

**Before**  
**UTTARAKHAND ELECTRICITY REGULATORY COMMISSION**  
**Petition No. 21 of 2024**

**In the Matter of:**

Investment Approval for “Termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable (approx. length 1000 mtr)”.

And

**In the Matter of:**

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

.....Petitioner

**Coram**

|                                  |                           |
|----------------------------------|---------------------------|
| <b>Shri M.L. Prasad</b>          | <b>Chairman</b>           |
| <b>Shri Anurag Sharma</b>        | <b>Member (Law)</b>       |
| <b>Shri Prabhat Kishor Dimri</b> | <b>Member (Technical)</b> |

**Date of Order:      December 08, 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. 575/MD/PTCUL/UERC dated 16.02.2024 seeking “Termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable (approx. length 1000 mtr)” 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. 69.55 Crore for the proposed work. The DPR for the same was passed by the Board of Director in its 88<sup>th</sup> Meeting of BoD held on 16.01.2024.
- 1.2. Subsequently, the Petitioner, vide its letter dated 08.04.2025, submitted a supplementary Petition in the matter, wherein, cost of the DPR was revised from Rs. 69.55 Crore to Rs. 85.95 Crore, based on the revision of the Schedule of Rates (SoR) and cost of additional work of Pile Foundation. The revised DPR was duly approved by the Board of Directors in the 94<sup>th</sup> 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) |
|--|--|
| Termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable (approx. length 1000 mtr) | 85.95  |

- 1.4. The Petitioner has submitted a copy of the extract of Minutes of 94<sup>th</sup> 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 Termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable (approx. length 1000 mtr) at a total scheme cost of Rs. 85.95 Cr. with IDC and Rs. 78.61 Cr. without IDC.*

*Resolved Further That the DPR submitted and approved in the 92<sup>nd</sup> Board meeting held on 27/08/2024 vide agenda item no. 92.80 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. To justify the need of the proposed work, the Petitioner through main Petition and supplementary submission has submitted as follows:

*"*

- LILO of 220 kV line from 400 kV Substation, Sherpur (PGCIL)-220 kV substation, Jhajra line II Ckt at 220 kV HEP Vyasi (UJVNL) was done to evacuate the power generation of 120MW Vyasi HEP(UJVNL). The existing LILO point is approx. 1.5 Km from the 400 kV substation Sherpur (PGCIL) due to which the line length of the Sherpur-Vyasi line and Jhajra-Vyasi line is respectively 36.79 Km and 40.29 Km, resulting huge difference in loading of Sherpur-Jhajra I<sup>st</sup> circuit and Sherpur-Vyasi-Jhajra line.*
- As deliberated in the meeting dated 11.12.2023, 220 KV D/C Twin Zehra Transmission Line from Lakhwar to Dehradun and its LILO at Vyasi should be directly terminated at 400 kV Substation Sherpur (PGCIL) to optimize the line loading.*
- As per the preliminary walkover survey, the LILO of 220 kV Sherpur-Jhajra at 120MW Vyasi HEP(UJVNL) can be directly terminated at 400 kV Substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable (approx. length 1000 mtr).*

- *Technical approval for the above proposed work was granted on 02.01.2024.”*

- 1.6. 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.
- 1.7. The Petitioner in its Petition has enclosed the Bar chart for the project with an execution period of 30 months from the date of award of the contract. Further, the Petitioner under the financial analysis has projected an IRR of 14.32% with breakeven in the 10<sup>th</sup> year of operations.
- 1.8. Upon examination of the proposal, the Commission directed the Petitioner to present the scope and necessity of the aforesaid project. In compliance with the said directions, the Petitioner made the presentation before the Commission on 01.04.2024 in the commission’s office. Subsequently, after the presentation, the Petitioner vide its letter dated 25.04.2024 has submitted the following detailed justification w.r.t. the need of the project:

*“3. Justification for “Termination of the LILO of 220 kV Sherpur-Jhajra line at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL)”:-*

- a) LILO of 220 kV line from 400 kV Substation Sherpur (PGCIL)-220 kV substation Jhajra line II-Ckt at 220 kV HEP Vyasi (UJVNL) was done to evacuate the power generation of 120MW Vyasi HEP(UJVNL).*
- b) Earlier there were two direct 220 kV circuits from Sherpur (PGCIL) S/s to Jhajra S/s and line length of both the circuits was 6.11 km.*
- c) The existing LILO point is approx. 1.305 Km from the 400 kV substation Sherpur (PGCIL) due to which the line length of the Sherpur-Vyasi line and Jhajra-Vyasi line is respectively 36.79 Km and 40.29 Km, resulting huge difference (8 times approx.) in current loading of Sherpur-Jhajra Ist circuit (6.11 km.) and Sherpur-Vyasi-Jhajra line (77.08 km).*
- d) This has created uneven power flow to Jhajra S/s through 220 kV lines from Sherpur S/s of PGCIL. e.g. on dated 30.05.2023 at 19:00 hrs. load flow on 220 kV Sherpur-Jhajra line was 1190 Amps while at the same time power flow from Vyasi- Jhajra line was only 169 Amps.*
- e) To optimize the uneven power flow on these lines and enhance the reliability and stability of the grid in the state capital Dehradun.*
- f) After completion of this line, N-1 contingency will meet out for both 120 MW Vyasi HEP and 220 kV Sub-station Jhajra.*

- g) Presently, 02 nos. 220 kV bays out of 06 nos. 220 kV bays at 400/220 kV Sherpur (PGCIL) are being utilized. Through above arrangement, 02 nos. of the spare bays at 220KV Sherpur may be additionally utilized for power evacuation of Vyasi HEP.
- h) PGCIL constructed 06 Nos. of 220 kV bays at 400 kV Sub-station at Sherpur (Dehradun), out of which only 02 Nos. of 220 kV bays has been utilised by PTCUL. Hon'ble CERC vide order dated 31.03.2021 imposed liability of Transmission Charges of 04 Nos. of unutilised 220 kV bays on PTCUL, which is approximate 03 Crore per year. After completion of above line, 02 Nos. of 220 kV bays at 400 kV Sub-station at Sherpur (Dehradun) will be utilised and liability of Transmission Charges will be reduced.
- i) A chronological details regarding imposition of transmission charges on account of non-utilization of PGCIL's 220 kV bays at 400 kV Substation Sherpur and status of appeal filed before the Hon'ble APTEL by PTCUL, are as follows:-
- i. In 23rd SCM held on dated 16.02.2008 (copy enclosed as Annexure-1) standard norms were adopted regarding the number of bays to be erected for each substation of different capacities.
  - ii. As per agreed norms, 06 Nos. 220 kV bays were constructed by PGCIL at 400/220 kV Substation Dehradun (Sherpur). Out of 06 Nos. 220 kV bays, 02 Nos. 220 kV bays were utilized by PTCUL by constructing the 220kV D/c Jhajra-Sherpur line on dated 01.02.2017 and 400/220 kV S/s at Sherpur was commissioned by PGCIL on 03.02.2017 (approved DOCO 04.02.2017).
  - iii. Thereafter, In 2017, PGCIL filed a Tariff Petition (55/TT/2017) before the Hon'ble CERC for approval of DOCO and determination of tariff of 04 nos. 220 kV bays at 400/220 kV S/s Dehradun (Sherpur). PGCIL did not make PTCUL as respondent in said petition.
  - iv. Hon'ble CERC vide its order dated 30.11.2017 did not approve tariff for the said bays and directed PGCIL to file a fresh petition for above said bays matching with the associated downstream transmission system. PGCIL also filed a Review Petition on the said order which was rejected by the Hon'ble CERC.
  - v. Following that, PGCIL filed a Petition (104/TT/2020) before the Hon'ble CERC for approval of DOCO (Date of Commercial Operation) and Tariff for 04 No. 220 kV Bays at 400/220 kV S/s Dehradun (Sherpur). PGCIL sought approval of DOCO alleging that Downstream Network in the scope

- of PTCUL is not ready. (Initially, PGCIL. did not make PTCUL as respondent but later on, PGCIL. impleaded PTCUL as respondent)
- vi. After various submissions and hearing Hon'ble CERC vide order dated 31.03.2021 (copy of relevant pages enclosed as Annexure-2) directed PTCUL to bear the Transmission Charges of the 04 No. 220 kV bays at 400 kV Substation Sherpur from COD till commissioning of the downstream network. Aggrieved by the said order, PTCUL filed a review Petition but Review was also rejected by the Hon'ble CERC
  - vii. Subsequently, PTCUL filed an Appeal No. 410 of 2022 before the Hon'ble APTEL challenging the above order of the Commission which is still pending before the Hon'ble Tribunal. The matter is included in the 'List of Finals' and to be taken up from there in its turn.
  - viii. Meanwhile, PGCIL has filed execution Petition No. 278/MP/2023 before the Hon'ble CERC seeking issuance of direction to PTCUL for payment against the bilateral bills raised by PGCIL to PTCUL.

**j) Justification for Using Multi-Circuit Towers and Underground Cable:**

- i. Multi-circuit Towers: The use of Multi-Circuit towers allows for the consolidation of multiple circuits within a single structure and optimizing land utilization.
- ii. More over due to Multi-Circuit tower major RoW issues will be avoided during the construction of LILO of 220 KV Jhajra Majra, at 400 kV Substation Sherpur (PGCIL) which is proposed in future after proposed construction of 220 KV substation at 132 KV substation at Majra
- iii. **Underground Cable:** Utilizing underground cables for a portion of the line reduces right-of-way requirements, and enhances aesthetics, particularly in sensitive or densely populated areas nearby Power Grid Substation.

**k) Benefits to the state after implementation of the project, are as follows: -**

- i. Availability of Transmission network will improve due to one additional direct connectivity to a 400 kV substation.
- ii. Grid stability and reliability in state capital Dehradun will increase.
- iii. Reduce uneven power flow on 220 kV lines connecting to Jhajra S/s from PGCIL.
- iv. Reduction of transmission losses: As a result of reducing current magnitude; losses will reduce
- v. Improvement in power transmission efficiency

- vi. Voltage profile of the Jhajhra sub-station will improve.
- vii. Utilization of 02 Nos. Spare bays at 400 kV S/s PGCIL. As per CERC Order dated 31.03.2021, PTCUL has made liable to bear the transmission charges (approx. 3 Crore per year) for 04 Nos. 220 kV unutilized bays. By utilizing 02 Nos. 220 kV bays, the cumulative liabilities of Transmission Charges on PTCUL will be reduced."

1.9. After the presentation, the commission raised certain queries on the deficiencies/shortcomings observed in the Petition, which were communicated to the Petitioner vide the Commission's letter dated 12.07.2024. 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:

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| <b>Query 1</b> | PTCUL in its Petition has submitted that it is proposing the aforesaid work to optimize the uneven power flow on the lines between Jhajhra-Sherpur (PGCIL) (6.11 KM) and Sherpur-Vyasi-Jhajhra (77.08 KM). In this regard, PTCUL is required to provide the reason for not considering the aspect of uneven power flow before constructing the LILO of Vyasi HEP to Sherpur-Jhajhra Line and also, PTCUL is required to submit the system study report containing load flow studies prepared during the planning of LILO of Vyasi HEP to Sherpur-Jhajhra Line.  |
| <b>Reply 1</b> | <i><b>Justification for Not Considering Uneven Power Flow:</b> PTCUL faced significant challenges due to severe Right of Way (RoW) issues, at that time of construction of the LILO of Vyasi HEP to Sherpur-Jhajhra Line and also for the need of preventing generation loss, immediate action was prioritized. The early commissioning of the Vyasi HEP necessitated an immediate solution to avoid potential generation loss, leading to the decision to construct a LILO at one circuit of the Sherpur-Jhajhra 220 KV line. PTCUL in the 3rd meeting of Northern Region Standing Committee on transmission (NRSCT) obtained approval under serial no 24.0 of Minutes of Meeting of Northern Region Standing committee on transmission (NRSCT).</i><br><br><i><b>Immediate Operational Needs:</b></i> |

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|                | <p><i>The primary goal was to avoid the generation loss from Vyasi HEP, which would have been a significant setback both economically and operationally. Ensuring that the power generated was immediately fed into the grid was of paramount importance.</i></p> <p><b>System study report:</b> <i>System study report containing load flow studies prepared during the planning of LILO of Vyasi HEP to Sherpur-Jhajhra Line is enclosed.</i></p>  |
| <b>Query 2</b> | <p>PTCUL in its additional submission submitted that PTCUL is going to utilise the 02 nos. of bays out of 04 nos. of unutilised bays at PGCIL Sherpur S/s for which PGCIL is imposing charges to the PTCUL. In this regard, PTCUL is required to submit the details of the cost paid to PGCIL till date on account of unutilised bays and also, PTCUL is required to justify the cost incurred in the proposed work w.r.t to the Transmission charges payable by PTCUL to PGCIL.</p>   |
| <b>Reply 2</b> | <ol style="list-style-type: none"> <li><i>1. PTCUL has filed an Appeal No. 410 of 2022 before the Hon'ble APTEL challenging the Hon'ble CERC Order dated 31.03.2021 vide which PTCUL is made liable to bear the transmission charges (approx. 3 Crore per year) for 04 Nos. 220 kV unutilized bays at Sherpur S/s(PGCIL) till the commissioning of downstream network by PTCUL. Since the matter is still pending before the Hon'ble Tribunal. PTCUL has not made any payment to PGCIL till date on account of unutilized bays.</i></li> <li><i>2. PGCIL has also filed execution Petition No. 278/MP/2023 before the Hon'ble CERC seeking issuance of direction to PTCUL for payment against the bilateral bills raised by PGCIL to PTCUL w.r.t 04 Nos. 220 kV unutilized bays at Sherpur S/s(PGCIL). The Petition is still pending before Hon'ble CERC.</i></li> <li><i>3. As per execution petition, the outstanding dues till August, 2023 is approximately 26.22 crores/-(Rupees Twenty-Six Crore and Twenty-Two Lakhs only) excluding applicable Late Payment Surcharge. PGCIL has raised bills up to December, 2023 and afterwards no bills have been raised by PGCIL.</i></li> </ol> |



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| <b>Query 3</b> | PTCUL is required to furnish the month-wise details of the Maximum load (in amperes) of each Ckt/line between Sherpur-Jhajhra for the past 05 years and also provide the Month and Year of LILO of Vyasi HEP to IInd Ckt of the Sherpur-Jhajra line.   |
| <b>Reply 3</b> | <i>The required details are enclosed.</i>  |
| <b>Query 4</b> | PTCUL in its petition has submitted that the availability of the transmission network and transmission efficiency will improve due to direct connectivity. In this regard, PTCUL is required to provide the details of the current transmission availability with transmission efficiency and projected improvement in the transmission system availability and transmission efficiency with detailed calculations justifying the claim after having direct connectivity of the IInd Ckt.  |
| <b>Reply 4</b> | <i>Because of Nonavailability of 220kV Jhajhra-Sherpur Line on dated 15 May 2024 (Emergency Shutdown was taken by PGCIL. Sherpur) when one circuit was not available there was complete grid disturbance &amp; 6 elements tripped. Therefore, one more direct circuit will improve availability of network. Further when two direct circuit will be available current will become almost half in each circuit therefore losses will come down and efficiency will improve. (Details enclosed)</i>  |
| <b>Query 5</b> | <p>PTCUL in its Petition has submitted the BOQ for the construction of 1.5 KM overhead line from AP 16 (LILO Point) to the cable termination point near 400 kV Sherpur (PGCIL) S/s. In this regard, PTCUL is required to provide the reason for the following:</p> <ul style="list-style-type: none"> <li>(a) In the estimate of erection, PTCUL considered the distance for the survey as 1.5 KM whereas in Part-2 of the same PTCUL has considered 2 KM for the erection works.</li> <li>(b) In the estimate of supply, PTCUL considered the supply of 49 KM of the ACSR zebra conductor and 4 KM of GS earth wire. In this regard, PTCUL is required to provide the basis of the above consideration.</li> <li>(c) PTCUL is required to provide the no. of towers needed to be erected for the proposed work mentioning the distance</li> </ul> |

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|                | between each multi-circuit tower as per the standard practice with the help of supporting documents.  |
| <b>Reply 5</b> | <p>5. (a) <i>It is due to a Typographical error, Survey of 1.5 Kms taken instead of 2.0 Kms.</i></p> <p>5. (b) <i>The estimate for the supply of 49 KM (2x (4x3x2) + Sag and wastages) of ACSR conductor and 4 KM of GS earth wire is based on a comprehensive assessment of the current and future requirements of the multi-circuit tower configuration. The immediate utilization of the 220 KV spare bays at PGCIL for two circuits, along with the provision for future expansion to accommodate two additional circuits for the utilization of the another 220 KV spare bays at PGCIL, forms the basis for this consideration.</i></p> <p>5.(c) <i>According to the "CBIP Manual on Transmission line" and standard practices followed, the typical span for a Multi-circuit Tower ranges from 175 to 210 meters, further it depends on various factors such as voltage level, terrain, and load requirements.</i></p> <p><i>The relevant page of CBIP Manual for multi-circuit towers is enclosed.</i></p> |
| <b>Query 6</b> | PTCUL is required to furnish the requirement of clearances/approval, if any, for the construction of the proposed Line.   |
| <b>Reply 6</b> | <i>Forest approval for laying of Underground cable may be required.</i>   |
| <b>Query 7</b> | 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 IoWC @ 13.70%, whereas, in the recent Tariff Order for FY 2024-25 the Commission has approved the IoWC @ 11.30%. Subsequently, in case of any changes, PTCUL is required to submit the revised sheet of Annual Financial Charges, Financial analysis and Breakeven Point analysis (in soft copy/excel format).  |
| <b>Reply 7</b> | <i>The required information is enclosed.</i>  |

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| <b>Query 8</b> | 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. |
| <b>Reply 8</b> | <i>FIRR Value (14.32%) of Project is greater than WACC Value (9.4%) of project.<br/>Hence the project is cost beneficial to PTCUL</i>                                    |

1.10. On the supplementary Petition submitted by the Petitioner, the Commission raised the queries, which were communicated to the Petitioner vide the Commission's letter dated 23.10.2025. In response to the queries, the Petitioner, through its letter dated 28.10.2025 submitted the reply. The queries and respective replies are as follows:

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| <b>Query 1</b> | PTCUL in its supplementary submission has increased the cost of the project from Rs. 69.55 Crore to Rs. 85.95 Crore. In this regard, PTCUL is required to furnish detailed justification for the cost escalation, indicating the specific project elements along with their earlier and revised cost estimates that have contributed to the substantial increase in the overall scheme cost.   |
| <b>Reply 1</b> | <i>Earlier PTCUL submitted the DPR of amount 69.55 Crore for construction of termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UIVNL) for direct connection at 400 kV Substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable of approx. length 1.0 km was framed based on SoR 2023-24 of PTCUL without provision of Pile foundation.<br/>Owing to revision in SoR for FY 2024-25 of PTCUL and 07 nos. pile foundations as per requirement for the line, supplementary submission amounting Rs. 85.95 Crore including the cost of pile foundations has been submitted for investment approval. (Original &amp; revised cost estimates is enclosed.</i> |
| <b>Query 2</b> | The Petition proposes that the project will be financed through a 70% loan and 30% equity contribution from the Government of  |

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|                | Uttarakhand (GoU). In this regard, PTCUL is required to submit supporting documents/approval letters from financial institution and GoU confirming their commitment to the proposed financing.  |
| <b>Reply 2</b> | <p><i>The 70% loan against above subject project was sanctioned by REC under Scheme no. UA-TD-TRM-118-2025-19426 and PFC under loan no. 09303075(Copy of REC &amp; PFC sanction letter with terms &amp; conditions enclosed.</i></p> <p><i>Further, It is to inform that the 30% of entire Equity contribution from the Government of Uttarakhand (GoU) shall not be required at one time. It shall be required in staggered manner as per the proportionate progress of the project, during the entire completion schedule of the project.</i></p> <p><i>The year-wise equity requirement against the above project will be demanded from Government of Uttarakhand (GoU) through State Budget by submitting Annual Plan, as we have been doing for all earlier projects. It is pertinent to mention here that above project under discussion is already approved in the Uttarakhand Transmission Network Planning released vide GO No. 553/1(2)/2024/05-05/2024 dated 02.09.2024. (Copy enclosed)</i></p> |
| <b>Query 3</b> | PTCUL, in its reply dated 09.08.2024, has submitted that forest approval may be required for laying of the underground cable. In this regard, PTCUL is directed to submit the present status of forest clearance/approval for the identified area.  |
| <b>Reply 3</b> | <i>As per the latest survey conducted by PTCUL on 28-10-2025 and proposed SLD enclosed herewith the line route shall be optimized and there will no forest land involved long the alignment of line route.</i>  |
| <b>Query 4</b> | PTCUL in its Petition has submitted the BOQ for the construction of 1.5 KM overhead line from AP 16 (LILO Point) to the cable termination point near 400 kV Sherpur (PGCIL) S/s. In this regard, PTCUL is required to provide the justification for consideration of the 49 KM of the ACSR zebra conductor for D/C twin zebra conductor required to be laid down for 1.5 KM.  |

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| <b>Reply 4</b> | <i>In original DPR the conductor length has been taken for 2.0 Km for overhead transmission line. However, the length of overhead line has now been revised to 37 KM (1.5x (4x3x2) + Sag and wastages) in the BOQ finalized for the tendering.</i> |
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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 04.11.2025. In response to the queries, the Petitioner, through its letter dated 18.11.2025 submitted the reply. The queries and respective replies are as follows:

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| <b>Query 1</b> | PTCUL in its reply no. 1 has submitted that in the supplementary submission with revised DPR of Rs. 85.95 Crore, it has included the additional work of 07 nos. of Pile foundations as per the requirement for the proposed line. In this regard, PTCUL is required to clarify the reason for consideration of 5% of quantity variation & cost escalation and 1% of structural designs & drawings, when, PTCUL is already considering the price contingency @ 6.8%, contingency @ 3% and project overhead @ 5% on the total base cost of the proposed project. In this regard, PTCUL is required to provide the reason for consideration of same with supporting documents and if required, submit the revised estimate for Pile foundation.  |
| <b>Reply 1</b> | <i>In this regard the reply against the deficiency/shortcoming mentioned against the point no. 1 is as below:-<br/>Regarding additional work of pile foundations at 07 no. tower locations as per the requirement for the proposed line, it is to apprise that the estimate of pile foundations has been prepared on the basis of past experience in the nearby area. The quantities adopted while framing the estimate pertaining to construction of pile foundations at various tower locations were tentative and may vary after detailed design &amp; engineering pertaining to subject work depending upon loading coming from tower which is also yet to be designed and finalized. Therefore provision @ 5% of the estimated cost has been made to cover the estimated cost which may vary on account of quantity variation and cost escalation up to the bidding process pertaining to the referred work.</i> |

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|                | <p><i>In addition to above, it is also to apprise that the rates of pile foundations are exclusive of geotechnical investigation &amp; structural design charges, therefore provision @ 1% of estimated cost of pile foundations has been made as per CPWD work manual 2014, Appendix-16 (Fees for Consultancy Services) to cover the cost of consultancy charges.</i></p> <p><i>Therefore the referred provisions made in the estimated cost seem to be justified. Hence, it is, therefore, prayed before the Hon'ble commission to consider the justification as narrated above.</i></p> |
| <b>Query 2</b> | <p>PTCUL in its reply no. 03 has submitted that there will be no forest land involved in the line route, in this regard, PTCUL is required to submit:</p> <p>(a) Minutes of Meeting (MoM) of the latest survey conducted by the PTCUL on 28.10.2025 alongwith approved SLD for the line route.</p> <p>(b) Revised detailed estimate for the proposal if there is no forest land involvement in the project, as the already submitted estimate includes the substantial cost of forest clearance and forest centage @ 8%.</p>   |
| <b>Reply 2</b> | <p>(a) <i>Minutes of Meeting (MoM) of the latest walk over survey conducted by the PTCUL on 28.10.2025 along with approved SLD for the line route is enclosed.</i></p> <p><i>Tentative SLD as per walkover survey on 28.10.2025 duly approved with condition that actual quantities of tower &amp; cable shall be arrived after detailed survey, is enclosed.</i></p> <p>(b) <i>Revised detailed estimate for the proposal estimate excluding the substantial cost of forest clearance and forest centage @ 8% is enclosed.</i></p>  |
| <b>Query 3</b> | <p>PTCUL in its reply no. 04 has submitted that the line length of overhead line has now been revised to 37 KM {1.5 KM x (4 x 3 x 2) + sag} in the BoQ finalised for the tendering, in this regard, PTCUL is required to:</p>  |

|                |   |
|----------------|---|
|                | <p>(a) Submit the revised estimate (supply &amp; erection) for the line considering the distance of 1.5 KM instead of already submitted estimate for distance of 2 KM in the supplementary submission.</p> <p>(b) Submit the reason for consideration of 04 nos. of circuit in the present proposal, as currently only 02 nos. of circuit were operational between LILO point at Sherpur-Jhajra line and Vyasi HEP.</p>   |
| <b>Reply 3</b> | <p>(a) <i>The revised estimate (supply &amp; erection) for the line considering the line length of 1.5 KM only is enclosed. All quantities in enclosed revised estimate are tentative. However actual quantities shall be arrived during detailed survey.</i></p> <p>(b) <i>The provision of 04 (four) circuits in the present proposal has been done for future transmission system requirements in the region. At present, two circuits are operational between the LILO point of the 220 kV Sherpur-Jhajra line and Vyasi HEP, after proposed termination work two circuits from Vyasi HEP will continue to be utilized for evacuation of power from Vyasi Hydro Electric Project (HEP) at 400 KV substation Sherpur (PGCIL). The remaining two circuits have been proposed as future provisions, keeping in view right of Way (RoW). Considering the RoW constraints stringing provisions for all four circuits have been made in the present scope to avoid the need for repeated RoW clearances, minimizing future disturbances and ensuring cost-effectiveness in the long term.</i></p> |

## 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 A LILO of the 220 kV Sherpur (PGCIL)-Jhajra Second Circuit was earlier constructed to facilitate evacuation of power from the 120 MW Vyasi HEP (UJVNL). The existing LILO configuration results in line lengths of 36.79 km (Sherpur-Vyasi) and 40.29 km (Jhajra-Vyasi), leading to a significant imbalance in the loading of the Sherpur-Jhajra First Circuit and the Sherpur-Vyasi-Jhajra line. The details of the line loading presented by the Petitioner is in table below:

| S.N. | Name of the line             | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 |
|------|------------------------------|--------|--------|--------|--------|--------|--------|
| 1    | 220 kV PGCIL-Jhajhra I       | 891    | 1190   | 1038   | 1004   | 883    | 798    |
| 2    | 220 kV Lakhwar Vyasi-Jhajhra | 234    | 490    | 300    | 476    | 228    | 319    |
| S.N. | Name of the line             | Oct-23 | Nov-23 | Dec-23 | Jan-24 | Feb-24 | Mar-24 |
| 1    | 220 kV PGCIL-Jhajhra I       | 814    | 742    | 822    | 1059   | 897    | 883    |
| 2    | 220 kV Lakhwar Vyasi-Jhajhra | 315    | 308    | 244    | 163    | 164    | 24     |

To optimise the above uneven line loading, the Petitioner has proposed termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL).

In this regard, the Commission sought clarification from the petitioner for not considering abovesaid issue of uneven power flow prior to undertaking the works of LILO arrangement. In response, the Petitioner submitted that commissioning of the Vyasi HEP required an immediate evacuation arrangement to avoid potential generation loss and, therefore, a LILO of one circuit of the 220 kV Sherpur-Jhajra line was constructed as an urgent interim solution.

2.1.2 With implementation of works proposed in the instant Petition, the petitioner would be able to utilize two number of bays out of the four number of bays (which are unutilized as on date at PGCIL's Sherpur Sub Station) and for which PGCIL is imposing charges on PTCUL. In this regards Petitioner has also informed that it has filed an appeal before the Hon'ble APTEL challenging the Hon'ble CERC Order dated 31.03.2021 vide which PTCUL made liable to pay the transmission charges for 04 nos. of 220 kV unutilised bays at Sherpur S/s (PGCIL) till the commissioning of the downstream network by PTCUL. As per the execution Petition, the total outstanding dues till August 2023 is approximately Rs. 26.22 Crores excluding applicable Late Payment Surcharge.

2.1.3 In the past due to the non-availability of 220 kV Jhajra-Sherpur line on 15.05.2024 on account of the emergency shutdown taken by the PGCIL, (when one circuit was not available) there was complete grid disturbance



and 06 elements got tripped. Therefore, to improve availability of the transmission network and enhancing the transmission efficiency, the proposal for conversion of existing LILO line to direct circuit has been brought before the Commission for approval.

- 2.1.4 With regard to the Commission's query about the status of Forest Clearance /approval for the proposed works, the Petitioner submitted that, based on the latest survey conducted by it on 28.10.2025, the line route has been optimized and no forest land is involved along the alignment. Accordingly, forest approval/clearance is no longer required for the proposed work.
- 2.1.5 With regard to the query for proposing 49 Km ACSR Zebra conductor for a length of 1.5 Km overhead double circuit line the Petitioner submitted that, the required conductor length has now been revised to 37 km in the BoQ and accordingly, the cost estimate has been revised to Rs. 50.45 Crore in place of the earlier estimate of Rs. 51.20 Crore w.r.t. supply and erection for the proposed work.
- 2.1.6 The Petitioner in the estimate has included the cost of the forest clearance and forest centage charge @ 8% w.r.t. the initial requirement of forest clearance/approval for the proposed work. However, in view of the Petitioner's latest submission indicating that forest clearance is no longer required, the Commission directed the Petitioner to revise the detailed estimate by excluding the cost of forest clearance and the associated centage charge @ 8%. In compliance to this , the Petitioner has submitted the revised estimate for the proposal, excluding the substantial costs of Rs. 1.62 Crore earlier attributed to forest clearance and forest centage charge.
- 2.1.7 Regarding the financing of the project the Petitioner has submitted the letters to the Commission from REC and PFC, wherein, REC vide its letter dated 20.08.2025 & PFC vide its letter dated 03.09.2025, has agreed to grant loan assistance of Rs. 60.17 Crore, which constitutes 70% of the total DPR cost for the proposed project. However, regarding the equity portion, PTCUL has not provided any supporting documents from Government of Uttarakhand, but has stated that the entire equity of Rs. 28.50 Crore which will be funded by Government of Uttarakhand which

shall be required in phases as per the progress of project during the entire completion schedule of the project, therefore, 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.

2.2. On the justification stated in the Petition and subsequent submissions as summarised above, the Commission observed that with the execution of the proposed work following benefits will be realised:

1. Improved availability of the transmission network through the addition of a direct connectivity to the 400 kV substation.
2. Enhanced grid stability and reliability in the State capital, Dehradun.
3. Reduction in uneven power flow on the 220 kV lines connected to Jhajra substation from PGCIL.
4. Reduction in transmission losses, owing to a decrease in current magnitude.
5. Improved power transmission efficiency.
6. Improved voltage profile at the Jhajra substation.
7. Optimal utilization of two spare bays at the 400 kV PGCIL substation. As per the Hon'ble CERC Order dated 31.03.2021, PTCUL is liable to bear transmission charges (approximately ₹3 crore per year) for four unutilized 220 kV bays. Utilization of two of these bays will reduce the cumulative liability of transmission charges on PTCUL.

Based on the above submissions of the Petitioner, the Commission finds merit in the proposal for termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL). The requirement for the proposed augmentation is justified from both system adequacy and reliability perspectives. The Commission further observes that the proposed strengthening of the transmission network is consistent with the long-term planning requirements for the Dehradun region and is necessary to meet the anticipated load growth and operational needs of the downstream 220 kV and 132 kV substations.

2.3. The Petitioner has considered Price Contingencies @ 6.8%, Contingency @ 3%, and Project Overheads @ 5% on the base cost of the DPR. In addition, the Petitioner has also included Quantity Variation/Cost Escalation @ 5% and Structural Design and Drawing charges @ 1% for the Pile foundation works. To

maintain uniformity with recent investment approvals, the Commission has not considered Price Contingencies @ 6.8%, Quantity Variation/Cost Escalation @ 5%, and Structural Design and Drawing charges @ 1%. Instead, the total project cost has been calculated by considering only Contingency @ 3% and Project Overheads @ 5%, in line with past practice adopted by the Commission.

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 prudence check of the costs incurred and financing thereof, in accordance with Licence conditions and MYT Regulations during ARR scrutiny.

- 2.4. Therefore, in view of the deliberation made above, the Commission considers the need for the proposed work as justified and accordingly, grants in-principle approval for Rs. 71.20 Crore (including IDC) as shown in the table given below, subject to the fulfilment of the 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) |
|--|---|---|
| Termination of the LILO of 220 kV Sherpur-Jhajra at 120 MW Vyasi HEP (UJVNL) for direct connection at 400 kV substation Sherpur (PGCIL) with a line length of approx. 2.5 km (partially overhead approx. 1.5 Km with multi-circuit towers and partially with underground cable (approx. length 1000 mtr) | 85.95   | 71.20   |

- (i) The Petitioner should go for the competitive bidding for obtaining most economical prices from the bidders.
- (ii) All the loan conditions as may be laid down by the funding agency in their detailed sanction letter are strictly complied with.
- (iii) The Petitioner shall, within one month of the Order, submit a letter from the State Government or any such documentary evidence in support of its claim for funding agreed by the State Government or any other source in respect of the proposed projects.

- (iv) After completion of the aforesaid projects, the Petitioner shall submit the completed cost and financing of the projects.
  - (v) 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.
  - (vi) 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.
- 2.5. 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 approvals, 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**