar is 155.5 MVA.

Therefore, installation of 01 No. 80 MVA, 132/33 kV Transformer at 132 kV S/s Laksar will be beneficial to meet future load growth of Laksar and adjoining area. The Project will result in providing a good and uninterrupted power supply. Also, the Substation will become compliant with the T-1 contingency."

- 1.7. 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.
- 1.8. The Petitioner in its Petition has enclosed the Bar chart for the project with an execution period of 17 months from the date of award of the contract. Further, the Petitioner under the financial analysis has projected an IRR of 15.92% with breakeven in the 10th year of operations.

- 1.9. 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 10.07.2024. In response to the queries, the Petitioner, through its letter dated 13.08.2024 submitted the reply to the Commission. The queries and respective replies are as follows:

Query 1	PTCUL in its petition has submitted that it has 3x40MVA T/F in the 132KV S/s Laksar. In this regard, PTCUL is required to submit the datasheet of each existing 3x40MVA T/F with the date of Commissioning of each transformer.
Reply 1	<i>There are 3 No. 40MVA T/F commissioned at 132KV S/s Laksar.</i> <i>1. 40MVA T/F Ist - This is Areva make power transformer having rating 40 MVA, 132/33KV Three Phase, oil immersed, ONAN/ONAF cooling, frequency 50Hz, Vector Group Star-star, % impedance 13.57%, wt. of transformer 68,500 Kg and Volume of oil 20,000 Litres and tap position 1 to17 commissioned on dated 26.07.2007.</i> <i>2. 40 MVA T/F IInd: - This is Areva make power transformer having rating 40 MVA,132/33KV Three Phase, oil immersed, ONAN/ONAF cooling, frequency 50Hz, Vector Group Star-star, % impedance 13.57%, wt. of transformer 68,500 Kg and Volume of oil 20,000 Litres and tap position1 to 17 commissioned on dated 28.09.2007.</i> <i>3. 40 MVA T/F IIIrd: - This is CGL make power transformer having rating 40 MVA,132/33KV Three Phase, oil immersed, ONAN/ONAF cooling, frequency 50Hz, Vector Group Star-star, % impedance 13.81%, wt. of transformer 70,325 kg and Volume of oil 20,175 Litres and tap position 1 to 17 commissioned on dated 13.12.2021.</i>
Query 2	PTCUL has proposed the procurement, Installation, testing & commissioning of 80MVA T/F in the 132KV S/s. In this regard, PTCUL is required to submit the technical specification of the proposed 80 MVA T/F.
Reply 2	<i>Technical specification of 80MVA Transformer enclosed.</i>
Query 3	PTCUL has proposed the augmentation of the 132KV S/s Laksar from 3x40MVA T/F to 2x40MVA+ 1X80MVA T/F. In this regard, PTCUL is required to specify the proposed utilization of dismantled 40 MVA T/F.

Reply 3	The proposed utilization of dismantled 40MVA T/F will be at 132 KV Substation Roorkee.																																																																																																																																																																									
Query 4	PTCUL in its petition has submitted that in the last summer season, the existing transformers got loaded upto 90% of the transformer capacity but did not provide the supporting documents with the petition. In this regard PTCUL is required to submit the loading details sheet of transformers showing the month wise maximum load (in Amperes) for the last 03years.																																																																																																																																																																									
Reply 4	<table><tr><th colspan="13">The loads on 40MVA T/F during previous years at 132KV S/s Laksar</th></tr><tr><th>2021-22</th><th>Apr</th><th>May</th><th>June</th><th>July</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov.</th><th>Dec</th><th>Jan</th><th>Feb</th><th>March</th></tr><tr><td>132/33KV 40MVA T/F Ist</td><td>120</td><td>123</td><td>145</td><td>148</td><td>137</td><td>147</td><td>165</td><td>170</td><td>170</td><td>125</td><td>119</td><td>127</td></tr><tr><td>132/33KV 40MVA T/F IInd</td><td>120</td><td>123</td><td>145</td><td>148</td><td>137</td><td>147</td><td>165</td><td>170</td><td>170</td><td>125</td><td>119</td><td>127</td></tr><tr><td>132/33KV 40MVA T/F IIInd</td><td>129</td><td>130</td><td>150</td><td>157</td><td>142</td><td>119</td><td>60</td><td>105</td><td>131</td><td>125</td><td>119</td><td>127</td></tr><tr><th>2022-23</th><th>Apr</th><th>May</th><th>June</th><th>July</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov.</th><th>Dec</th><th>Jan</th><th>Feb</th><th>March</th></tr><tr><td>132/33KV 40MVA T/F Ist</td><td>128</td><td>129</td><td>146</td><td>160</td><td>156</td><td>154</td><td>117</td><td>127</td><td>120</td><td>134</td><td>126</td><td>125</td></tr><tr><td>132/33KV 40MVA T/F IInd</td><td>128</td><td>129</td><td>146</td><td>160</td><td>156</td><td>154</td><td>117</td><td>127</td><td>120</td><td>134</td><td>126</td><td>125</td></tr><tr><td>132/33KV 40MVA T/F IIInd</td><td>128</td><td>129</td><td>146</td><td>160</td><td>156</td><td>154</td><td>117</td><td>127</td><td>120</td><td>134</td><td>126</td><td>125</td></tr><tr><th>2023-24</th><th>Apr</th><th>May</th><th>June</th><th>July</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov.</th><th>Dec</th><th>Jan</th><th>Feb</th><th>March</th></tr><tr><td>132/33KV 40MVA T/F Ist</td><td>130</td><td>138</td><td>161</td><td>131</td><td>140</td><td>148</td><td>137</td><td>128</td><td>145</td><td>155</td><td>140</td><td>135</td></tr><tr><td>132/33KV 40MVA T/F IInd</td><td>130</td><td>138</td><td>161</td><td>131</td><td>140</td><td>148</td><td>137</td><td>128</td><td>145</td><td>155</td><td>140</td><td>135</td></tr><tr><td>132/33KV 40MVA T/F IIInd</td><td>130</td><td>138</td><td>161</td><td>131</td><td>140</td><td>148</td><td>137</td><td>128</td><td>145</td><td>155</td><td>140</td><td>135</td></tr></table>	The loads on 40MVA T/F during previous years at 132KV S/s Laksar													2021-22	Apr	May	June	July	Aug	Sep	Oct	Nov.	Dec	Jan	Feb	March	132/33KV 40MVA T/F Ist	120	123	145	148	137	147	165	170	170	125	119	127	132/33KV 40MVA T/F IInd	120	123	145	148	137	147	165	170	170	125	119	127	132/33KV 40MVA T/F IIInd	129	130	150	157	142	119	60	105	131	125	119	127	2022-23	Apr	May	June	July	Aug	Sep	Oct	Nov.	Dec	Jan	Feb	March	132/33KV 40MVA T/F Ist	128	129	146	160	156	154	117	127	120	134	126	125	132/33KV 40MVA T/F IInd	128	129	146	160	156	154	117	127	120	134	126	125	132/33KV 40MVA T/F IIInd	128	129	146	160	156	154	117	127	120	134	126	125	2023-24	Apr	May	June	July	Aug	Sep	Oct	Nov.	Dec	Jan	Feb	March	132/33KV 40MVA T/F Ist	130	138	161	131	140	148	137	128	145	155	140	135	132/33KV 40MVA T/F IInd	130	138	161	131	140	148	137	128	145	155	140	135	132/33KV 40MVA T/F IIInd	130	138	161	131	140	148	137	128	145	155	140	135
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Query 5	PTCUL submitted that the proposed 80MVA T/F will be used to meet the T-1 provide the reason for not making the S/s complaint for T-1 contingency till date and also to submit the details of instances with proof of records where due to not having T-1 contingency, the S/s were in the condition of overload or shutdown.																																																																																																																																																																									
Reply 5	At present, 132 KV S/s Laksar having capacity 3x40MVA (132/33KV) & supplied power to Industrial, Urban/Rural areas of Laksar. In earlier years load was met out by 3 No. 40MVA Transformer, but during last summer season the connected load of UPCL to 132KV s/s Laksar is 155 MVA & the maximum load recorded on each transformer is 161 Amp in June 2023 & the load demand is increasing rapidly & also during the outage (Tripping/Shutdown) of any 01 no. transformer, the other available 02 no. 40MVA transformer do not meet the required load. So keeping in view of above facts it is essential to increase the capacity of substation from 3x40MVA to 2X40MVA+1X80MVA Transformer.																																																																																																																																																																									
Query 6	PTCUL has proposed to install the 132 kV and 33KV Twin Moose Buses in the 132KV S/s Laksar. In this regard, PTCUL is required to furnish the details of the existing bus arrangement in the S/s and the reason for proposing the twin moose bus.																																																																																																																																																																									
Reply 6	In 132 KV side bus having single moose conductor & 33 KV Side, 2 No. Bus having Single Tarantulla conductor & 01 No. bus having panther conductor. Moose																																																																																																																																																																									

	<i>conductor has approx current carrying capacity of 800 amp. full load current of transformers and connected industrial load on 132 KV bus after augmentation work will be approx 800 amp. similarly after augmentation work, full load of transformers on 33 KV bus will be approx 2800 amp. Tarantulla conductor and panther conductor have approx. current carrying capacity of 400-500 amp. So, to increase current carrying capacity, improve thermal performance & enhance mechanical strength & easier maintenance it is essential to install 132/33KV Twin moose bus.</i>
Query 7	PTCUL in its petition submitted that after the augmentation of the S/s, the exponential load growth of the system can be met. In this regard, PTCUL is required to submit the details of load growth for the Laksar S/s in the next 03years with supporting documents substantiating the projected load growth.
Reply 7	<i>At present there are 07 No. 33 KV feeders are supplying power to Laksar & the surrounding regions & the load increasing rapidly day by day and also UPCL demanded 03 No. 33 KV Bay additionally at 132 KV Substation Laksar. So after the augmentation of substation, the exponential load growth of the system can be met.</i>
Query 8	PTCUL in its petition has submitted the single line diagram of 132/33KV S/s Laksar. In this regard, PTCUL is required to furnish pre & post Project scenarios in the revised sub-station layout/Single Line diagram for the 132KV S/s Laksar alongwith details of existing and upcoming individual maximum load (in Amperes) in the feeders emanating from the S/s.
Reply 8	<i>Details of existing and upcoming individual maximum load enclosed.</i>
Query 9	PTCUL in its petition has submitted the Annual Financial Charges sheet for the proposed works, in this regard, PTCUL is required to provide the reason for consideration of loWC@13.7%, whereas, in the recent Tariff Order for FY 2024-25 the Commission has approved the lo=WC@ 11.30%. Subsequently, in case of any changes, PTCUL is required to submit the revised sheet of Annual Financial Charges, Financial Analysis and breakeven Points Analysis (in soft copy/excel format).
Reply 9	<i>loWC was wrongly taken as 13.7% in place of @ 11.30% which is now rectified and copy of Annual Financial Charges, Financial Analysis and break even point analysis enclosed (in soft copy/excel format).</i>

Query 10	PTCUL in its Petition has not submitted the cost Benefit Analysis of the project. In this regard, PTCUL is required to submit the Cost Benefit Analysis for the Project.
Reply 10	<i>Copy of Cost Benefit Analysis of project is enclosed.</i>

1.10. On the reply submitted by the Petitioner, the Commission further raised the queries, which were communicated to the Petitioner vide the Commission's letter dated 30.08.2024. In response to the queries, the Petitioner, through its letter dated 13.09.2024 submitted the reply. The queries and respective replies are as follows:

Query 1	In reply to the query no. 04, you have submitted the loading details of transformers Ist, IInd & IIIrd for the FY 2021-22, 2022-23 & 2023-24. In this regard, you are required to justify how the loading details of transformer IIIrd were obtained for the months from April, 2021 to November, 2021 in FY 2021-22, when the transformer was commissioned on 13.12.2021 (as submitted in reply no. 1). Also, PTCUL is required to provide the supporting documents w.r.t. the maximum load shown for transformer Ist, IInd & IIIrd for the FY 2021-22, 2022-23 & 2023-24 in the table submitted in the aforesaid reply.
Reply 1	<i>40 MVA Transformer (IMP make) commissioned at 132 KV s/s Laksar in July 2020</i> <i>This 40 MVA T/f was earlier commissioned at 220 KV S/s Jhajhra, Dehradun & was lying as Spare after commissioning of 80 MVA T/f at Jhajhra. Kumbh Mela was scheduled to be held in 2021 in Haridwar district Due to technical reasons for providing reliable Power supply to Kumbh Mela Area, it had been decided to that new CGL Make 40 MVA T/f should be installed in place of 40 MVA IMP make T/f. After that CGL make 40MVA T/f from 132 KV S/s New Padartha Project shifted & installed at 132 KV s/s Laksar.</i> <i>The supporting documents w.r.t the maximum load shown are enclosed.</i>

Query 2	In reply to the query no. 05, you have not submitted the desired information regarding the details of instances of overload/shutdown due to non-compliance with T-1 contingency. In this regard, you are required to furnish the details of such instances in the table below: <table><tr><th>S.No.</th><th>Date</th><th>Time of instance</th><th>Duration (in minutes)</th><th>Detail of Instance (Outage/Tripping)</th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	S.No.	Date	Time of instance	Duration (in minutes)	Detail of Instance (Outage/Tripping)					
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Reply 2	<i>HV side maximum current capacity of each transformer is 175 amp. It is evident from the data table that sum total of maximum recorded load of all three transformers is more than sum total of maximum load capacity of two transformers.</i> <i>During the said period FY 21-22, 22-23, 23-24 whenever shutdown of any 33 KV bus section and its connected feeders had been taken for maintenance purpose, at the same time shutdown of 40 MVA transformer was also proposed for preventive maintenance because any two transformers could not meet out complete loading of substation.</i>										
Query 3	In reply to the query no. 07, you have submitted that UPCL demanded 03 nos. 33 kV bay at the S/s. In this regard, you are required to furnish the details of the prospective load (in MW/Amperes) to be connected to these proposed bays.										
Reply 3	<i>Executive Engineer, UPCL Laksar vide his letter no. 3046 dated 9.9.2024 has forecasted load growth of 30 MVA across new 03 No. 33 KV bays which will be feed through 132 KV S/S Laksar.</i>										

1.11. On the reply submitted by the Petitioner, the Commission further raised the queries, which were communicated to the Petitioner vide the Commission's letter dated 26.08.2025. In response to the queries, the Petitioner, through its letter dated 16.09.2025 submitted the reply. The queries and respective replies are as follows:

Query 1	Justification for 132 kV Twin Moose bays and additional transformer bay: In the Petition, you have proposed the supply and erection of 132 kV twin moose bus (03 sets) and 132 kV twin moose T/F bay (01 set), along with the dismantling of the existing 132 kV single moose bus and T/F bay. In this regard, you are hereby directed to submit a comprehensive justification for the necessity of providing 03 sets of 132 kV twin moose bus and an additional T/F
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	bay, especially considering that a single moose bus system and T/F bay already exist at the 132 kV level and appear capable of handling the load even after the replacement of the 40 MVA T/F with an 80 MVA T/F. You are also required to submit a revised cost estimate considering the use of an existing 132 kV single moose bus.
Reply 1	1. The existing 132KV bus is of moose conductor which has an current carrying capacity of approx. 800amp. Full load current of 3x40 MVA, 132/33 KV transformers is 525amp. After augmentation work to 1x80+2x40 MVA, total connected load of transformers and industrial load on 132KV bus will be approx. 900amp. Hence twin moose conductor bus is necessary to maintain uninterrupted power supply to consumers. 2. Existing 132 KV transformer bay is 18 years old, jumpers on bay are done by ACSR panther conductor. Condition of transformer bay and jumpers is not healthy due to wear-tear so for the safety of new 80 MVA, 132/33 KV transformer it is necessary to replace existing conductor and bay equipment with new one. Also due to typing error it was inadvertently written as "132 KV twin moose transformer bay" in place of "132 KV moose transformer bay". Kindly consider the same.
Query 2	Feasibility of expansion at 132 kV Laksar substation: In the Petition, you have submitted a letter dated 28.12.2023 from UPCL in support of the requirement for augmentation of the 132 kV Laksar substation, wherein UPCL has requested the construction of three (03) new bays to cater to the upcoming load in the nearby areas of Laksar. However, it has been observed during discussions with PTCUL officials that no space is available at the 132 kV Laksar substation for expansion or for construction of the said bays. Accordingly, you are required to submit a detailed justification for increasing the capacity of the substation when such expansion appears to be impractical.
Reply 2	There is no space available for construction of new 03 No. 33KV bays at 132KV substation Laksar. But keeping in view of land constraint at 132KV Substation Laksar, UPCL may construct 33 KV Switching substation to cater to the upcoming load in the nearby areas of Laksar.

Query 3	Clarification on loading of 132 kV Laksar substation post 132 kV Padartha substation commissioning: In the Petition it has been stated that 132 kV Laksar substation is currently loaded up to 90% of its total installed capacity. However, during the investment approval proceedings for the 132 kV Patanjali Padartha Substation, PTCUL had submitted that approximately 46.70 MW of load would be shifted from the 132 kV Jwalapur and Laksar substations to the 132 kV Padartha Substation. In this context, PTCUL is directed to clarify the reasons for the continued high loading of the 132 kV Laksar substation even after the commissioning of the 132 kV Padartha substation, and to provide the details of the actual load that has been shifted from the 132 kV Laksar Substation to the 132 kV Padartha Substation.
Reply 3	1. UPCL had shifted 12.5 MVA load of 33 KV Bhattipur feeder from 132KV Substation Laksar to 132KV substation Padartha. 2. During any breakdown/maintenance work/emergency at 132 KV S/S Padartha, around 12.5 MVA load is transferred to 132 KV S/S Laksar. Also UPCL shifts the load from 132 KV Substation Padartha to 132 KV Substation Laksar as per their requirement. 3. There is continuous load growth due to rising commercial & industrial activities in Laksar area which contributes to continued high loading at 132 KV Substation Laksar.

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 observed the following:

2.1.1 In its petition, PTCUL has informed that currently there are 03 nos. 40 MVA transformers installed at the 132/33 kV Laksar substation. These transformers feed power to 07 nos. 33 kV feeders with a total connected load of 155.5 MVA and also evacuate power from a solar generator through 01 no. of 33 kV feeder. The maximum load recorded on each transformer was around 161 Ampere as of June 2023, resulting in each transformer being loaded upto 85% of its rated capacity. PTCUL further informed, in response to Commission's queries, that 12.5 MVA load has been shifted from the 132 kV Laksar substation to the newly built 132 kV

Padartha substation, however, during maintenance or breakdowns, this load is reportedly reconnected back to Laksar. Capacity saturation and the possibility of future load increase seem reasonable, but the shifting of just 12.5 MVA load to the 132 kV Padartha substation does not seem justified. At the time of investment approval for the Padartha substation, it was indicated that a much larger load would be shifted to relieve loading on Laksar substation. Furthermore, it is unclear why the newly built Padartha substation cannot reliably handle this modest 12.5 MVA load during routine maintenance, as reverting the load to Laksar substation undermines the purpose of load shifting and raises concerns about the operational adequacy of Padartha. Accordingly, PTCUL is directed to examine the above aspect.

- 2.1.2 PTCUL submitted that during the outage (tripping/shutdown) of any one of the existing transformers, the other 02 nos. 40 MVA transformers are unable to meet the required load. Additionally, whenever a shutdown of any 33 kV bus section and its connected feeders is taken for maintenance, the shutdown of one 40 MVA transformer is also proposed simultaneously. In such cases, the remaining two 40 MVA transformers are insufficient to handle the total substation load. Hence, T-1 contingency criteria are currently not met by the 132 kV Laksar substation. PTCUL has not explained how capacity enhancement of one transformer would achieve the T-1 contingency, nor how the load would be managed during maintenance of the proposed 80 MVA transformer. However, it is being considered that some ease in managing the load could be achieved.
- 2.1.3 One of the key justifications provided for capacity enhancement was the requirement of three bays by UPCL and the associated load increase. While PTCUL acknowledged, though not initially disclosed in their petition that there is insufficient space at the substation to add an additional bay for UPCL, they suggested UPCL may construct a 33 kV switching substation to manage the upcoming load. However, PTCUL has not provided information on the following critical aspects:

- a) Whether UPCL is actually planning such a switching substation,
- b) Whether UPCL has adequate land available for the same, and
- c) The expected timeline for the switching substation to become operational.

2.1.4 As per extract of Minutes of 89th meeting of the Board of Directors (BoD) of PTCUL, the BoD approved the Corporation's proposals with a debt-equity ratio of 70:30. Regarding the loan component, REC via letter dated 28.07.2025, sanctioned a loan of Rs. 17.05 Crore i.e. 70% of the total DPR cost for the proposed project. However, with revised approval, the loan amount is expected to be much less. Regarding equity arrangements, nothing concrete has been cited in the petition, however, the Petitioner submitted that the equity part will be borne by the Government of Uttarakhand.

2.2. The reply of PTCUL on certain deficiencies raised by the Commission was analyzed and found unsatisfactory to some extent on specific issues, which are discussed below:

- a) The Commission enquired about the requirement for augmentation of 132 kV buses (Main & Transfer Bus) by twin Moose conductor in place of existing Moose conductor buses. PTCUL failed to explain how the expected load on the bus would be around 900 Amperes when, after considering the current proposal, the connected transformers would only draw 700 Amperes. Further, PTCUL's reply states the capacity of Moose conductor as 800 Amperes, while earlier submissions in other matters indicated 900 Amperes. Moreover, despite a specific query regarding the requirement of three sets of bus replacement as suggested in their estimates, when only two 132 kV buses exist in the switchyard, PTCUL has not clarified this issue. Based on these observations, the Commission views that PTCUL has failed to justify the augmentation of 132 kV buses and accordingly, this work is not allowed.
- b) Regarding the proposed augmentation of transformer bay, PTCUL accepted that twin Moose bay was inadvertently mentioned and that it

actually refers to a single Moose bay. However, PTCUL did not explain why Moose conductor is required when the maximum expected load in an 80 MVA transformer bay is only 350 Amperes and the existing Panther conductor bus has a capacity of over 500 Amperes. PTCUL also failed to justify the replacement of equipment, merely citing their age of 18 years. The Commission believes that 18 years is not sufficient justification for replacement based solely on age, and therefore, augmentation of the existing bay by Moose conductor is not required and is disallowed.

- 2.3. **In view of the above, the capacity enhancement of the 40 MVA transformer to an 80 MVA transformer alongwith related works, such as the replacement of CTs on the 132 kV and 33 kV sides, if required, is approved. However, the augmentation of the 132 kV buses by twin Moose conductor buses and the augmentation of the existing Panther conductor transformer bay by Moose conductor bay are not permitted.**
- 2.4. The Commission had directed PTCUL to submit a revised cost estimate, but the same has not been provided. In its petition, the Petitioner 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 considered Price Contingencies @ 6.8% and instead calculated the total project cost considering only Contingency @ 3% and Project Overheads @ 5%, based on past Commission practice.

Further, as the issue of SoR revisions is currently under deliberation before the Commission, the rates considered in SoR of FY 2024-25 are provisional and 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 strict prudence check of the costs incurred and financing thereof, in accordance with Licence conditions and MYT Regulations during ARR scrutiny.

- 2.5. The Commission hereby grants in-principle approval in the matter and directs the Petitioner to proceed with the approved works, subject to the following conditions:
- (i) The Petitioner shall conduct competitive bidding to obtain the most economical prices from bidders.

- (ii) All loan conditions laid down by the funding agency in their detailed sanction letter shall be strictly complied with.
- (iii) The Petitioner shall ensure proper coordination with UPCL regarding the planning and construction of the new 33 kV switching station in the area. The planning shall be such that the augmentation of the transformer does not become futile due to non-construction or delay in the construction of the switching station, whether on account of non-availability of land or any other reason whatsoever.
- (iv) Within 15 days of this Order, the Petitioner shall submit revised cost estimates considering only the augmentation of the 132/33 kV 40 MVA transformer to an 80 MVA transformer and related works, such as replacement of CTs on the 132 kV and 33 kV sides, if required.
- (v) Within one month of this Order, the Petitioner shall submit a letter from the State Government or any documentary evidence supporting its claim for equity funding agreed by the State Government or any other source for the proposed projects.
- (vi) After completion of the 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 asset capitalization, subject to prudence check of the costs incurred.

2.6. This approval is granted based on the Petitioner's submissions and statement of facts under affidavit. Violations of conditions or submission of incorrect, incomplete or withheld information materially affecting this approval may result in cancellation of approval or disallowance of expenses in ARR/True-up proceedings, in addition to initiating plenary action.

Ordered accordingly.

Prabhat Kishor Dimri
Member (Technical)

(Anurag Sharma)
Member (Law)

(M.L. Prasad)
Chairman