

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION
Petition No. 42 of 2026

In the Matter of:

Application seeking approval for the investment of the following projects:

- (a) **Construction of new 2x12.5 MVA, 33/11 kV Substation Basvada (Ukhimath) and its associated 33 kV & 11 kV lines, District-Rudraprayag.**
- (b) **Construction of new 2x5 MVA, 33/11 kV Substation Madhmaheshwar (Guptkashi) and its associated 33 kV & 11 kV lines, District-Rudraprayag.**

And

In the Matter of:

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

...Petitioner

Coram

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

Date of Order: August 17, 2026

ORDER

This Order relates to the Petition filed by Uttarakhand Power Corporation Limited (hereinafter referred to as “UPCL” or “the Petitioner” or “the licensee”) in the matter of ‘(a) Construction of new 2x12.5 MVA, 33/11 kV Substation Basvada (Ukhimath) and its associated 33 kV & 11 kV lines, District-Rudraprayag and (b) Construction of new 2x5 MVA, 33/11 kV Substation Madhmaheshwar (Guptkashi) and its associated 33 kV & 11 kV lines, District-Rudraprayag’ for seeking investment approval of the Commission.

Background

2. The Petitioner vide its letter No. 90/D(P)/UPCL/C-4 dated 13.01.2026 submitted its Petition for investment approval for the ‘Construction of new 2x12.5 MVA, 33/11 kV Substation Basvada (Ukhimath) & its associated 33 kV & 11 kV lines, District-Rudraprayag and Construction of new 2x5 MVA, 33/11 kV Substation

Madhmaheshwar (Guptkashi) & its associated 33 kV & 11 kV lines, District- Rudraprayag' under the provisions of the Clause 11 of Distribution and Retail Supply Licence and Clause 40 of UERC (Conduct of Business) Regulations, 2014 read with relevant provision of the Electricity Act, 2003, and the Rules and Regulations made thereunder.

3. The Petitioner under 'Facts of the case' has submitted that:

“

- (i) *As the existing 33/11 kV Substaions namely Ukhimath and Guptkashi are located in geologically unstable sinking zone thus with a view to ensure reliable power supply and safety, the applicant company has proposed the shifting of these substations by constructing 02 No. 33/11 kV Substations namely Basvada and Madhmaheshwar alongwith their associated 46.33 km., 11 kV and 5.56 km., 33 kV lines in the State of Uttarakhand. The estimated cost of the project is Rs. 21.94 Cr. The project is proposed to be implemented on partially turnkey basis.*
- (ii) *The project shall be awarded after date of receipt of approval from Hon'ble Commission and the tentative scheduled period of completion of the projects shall be 10 months from date of award.*
- (iii) *The details of substations and lines are as follows:*

S. No.	Name of the Project	District	Capacity (MVA)	Length of 33 kV Line (Km.)	Length of 11 kV Line (Km.)	Total Cost (Rs.in Lakh)
1	Construction of 33/11 kV S/s at Basvada (Ukhimath)	Rudraprayag	2x12.5	2x0.26 (LILO from express feeder) + 2x0.37 (LILO from existing feeder)	26.00	1053.64
2	Construction of 33/11 kV S/s at Madhmaheshwar (Guptkashi)		2x5	2x1.5 (LILO from express feeder) + 2x0.65 (LILO from existing feeder)	20.33	1139.83
Total				5.56	46.33	2193.47

- (iv) *The project has already been approved by BoD of UPCL in its 123rd BoD Meeting held on dated: 01-05-2025. The true copy is enclosed herewith...*
- (v) *Govt. of Uttarakhand vide letter no. 876/XVIII-II-1/2025, dated: 15.09.2025 has sanctioned Rs. 21.95 Cr. under Special Assistance to States for Capital Investment (SASCI).*

The breakup of the funding is as follows:

- (i) *Rs. 15.37 Cr. out of total amount sanctioned under SASCI shall be met as debt with interest @ 6.5% and,*
- (ii) *Rs. 6.59 Cr. as equity from GoU.”*

4. The Petitioner alongwith its Petition has enclosed certified true copy of 123rd Board of Directors meeting dated 01.05.2026. The resolution passed by BoD states that: -

“ITEM NO. 123.07: Regarding approval of Projects already approved by Govt. of Uttarakhand.

“RESOLVED THAT the approval of the Board be and is hereby accorded to the proposal that the projects approved by Govt. of Uttarakhand under SASCI, the approval of the Govt. of Uttarakhand to these projects will be treated as deemed approval of Board of Directors of UPCL, and for filing of petition before Hon’ble UERC & other purposes as may be required and intimation of the same be given to the Board in due course.”

Further, the Petitioner vide its submission dated 27.05.2026 has submitted the certified true copy of 128th Board of Directors meeting dated 27.04.2026. The resolution passed by BoD states that: -

“ITEM NO. 128.15C:Approval of the Board on the Format prescribed by Hon’ble UERC for the purpose of seeking investment approval.

RESOLVED THAT approval of the Board be and is hereby accorded to the proposal as detailed below:-

Sl. No.	Description	Details
A	<i>Detail of Work</i>	
	<i>Construction of 02 no. 33/11 kV S/s along with their associated 33 kV and 11 kV lines</i>	<i>2x12.5 MVA 33/11 kV S/s, Banswada (by shifting of 33/11 kV S/s, Ukhimath), Rudraprayag.</i> <i>2x5 MVA 33/11 kV S/s Madhmaheshwar (by shifting of 33/11 kV S/s, Guptakashi), Rudraprayag</i>
B	<i>Project Cost</i>	
	<i>(Rs. In Lac.)</i>	<i>2195.00</i>
	<i>IDC-included/excluded</i>	<i>Excluded</i>
	<i>Taxes-included/excluded</i>	<i>Included</i>
	<i>Variation % allowed</i>	<i>-</i>
C	<i>Financing Details (Rs. In Lac.)</i>	
	<i>Source</i>	<i>SASCI</i>
	<i>Grant</i>	<i>-</i>
	<i>Equity</i>	<i>30% of Project Cost i.e. Rs. 659.00 Lac.</i>
	<i>Debt</i>	<i>70% of Project Cost i.e. Rs. 1536.00 Lac.</i>
	<i>Rate of interest</i>	<i>6.50%</i>
D	<i>Status of tender/ order</i>	<i>Tender invited on dated 11.02.2026, opened on 03.03.2026. Tender file is being submitted to committee for approval.</i>

It has been observed that the Board of Directors (BoD) of the Petitioner has not categorically approved any variation in the total project cost of Rs. 21.95 crore.

5. The Petitioner under 'Relief Sought' has requested to:

" ...

(iii) Grant approval to process the tender of 33/11 kV Substations at Basvada (Ukhimath) and Madhmaheshwar (Guptkashi), as the funding available under SASCI Scheme has to be utilized in current financial year.

(iv) Grant approval for the investment on the project covering the construction of 02 No. 33/11 kV Substations alongwith their associated Lines ..."

6. On examination of the proposal made in the Petition & Detailed Project Report (DPR), certain deficiencies/infirmities were identified and accordingly, the Commission vide its letter No. 164 dated 30.04.2026 directed the Petitioner to furnish point-wise reply on the same latest by 10.05.2026. In response to the deficiencies/infirmities raised by the Commission, Petitioner vide its letter No. 689/ Dir. (Dis. & Pro.)/UPCL dated 27.05.2026 submitted its point-wise reply as follows:

"

(A) General

1. UPCL is required to furnish details of land acquisition alongwith supporting documents in support of the proposed 33/11 kV Substations at Basvada (Ukhimath) and Madhmaheshwar (Guptkashi).

Submission by UPCL: -

The status of land availability for the proposed 33/11 kV Substations is as follows:

S. No.	Name of Substation	District	Status of Land
1	Basvada (Ukhimath)	Rudraprayag	Available
2	Madhmaheshwar (Guptkashi)	Rudraprayag	Available

The supporting documents are enclosed ...

2. UPCL is required to confirm regarding the requirement of forest, railway, geological etc., clearance, if any, for the proposed Substations.

Submission by UPCL: -

It is to bring to kind notice of Hon'ble Commission that for proposed 33/11 kV Substation Basvada in-principle approval for transfer of forest land to UPCL has been accorded by Forest Department on dated 25.03.2023 (**Copy enclosed as Annexure-A**). Further UJVNL has granted NoC for construction of 33/11 kV Substation Madhmaheshwar within the premises of UJVNL Power House on dated 12.11.2025 ...

No railway crossing as well as forest clearance is required for construction of the proposed 33 kV and 11 kV lines.

Further regarding geological survey report, it is humbly submitted that geological clearance for 33/11 kV Substation Madhmaheshwar (Guptkashi) has already been enclosed at page no. 89 of the petition. The land for proposed substation Basvada is along the Rudraprayag-Kedarnathji highway and the site is situated in a comparatively stable zone with respect to natural disaster risk, however the geological report for the land will be submitted separately.

3. *UPCL is required to furnish the activity-wise project plan for the construction of proposed Substations at Basvada (Ukhimath) and Madhmaheshwar (Guptkashi) alongwith its associated 33 kV & 11 kV networks in hard and soft copy.*

Submission by UPCL: -

The activity-wise project plan for construction of proposed Substations along with its associated 33 kV and 11 kV lines is enclosed ...

4. *UPCL is required to furnish general arrangement drawing of proposed 33/11 kV S/s Basvada and 33/11 kV S/s Madhmaheshwar depicting the overall dimension of the Substation, Transformers, switchyard room and incoming & outgoing feeders.*

Submission by UPCL: -

The general arrangement drawing of proposed 33/11 kV S/s Basvada and 33/11 kV S/s Madhmaheshwar depicting the overall dimension of the Substation, Transformers, switchyard room and incoming & outgoing feeders etc. is enclosed as ...

5. *UPCL is required to furnish the basis of cost estimates considered for the proposed works under the instant Petition.*

Submission by UPCL: -

It is to bring to kind notice of Hon'ble Commission that the cost estimates for the proposed works have been prepared based on the moving average price of items in SAP at time of preparation of estimates. The rates for decentralized material and labor portion has been taken by considering prevailing rates in the market and previously awarded contracts by department.

6. *UPCL is required to furnish the Cost Benefit Analysis for the proposed works in hard copy as well as in soft copy (in Excel).*

Sl. No.	<i>List of equipment's proposed to be dismantled from the existing S/ s</i>			
	<i>List of such equipment's</i>	<i>Whether the same would be used in the proposed S/s (Yes/No)</i>	<i>Cost considered in the estimate of proposed S/ s (in Rs. Lakh)</i>	<i>Plan for utilization of the dismantled assets</i>

Submission by UPCL: -

It is to apprise to Hon'ble Commission that the existing 33/11 kV S/s Ukhimath and 33/11 kV substation Guptkashi were identified under the land subsidence affected zone and accordingly in the interest of safety and reliable power supply of the region, shifting of these substations becomes necessary. Since the proposed substations will cater the existing load catered by substations under subsidence affected zone hence Cost Benefit Analysis was not carried out.

7. *UPCL has not mentioned details of project cost, taxes, IDC, variation allowed, project name in the BoD approval for the construction of proposed 33/11 kV S/s Basvada (Ukhimath) and 33/11 kV S/s Madhmaheshwar (Guptkashi), however, the Commission, vide its letter dated 04-12-2025, had categorically directed UPCL to include the aforesaid information in the BoD approval in accordance with the template provided by the Commission. In this regard, UPCL is required to submit the BoD approval in line with the aforesaid Commission's letter dated 04-12-2025.*

Submission by UPCL: -

The true copy of resolution passed by BoD on the prescribed format by Hon'ble Commission is enclosed as ...

8. *UPCL is required to furnish the voltage profile calculation from 132/33 kV S/s Srinagar to the proposed 33/11 kV S/s Basvada (Ukhimath) and Madhmaheshwar (Guptkashi), for summer & winter scenario separately with and without considering the generation from the SHPs in vicinity.*

Submission by UPCL: -

It is respectfully submitted that the detailed voltage profile analysis of the proposed 33 kV network including detailed voltage profile calculations, assumptions, loading data, conductor parameters and node-wise analysis are enclosed ...

9. *UPCL is required to clarify that whether the equipment would be dismantled from the existing Substations and utilized in the proposed Substations or not. Accordingly, UPCL is required to submit the existing Substation-wise details of the equipment that would be dismantled in the following format: -*

Submission by UPCL: -

It is to bring in kind notice of Hon'ble Commission that the electricity supply to concerned consumers shall be continued from existing substation until the construction and commissioning of the new substations. After commissioning of the new substations, the equipment of existing substations shall be dismantled and deposited in the store as per prevailing rates of UPCL.

10. *UPCL is required to clarify the use of land/permission of the existing Substations post shifting of the same. Furthermore, UPCL is required to submit the color photograph of the existing Substations and proposed land alongwith their GPS coordinates.*

Submission by UPCL: -

The land of both substations is already in sinking zone therefore any expenditure proposed on the land will not be economically beneficial. The color photograph of the existing Substations and proposed land alongwith their GPS coordinates enclosed ...

11. *UPCL is required to confirm whether the length of the 33 kV Express feeder line emanating from Rudraprayag S/s to Sonprayag S/s is 50 km or 80 km, as mentioned in SLD the length of 33 kV express feeder is shown as 80 km. Whereas the same is shown as 50 km in the separate Petition filed by the Petitioner on 12.09.2025.*

Submission by UPCL: -

It is to apprise that the length of 33 kV express feeder line emanating Rudraprayag S/s to Sonprayag S/s is 50 km and the same has been corrected in SLD. The revised SLD is enclosed ...

12. *UPCL has proposed an express feeder line emanating from 33/11 kV S/s Rudraprayag to 33/11 kV S/s Sonprayag. However, in the instant Petition, UPCL has submitted a SLD where the 33 kV express feeder line emanating from the Rudraprayag S/s to Sonprayag S/s shows LILO arrangement for the proposed substations. In this regard, UPCL is required to clarify whether, upon implementation of LILO from the 33 kV express feeder, the feeder shall continue to retain its classification as an express feeder or not.*

Submission by UPCL:-

The proposed arrangement has been designed primarily considering system reliability, contingency management and operational flexibility requirements of the Kedarnath region. Further, the proposed 33/11 kV Substations Basvada and Madhmaheshwar shall normally be commissioned and operated through existing source arrangements associated with 33/11 kV S/s Augustmuni.

The proposed LILO arrangement on the 33 kV express feeder has been envisaged mainly to provide 'N-1' contingency support to the proposed substations at Basvada and Madhmaheshwar during abnormal operating conditions such as outage, maintenance or fault conditions on the primary feeding source.

There is no routine load tapping or intermediate load sharing is proposed from the express feeder and the feeder shall continue to function operationally as a dedicated express feeder between 33/11 kV S/s Rudraprayag and 33/11 kV S/s Sonprayag. Hence, the classification and operational philosophy of the feeder as an express feeder shall remain unchanged.

It is also submitted that during non-Yatra season, when regional demand remains comparatively lower, the proposed arrangement may additionally be utilized for evacuation and network balancing of surplus power generated from Madhmaheshwar Small Hydro Projects and other adjoining hydro generation stations. Such utilization shall improve overall network stability, voltage regulation and system utilization without affecting the primary function of the express feeder.

13. *UPCL is required to confirm whether any system study has been conducted for Kedarnathji Dham and the adjoining areas such as Ukhimath, Sonprayag and Guptkashi for the assessment of load and electrical network requirements.*

Submission by UPCL: -

It is respectfully submitted that UPCL has carried out a detailed assessment of the present as well as upcoming load requirement of Shri Kedarnathji Dham and the surrounding areas considering the rapid increase in electricity demand due to religious tourism, infrastructural development, proposed ropeway projects, hospitality establishments and allied commercial activities in the region.

Based upon the detailed assessment and technical evaluation of the electrical network requirement, various strengthening and augmentation works have been proposed by UPCL to ensure reliable, quality and uninterrupted power supply in the entire Shri. Kedarnathji valley region. The major proposed works include the following:

1. *Construction of a new substation at Shri. Kedarnathji Dham for meeting the future load demand and improving reliability of supply in the area.*
2. *Capacity augmentation of the existing transmission/distribution network including associated lines and substations feeding the Kedarnath region.*

3. *Construction of a new 33 kV Express Feeder from Rudraprayag to Sonprayag via the proposed Madhmaheshwar Substation for ensuring dedicated and reliable power supply to the Kedarnath corridor and adjoining areas.*
4. *Construction of new substations at Madhmaheshwar and Basvada in lieu of the existing Guptkashi and Ukhimath substations respectively.*

In this regard, it is pertinent to mention that augmentation of the existing Guptkashi and Ukhimath substations has significant technical and geographical constraints due to subsidence issues and limitations associated with the existing switchyard land. Therefore, considering long-term system stability, safety and future load growth, establishment of new substations at technically feasible and safer locations has been proposed.

The above proposals have been formulated after considering the anticipated future load growth and network requirement of Shri. Kedarnathji Dham and adjoining areas so as to ensure adequate system strengthening and reliable power supply infrastructure for the region.

14. *UPCL is required to confirm that all design and construction aspects associated with the construction of the 33/11 kV substation, as specified in the CEA (Technical Standards for Construction of Electrical Plants and Electrical Lines) Regulations, 2022, and subsequent amendments, have been duly considered in the proposal. If not, furnish a list of specific non-compliances along with the reasons for the same.*

Submission by UPCL:-

It is to apprise that all applicable design and construction aspects associated with the proposed 33/11 kV Substations, as stipulated under the CEA (Technical Standards for construction of Electrical plants and Electrical Lines) Regulations, 2022 and subsequent amendments, have been duly considered in the proposal, accordingly the estimates has been prepared.

15. *UPCL under the 'Relief Sought' section of its Petition has prayed "... (iii) Grant approval to process the tender of 33/11 kV Substations at Basvada (Ukhimath) and Madhmaheshwar (Guptkashi), as the funding available under SASCI Scheme has to be utilized in current financial year". Since, the FY 2025-26 has been completed, therefore, UPCL is required to confirm regarding the utilization of the funds and submit the extension letter with regard to funding of project under SASCI scheme, if any.*

Submission by UPCL: -

It is to apprise to Hon'ble Commission that 100% funds for the proposed substations has already been released by the GoU under the head of SASCI and progress of the SASCI scheme is reviewed by GoU from time to time.

16. UPCL is required to furnish the status of tenders for the proposed works.

Submission by UPCL: -

It is to humbly inform that the tender invited for construction of substations has been cancelled/scraped due to higher quoted cost and fresh tender is being invited.

(B) Construction of new 2x12.5 MVA, 33/11 kV Substation at Basvada (Ukhimath) and its associated 33 kV & 11 kV lines, District-Rudraprayag (Rs.10.53 Cr.)

17. UPCL is required to submit the Geological Survey report of the identified site for the 33/11 kV Basvada S/s.

Submission by UPCL:-

It is to apprise that the Geological Survey of the identified site for the 33/11 kV Basvada S/s is under progress and shall be submitted separately.

18. UPCL has proposed the cost of 12.5 MVA, 33/11 kV Transformers from its centralized material. In this regard, UPCL is required to submit the details of the availability of 12.5 MVA transformers in its centralized material store along with the basis of its cost as considered in the estimates.

Submission by UPCL:-

It is to apprise that, as on 11.05.2026, a total of 6 nos. 12.5 MVA transformers are available at different stores of UPCL. Further, the cost of 12.5 MVA transformer considered in the estimate has been taken as per rate available in SAP module of UPCL.

19. UPCL is required to submit the rationale for proposing 33 kV bay along with its nos. and estimated cost.

Submission by UPCL:-

It is to apprise that provision for 4 nos. of 33 kV Bay with estimated construction cost of Rs. 7009728.00 has been made at the 33/11 kV S/s Basvada for carrying out the LILO arrangement of 2 nos. 33 kV incoming source line.

20. UPCL is required to submit the rationale for proposing the following in its estimates:-

- (a) 'ACSR panther' of length 430 meters against the estimate of 2x12.5 MVA S/s Ukhimath (Basvada) - reference page no. 5 of DPR
- (b) 'ACSR dog' of length 2935 meter, however, in the submitted SLD it has estimated the length 2x0.37 Km. + 2x0.26 Km. - reference page no.11 of DPR
- (c) '33 kV AAAC covered cond.AL-59, 160 Sq.mm.' of length 309 meter - reference page no. 12 of DPR.

Submission by UPCL: -

In this regard, point wise reply is as follows:

- (a) ACSR panther conductor of length 430 mtr. has been considered in the estimate for construction of 33 kV Bus bar in the switchyard.*
- (b) It is to apprise that, due to the selection of an incorrect code in SAP estimate, 150 mtr. of 11 kV, 3X300 Sqmm cable was inadvertently considered instead of 33 kV, 3X300 sqmm Cable. The same has now been rectified in the estimate and the revised estimate is being enclosed ...*

Further, there is no change in the cost of revised estimate.

Hence, total length of 33 kV lines proposed in the estimate is 2935 mtr. of ACSR Dog conductor, 150 mtr. of underground cable and 309 meters of AAAC covered conductor. Accordingly, total circuit meter of line has been calculated as under:

$$2935/3 + 150/2 + 309/3 = 1,156.33 \text{ mtr.}$$

- (d) 33 kV AAAC conductor has been made at locations where the line is passing through tree-covered areas and where the 33 kV line is required to be constructed along with the 11 kV Composite mains due to Right of Way (RoW) constraints.*
21. *UPCL at page no. 15 has mentioned '2x0.37 Km. U/G LILO line' from existing 33 kV feeder to proposed Substation, however, in the SLD (at page no. 3), UPCL has mentioned the same line as overhead line. In this regard, UPCL is required to clarify the discrepancy in its submission.*

Submission by UPCL:-

It is to apprise that the proposed LILO arrangement will be constructed as 0.3025 Km. overhead and 0.037 km underground cable with a total LILO length of 0.340 Km. The revised SLD has been enclosed ...

22. *UPCL is required to submit the pole-wise line diagram of all the 11 kV feeders proposed to be emanating from the Substation duly depicting the no. of poles conductor type, load etc.*

Submission by UPCL:-

It is respectfully submitted that the desired information, duly depicting feeder-wise details such as number of poles, conductor type, connected/proposed load and associated line particulars is being enclosed ...

23. *UPCL is required to submit the reason for proposing higher transformation capacity i.e., 2x12.5 MVA at Basvada (Ukhimath) whereas the earlier installed capacity was 1x5 MVA at Ukhimath.*

Further, UPCL is required to confirm the suitability of road infrastructure for transportation of 12.5 MVA transformer.

Submission by UPCL: -

It is to apprise that various 33/11 kV Substations located in the Kedar valley, including Sonprayag and Augustmuni fall under landslide prone zones, therefore power supply to the areas being fed from these substations may be adversely affected during natural calamities and landslide, since these affected areas may be fed from proposed 33/11 kV substation Basvada which is situated at a comparatively stable location. Accordingly, a provision of 2x12.5 MVA power transformers has been made at proposed substation.

It is further submitted that the road infrastructure up to proposed substation site is found suitable for the transportation of 12.5 MVA transformer.

24. *UPCL is required to confirm regarding suitability of 'N-1' line contingency provision for the proposed 2x12.5 MVA S/s at Basvada (Ukhimath) in light of the LILO arrangements on dog conductor considering its current carrying capacity. Further, UPCL is required to clarify that how one LILO circuit can withstand the entire load of 2x12.5 MVA S/s.*

Submission by UPCL: -

With reference to the query raised by the Hon'ble Commission regarding suitability of 'N-1' line contingency provision for the proposed 2x12.5 MVA Substation at Basvada (Ukhimath) and adequacy of the proposed LILO arrangement on Dog conductor, it is respectfully submitted that the proposed substation configuration and source arrangement have been planned considering system reliability, operational flexibility, future load growth and contingency management requirements of the Kedarnath region and adjoining areas.

In this regard, it is submitted that the proposed 2x12.5 MVA transformer capacity at Basvada Substation has been envisaged primarily to fulfill transformer-level 'T-1' contingency requirements of the regional distribution system. The proposed capacity has been planned not only for meeting the projected load demand of the Ukhimath-Guptkashi region, but also for providing operational support during emergency conditions, outages or maintenance of nearby substations.

It is pertinent to mention that the nearest existing 33/11 kV Substation at Augustmuni presently has only 1x5 MVA installed capacity and due to severe space constraints and land-locked site conditions, further augmentation at the existing location is not technically feasible. Accordingly, during any fault, forced outage, major maintenance or failure of power transformer(s) in nearby substations, the proposed Basvada Substation shall act as an alternative and strategically located source to cater the surrounding load and maintain continuity of power supply in the region.

Further, the proposed Basvada Substation has been planned with two independent 33 kV power sources along with suitable 33 kV bus isolator arrangement, enabling independent feeding of both transformers from separate sources during contingency conditions. Thus, the system has inherent operational flexibility and redundancy for reliable supply management under abnormal operating conditions.

Regarding the proposed LILO arrangement on Dog conductor, it is respectfully submitted that the same has been assessed and found technically feasible considering the present as well as projected loading conditions of the 33 kV network. The loading studies indicate that under normal operating conditions, the anticipated loading on the line remains within the thermal current carrying capacity of Dog conductor.

Further, at Madhmaheshwar, power evacuation from the 23.5 MW hydro generating station of UJVN Limited shall result in reverse power flow on the interconnected 33 kV network, thereby substantially reducing the net current loading on the incoming 33 kV lines feeding the proposed substation. Consequently, the effective current flowing through the Dog conductor under various operating scenarios remains within permissible limits.

Additionally, the following technical considerations further justify the suitability of the proposed arrangement:

- 1. The projected peak demand of the connected load is considerably lower than the aggregate installed transformer capacity, as transformer sizing has been adopted considering future growth and contingency support requirements rather than simultaneous full-load operation of both transformers.*
- 2. Diversity factor of the regional load pattern and staggered utilization characteristics of the connected consumers reduce the probability of simultaneous peak loading on the entire system.*
- 3. The terrain and geographical conditions of the area necessitate optimization of existing corridor utilization, and the proposed LILO arrangement minimizes additional right-of-way requirements and environmental impact.*
- 4. The proposed arrangement provides operational flexibility for sectionalization, load transfer and maintenance activities without major interruption to consumers.*
- 5. Appropriate protection systems, load management practices and network operational controls shall be implemented to ensure that the loading on the Dog conductor remains within safe operating limits under all practical operating scenarios.*

Hence, considering the existing network configuration, projected load pattern, reverse power support from nearby hydro generation, contingency philosophy and operational flexibility of the system, the proposed LILO arrangement on Dog conductor is technically feasible and adequate for reliable operation of the proposed 2x12.5 MVA Basvada (Ukhimath) Substation.

(C) Construction of 2x5 MVA, 33/11 kV Substation at Madhmaheshwar (Guptkashi), its associated 33 kV & 11 kV lines, District-Rudraprayag (Rs.11.39 Cr.)

25. UPCL is required to submit the rationale for proposing 33 kV bay alongwith its nos. and estimated cost.

Submission by UPCL:-

It is to apprise that following 05 no. 33 kV are Bays proposed at 2x5 MVA, 33/11 kV Substation Madhmaheshwar:

- A) Two nos. 33 kV Bays for LILO arrangement of 33kV Express Feeder.
 - B) Two nos 33 kV Bays have been provided for separate power evacuation from 15 MW Madhmaheshwar & 8.5 MW Kaliganga -1 & Kaliganga 2 project respectively.
 - C) One nos 33 kV Bays for 33 KV Incoming line of Augustmuni Feeder.
26. UPCL is required to submit the rationale for proposing the following in its estimates:-
- (a) 'ACSR panther' of length 450 meters against the estimate of 2x5 MVA S/s Madhmaheshwar (Guptkashi) - reference page no. 43 of DPR
 - (b) 'ACSR dog' of length 2626 meter, however, in the submitted SLD it has estimated the length 2x0.65 Km.+ 2x1.5 Km. - reference page no. 50 of DPR. Further, UPCL is also required to submit the break-up and cross check it with the estimates.
 - (c) '33 kV AAAC covered cond. AL-59, 160 Sq.mm.' of length 9270 meters-reference page no. 51 of DPR

Submission by UPCL: -

In this regard, point wise reply is as follows:

- (a) ACSR panther conductor of length 450 meter has been considered in the estimate for construction of 33 kV Bus bar in the switchyard.

Total length of 33 kV lines proposed in the estimate is 2626 meter of ACSR Dog conductor, 300 meter of underground cable and

9,270 meters of AAAC covered conductor. Accordingly, total circuit meter of line has been calculated as under:

$$2626/3+300/5+9270/3 = 4025.33 \text{ meter}$$

Further, it is to apprise that the total proposed length of line is 1x1.030 km. + 2x1.15 Km., same has been corrected in SLD is enclosed ...

- (b) 33 kV AAAC conductor has been made at locations where the line is passing through tree-covered areas and where the 33 kV line is required to be constructed along with the 11 kV Composite mains due to Right of Way (RoW) constraints.
27. UPCL in its estimate has proposed rabbit conductor for 3 nos. 11 kV feeders and AAAC, 70 sq.mm. conductor for remaining 3 nos. 11 kV feeders. In this regard, UPCL is required to submit the rationale for proposing different conductors for 11 kV feeders.

Further, UPCL is required to submit the pole-wise line diagram of all the 11 kV feeders proposed to be emanating from the Substation duly depicting the no. of poles conductor type, load etc.

Submission by UPCL: -

With reference to the query raised by the Hon'ble Commission regarding the rationale for proposing ACSR Rabbit conductor for 03 nos. 11 kV feeders and 70 sq.mm. AAAC covered conductor for the remaining 03 nos. 11 kV feeders, it is respectfully submitted that the conductor selection has been made considering technical suitability, existing network compatibility, terrain conditions and operational reliability requirements of the respective feeder alignments.

In this regard, it is submitted that although the current carrying capacity of 70 sq.mm. AAAC covered conductor is broadly equivalent to that of ACSR Raccoon conductor, however, the overall weight of 70 sq.mm. AAAC covered conductor is comparable to ACSR Rabbit conductor. Therefore, adoption of 70 sq.mm. AAAC covered conductor enables utilization of similar line structures, pole configurations, alignments and associated line accessories while maintaining adequate current carrying capability for the proposed feeders.

Further, the proposed 03 nos. feeders to be constructed with 70 sq.mm. AAAC covered conductor are intended to interconnect and extend the existing feeder network already constructed with 70 sq.mm. AAAC covered conductor, namely:

11 kV Rampur Feeder

11 kV Guptkashi Feeder

11 kV Kalimath Feeder

Hence, the proposal ensures technical uniformity, compatibility and ease of operation and maintenance with the existing distribution network.

Additionally, these feeder routes pass through forest and hilly areas where covered conductors are technically more suitable and operationally advantageous due to reduced chances of faults arising from tree branches, vegetation contact and adverse weather conditions. The use of covered AAAC conductors in such areas improves system reliability, safety and continuity of power supply.

Accordingly, the proposal of different conductor types for different feeders has been made based on feeder-specific technical requirements, existing network configuration and geographical considerations.

28. *UPCL in its estimate has taken the cost of 2 nos. 5 MVA transformer for the construction of proposed Substation. However, it has been observed that transformers of 5 MVA each from the existing Substation at Ukhimath and Guptkashi could be utilized/ used in the proposed 2x5 MVA 33/11 kV S/s Madhmaheshwar (Guptkashi). In this regard, UPCL is required to submit a justification for the same.*

Submission by UPCL: -

It is to bring in kind notice of Hon'ble Commission that the electricity supply to the consumers shall be continue from existing substation until the construction and commissioning of the new substation. After commissioning of the new substation, the equipment of existing substation shall be dismantled and deposited in the store as per prevailing rates of UPCL.

29. *UPCL has proposed the relocation of existing 33/11 kV S/s, Guptkashi to proposed S/s Madhmaheshwar whereas, on examining the BoD approval of UJVN Ltd. in this regard, it is observed that UJVN Ltd. has given the NoC for use of 650 sq.mm. land near Madhmaheshwar power house for relocating the existing 33/11 kV S/s, Ukhimath. In this regard, UPCL is required to clarify and submit the reason for such discrepancy.*

Submission by UPCL: -

Initially the existing 33/11 kV S/s Ukhimath was identified under the land subsidence affected zone and accordingly in the interest of safety and reliable power supply of the region, discussions were held with UJVN Limited for providing the land for shifting of 33/11 kV Substation Ukhimath to nearby Madhmaheshwar powerhouse and after finalization of the proposal, UJVNL accorded NoC for use of land near Madhmaheshwar powerhouse for aforesaid work.

Subsequently, during disaster in the month of the July-2024, land subsidence issues also emerged at the existing 33/11 kV Substation, Guptkashi, and to

ensure reliable and secure power supply to the surrounding areas of Shri. Kedarnathji Dham and adjoining regions relocation of this substation became highly necessary. Thereafter, another suitable land parcel at Basvada, at a distance of approx. 05 km away from the existing 33/11 kV S/s Guptkashi, was identified.

Before finalization of the proposal for shifting of the substation detailed technical examination and feeder alignment assessment revealed that the 11 kV feeders presently emanating from 33/11 kV S/s Ukhimath are geographically nearer and more economically suitable to be catered from the proposed Basvada site. Similarly, the 11 kV feeders emanating from existing 33/11 kV S/s Guptkashi are comparatively nearer to the Madhmaheshwar land site and therefore technically more suitable to be shifted to that location.

Accordingly, in order to achieve optimal feeder alignment, minimum line diversion, improved operational efficiency and economical utilization of the distribution network, it was decided to relocate:

- i) Existing 33/11 kV S/s Guptkashi at Madhmaheshwar site, and*
- ii) Existing 33/11 kV S/s Ukhimath at Basvada site.*

Hence, the variation observed with respect to the earlier NoC of UJVNL is due to subsequent developments arising after the July-2024 disaster and the revised technical assessment carried out by UPCL considering long-term reliability, geographical suitability and economic feasibility of the distribution network.

30. *UPCL has proposed the underground 33 kV 3x300 sq.mm. XLPE cable alongwith the dog conductor in the LILO arrangements from the proposed S/s to existing 33 kV line and proposed 33 kV express feeder. In this regard, UPCL is required to submit Single Line Diagram depicting the length and type of conductor proposed in the aforesaid LILO arrangements. Further, UPCL is required to submit the cross-sectional drawing of the proposed 33 kV 3x300 sq.mm. XLPE cable depicting the depth of laying. Further, UPCL is required to submit the calculation of sizing of aforesaid cable covering the factors affecting sizing of cables viz. inrush current tolerance, voltage variation, cable deration due to temperature etc.*

Submission by UPCL:-

The Single Line Diagram depicting the length and type of conductor proposed in the aforesaid LILO arrangements is enclosed ... The cross-sectional drawing of the proposed 33 kV 3x300 sq.mm. XLPE cable depicting the depth of laying is enclosed... The calculation of sizing of aforesaid cable covering the factors affecting sizing of cables viz. inrush current tolerance, voltage variation, cable deration due to temperature etc. is enclosed ...

7. Further, the Petitioner vide its letter dated 11.08.2026 submitted the geological assessment report of site proposed for construction of 33/11 kV S/s Basvada.

8. **Commission's Observations, Views & Directions: -**

Based on the examination and analysis of the proposal & subsequent submissions made by the Petitioner before the Commission, the observations, views & directions of the Commission are as follows:

- (1) The Petitioner, through the instant Petition, has sought approval for the construction of:
 - (i) a new 2×12.5 MVA, 33/11 kV Substation at Basvada (Ukhimath), District Rudraprayag, along with 1.26 km of 33 kV line & 26 km of 11 kV lines; and
 - (ii) a new 2×5 MVA, 33/11 kV Substation at Madhmaheshwar (Guptkashi), District Rudraprayag, along with 4.3 km of 33 kV line and 20.33 km of 11 kV lines.
- (2) The Petitioner initially submitted the Board of Directors (BoD) approval dated 01.05.2025, which accorded a general approval for projects covered under the SASCI scheme. Subsequently, in response to a specific query raised by the Commission, the Petitioner furnished a copy of the BoD Resolution dated 27.04.2026, whereby the instant project was specifically approved at an estimated cost of Rs. 21.95 crore. The project-wise estimated costs of the instant proposal are as under:

S. No.	Name of the Project	District	Capacity (MVA)	Length of 33 kV Line (Km.)	Length of 11 kV Line (Km.)	Total Cost (Rs.in Lakh)
1	Construction of 33/11 kV S/s at Basvada (Ukhimath)	Rudraprayag	2x12.5	2x0.26 (LILO from express feeder) + 2x0.37 (LILO from existing feeder)	26.00	10.55
2	Construction of 33/11 kV S/s at Madhmaheshwar (Guptkashi)		2x5	2x1.5 (LILO from express feeder) + 2x0.65 (LILO from existing feeder)	20.33	11.40
Total				5.56	46.33	21.95

- (3) The Petitioner has submitted that the existing 33/11 kV Substations at Ukhimath and Guptkashi are situated in geologically unstable sinking zones, which are prone to land subsidence, slope movement, landslides, flash floods and other geological hazards. According to the Petitioner, continued operation & maintenance of these Substations at their existing locations pose significant risks to the safety and reliability of the electrical infrastructure. Accordingly, the Petitioner has proposed to shift the existing 1×5 MVA, 33/11 kV S/s Ukhimath and 5+3 MVA, 33/11 kV S/s Guptkashi to geologically stable locations at Basvada & Madhmaheshwar respectively. In this regard, the Petitioner has proposed the construction of a new 2×12.5 MVA, 33/11 kV S/s at Basvada and a new 2×5 MVA, 33/11 kV S/s at Madhmaheshwar.

The Petitioner submitted that, upon commissioning of the proposed Substations, the existing Substations at Ukhimath and Guptkashi, along with their associated infrastructure, would be dismantled. The Commission observes that, since the existing Substations are required to remain in service until the proposed Substations are commissioned, the dismantled equipment cannot ordinarily be utilized in the proposed Substations. However, the Petitioner shall assess the dismantled equipment for its technical suitability and ensure its optimum utilization at other suitable locations in the distribution system, wherever feasible and economically justified, so as to avoid unnecessary procurement of new equipment.

- (4) With regard to the funding of the instant project, the Petitioner has submitted that the project would be funded under the Scheme for Special Assistance to States for Capital Investment (SASCI) of the Government of India in a debt-equity ratio of 70:30, wherein 70% of the project cost is to be met through (debt) amounting to Rs. 15.36 Cr. carrying an interest rate of 6.5% per annum, and 30% is to be met through (equity) counter funding of Rs. 6.59 Cr. by the Government of Uttarakhand.
- (5) With regard to the activity-wise implementation schedule, the Petitioner vide its submission dated 27.05.2026 submitted that the estimated

completion period for the proposed Substations alongwith its associated 33 kV & 11 kV lines is 10 months from the date of award.

- (6) The Commission has examined the submissions made by the Petitioner in response to the deficiencies communicated by the Commission and observes that multiple discrepancies, including incorrect preparation of estimates and submission of an incorrect Single Line Diagram (SLD), were noticed in the Petition & Detailed Project Report (DPR).

The Petitioner has attributed the aforesaid discrepancies to inadvertent errors. Although, the Commission notes that the said discrepancies do not materially alter the scope, necessity or technical configuration of the proposed project, however, it cannot overlook the repeated inaccuracies noticed in the Petition and subsequent submissions. The Commission is of the view that information contained in Petitions, DPRs, estimates, Board approvals and technical analysis form the basis for regulatory scrutiny and, therefore, is expected to be accurate, consistent and duly verified prior to submission.

Therefore, the Petitioner should ensure that all future submissions are thoroughly examined and verified by the concerned officers before being filed to the Commission.

- (7) With regard to the Cost Benefit Analysis (CBA) of the proposed works, the Petitioner vide its submission dated 27.05.2026 submitted that no CBA has been carried out since the proposed Substations are intended to replace the existing Substations located in subsidence-affected areas and would primarily cater to the existing load.

The Commission observes that the proposed investment is necessitated by the geologically unstable conditions at the existing Substation sites, which pose significant risks to the safety, reliability and continuity of power supply. The proposed works are aimed at relocating the existing infrastructure to geologically stable locations and are expected to provide enhanced system reliability, operational safety, public safety, and support to the socio-economic and religious significance of the region.

Accordingly, the benefits of the project are predominantly strategic, social and safety-oriented rather than financial in nature.

In this context, the Commission is of the view that while Cost Benefit Analysis (CBA) is an important tool for assessing the prudence of capital investments, conventional financial parameters such as ROI, IRR and NPV. However, the same may not be appropriate for evaluating the instant projects undertaken primarily on grounds of safety, reliability and public interest. Therefore, considering the significance of the proposed works from the perspective of personnel safety, system reliability and the socio-religious importance of the area, the Commission is not emphasizing on the same.

- (8) With regard to the statutory clearances, the Petitioner submitted that no railway crossing or forest clearance is required for the proposed 33 kV and 11 kV lines. In respect of land availability, the Petitioner submitted that in-principle approval for transfer of forest land for the proposed 33/11 kV S/s Basvada was accorded by the Forest Department on 25.03.2023, while UJVN Ltd. has granted No Objection Certificate (NoC) dated 12.11.2025 for construction of the proposed 33/11 kV S/s Madhmaheshwar within the premises of its 15 MW Madhmaheshwar Hydro Power Plant.

With regard to the geological suitability of the proposed 33/11 kV Basvada S/s, the Petitioner, vide its submission dated 27.05.2026, had submitted that the identified site is located along the Rudraprayag-Kedarnath Highway in a comparatively stable zone with respect to natural disaster risks. However, no geological investigation of the proposed site had been conducted at that stage. Subsequently, the Petitioner, vide its submission dated 11.08.2026, furnished the Geological Assessment Report dated 31.03.2026, prepared by the Assistant Geologist, PWD, Uttarakhand, for the site proposed for construction of the 33/11 kV Basvada S/s. The report contains the following recommendations:

“

- I. *Use of explosives for site development is to be avoided. Instead, manual or mechanized excavation is to be done gently/cautiously in order to develop the site.*

- II. *Cutting of the hill slope should be minimized. Where excavation is unavoidable, properly designed retaining walls, breast walls and/or gabion walls should be provided according to site-specific stability analysis. Cut slopes should be suitably benched and protected against erosion and weathering.*
- III. *It is advised to suitably elevate the proposed site area above the existing ground level using a layer-wise filling and compaction method to ensure long-term stability and flood safety. The fill material should be placed in controlled layers (20-30 cm thick) and compacted to the required density using suitable mechanical compaction equipment. Proper selection of granular, well-graded material is recommended to achieve adequate strength and minimize differential settlement. Side-slope dressing, suitably designed retaining provisions, and surface drainage channels should also be incorporated to protect the newly raised platform from erosion, flood protection, waterlogging and runoff during peak monsoon conditions.*
- IV. *Construction of substation/building should be carried on a deep and strong foundation (preferably on bed rock) as the bed rock outcrop is covered with overburden of SWM and RBM. The construction ought to be done such that the whole building structure is monolithic (column-beam frame structure/raft foundation).*
- V. *Proper drainage provisions are to be made sure around the construction site as the site area is covered with thick OB which during water saturation may tend to subside under the weight of the building structure, hence causing damage to the building.*
- VI. *It is advised to conduct rock/soil testing in order to estimate the bearing capacity and ascertain ground deformability values at the site and detailed subsurface prior to construction and foundation or protection structures should be design accordingly.*
- VII. *It is advised to dispose the muck and debris on pre-identified muck disposal site.*
- VIII. *As the construction site lies in seismic zone V of seismic zoning Map of India therefore, the buildings must be constructed according to proper earthquake resistant design.*
- IX. *All the construction activities ought to be carried out as per the standard codes of practice laid by the BIS and NBC."*

In this regard, the Commission observes that the proposed 2x12.5 MVA, 33/11 kV S/s Basvada is not only intended to replace the existing Substation located in a geologically unstable area but is also envisaged to

serve as a strategically important asset for maintaining reliable power supply in the Kedar Valley by providing contingency support to nearby Substations viz Sonprayag, Augustmuni etc during natural calamities & emergency conditions. In this regard, the Commission directs the Petitioner to strictly adhere to the aforesaid observation/suggestion mentioned in the Geological Assessment Report during the execution of the project and any changes with the aforesaid observation/suggestion shall be executed only after taking necessary approval from the concerned geologist or any other competent authority/expert agency. In all cases the safety of assets for its life must be ensured, any laxity on this part may attract penal action.

In respect of the proposed 33/11 kV S/s Madhmaheshwar, the Petitioner has submitted the Geological Assessment Report dated 30.09.2023 prepared by the Geologist, PWD, Uttarakhand, wherein following recommendations have been made:

“

1. *Use of explosives for site development is to be avoided. Instead manual or mechanized excavation is to be done gently/cautiously in order to develop the site.*
2. *Construction of building should be carried on a deep and strong foundation (preferably on bed rock) well below the scouring depth of the river as the bed rock outcrop is covered with thick RBM cover. The construction ought to be done such that the whole building structure is monolithic (column-beam frame structure/raft foundation).*
3. *It is advised to conduct rock/soil testing in order to estimate the bearing capacity and ascertain ground deformability values at the site and design the building and its foundation accordingly on the basis of geotechnical parameters of the ground.*
4. *Proper drainage provisions are to be made sure around the construction site as the site area is covered with thick OB (RBM) which during water saturation may tend to subside under the weight of the building structure, hence causing damage to the building.*
5. *It is to be made sure that all of the structures of the building (above plinth level) are to be kept well above the HFL of river Mandakini.*
6. *It is advised to construct flood protection wall around the construction site (especially in the absence of bed rock or in case the*

bed rock is fractured or incompetent) so as to avoid any damage to the building by erosion or flood. The foundation of the flood protection wall must be kept well below the scouring depth of the river.

7. *It is advised to dispose the muck and debris on pre-identified muck disposal site.*
8. *As the construction site lies in seismic zone V of seismic zoning Map of India therefore, the buildings must be constructed according to proper earthquake resistant design.*
9. *All the construction activities ought to be carried out as per the standard codes of practice laid by the BIS and NBC."*

In this regard, the Commission directs the Petitioner to strictly adhere to the aforesaid observation/suggestion mentioned in the Geological Assessment Report during the execution of the project and any changes with the aforesaid observation/suggestion shall be executed only after taking necessary approval from the concerned geologist or any other competent authority/expert agency. In all cases the safety of assets for its life must be ensured, any laxity on this part may attract penal action.

Further, the Commission observes that the Petitioner has proposed 40 & 147 numbers of new Steel Tabular Poles for construction of 33 kV lines for 33/11 kV S/s Baswada & 33/11 kV S/s Madhamaheshwar respectively is of the view that during execution of the project, the locations for construction of the Steel Tabular poles may change with respect to the existing route/sub-transmission corridor due to geological surprises, soil degradation and other site-specific constraints. In this regard, the Commission directs the Petitioner that, in case the existing route is found unsuitable for construction of the proposed Steel Tabular Poles due to soil degradation, geological instability, or geotechnical constraints, the Petitioner shall suitably revise the alignment and undertake a detailed geotechnical investigation prior to commencement of construction, so as to ensure the structural safety, stability, and long-term reliability of the sub-transmission/distribution line. Further, in the event of any deviation from the existing alignment, change in route, or requirement of additional land beyond the approved corridor, the Petitioner shall require to obtain all requisite statutory approvals and clearances, including forest,

wildlife, right-of-way, and geological clearances, from the concerned authorities prior to execution of the work.

Further, upon examination of the pole-section drawings, it has been observed that the average span length for the majority of the proposed 11 kV feeders is less than 100 m. However, the 11 kV feeders, namely Kalimath, Fata Rampur, and Guptkashi, proposed with AAAC Covered Conductor (AL-59) emanating from the proposed 33/11 kV Substation Madhamaheshwar, have an average span length exceeding 100 m. This is not in conformity with the provisions of Regulation 89 of the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022.

In this regard, the Commission directs the Petitioner to strictly comply with the prescribed design span limit of Poles in accordance with Regulation 89 of the CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022. Further, the Petitioner shall ensure that the requisite electrical clearances are duly maintained for proposed 33 kV & 11 kV lines, in accordance with the provision of CEA (Measures relating to Safety and Electric Supply) Regulations, 2023, duly considering the impact of sag, conductor deflection, wind load and snow load. The Petitioner shall also ensure that suitably rated poles of appropriate height and strength, are provided in accordance with the applicable standards and site conditions.

- (9) With regard to the 'N-1' line contingency, the responsibility of long-term planning of distribution system lies with the distribution licensee and the licensee is required to comply with the Regulation 3.6(4) of UERC (Distribution Code) Regulations, 2018, which stipulates that:

"(4) In every Sub-Station of capacity 10 MVA and above there shall be a provision for obtaining alternate 33 kV supply to the Sub-Station in case of a failure in the incoming supply."

In-line with the aforesaid provision of the Regulations, the Petitioner has proposed two independent 33 kV power sources for each of the proposed 33/11 kV Substations at Basvada and Madhmaheshwar. For the proposed

33/11 kV S/s Basvada, the two sources comprise LILO arrangements from the existing 33 kV Rudraprayag-Sonprayag line and the 33 kV Express Feeder, located approximately 0.34 km and 0.26 km, respectively, from the proposed Substation. Similarly, for the proposed 33/11 kV S/s Madhmaheshwar, the Petitioner has proposed two 33 kV sources, one from the existing 33 kV Rudraprayag-Sonprayag line and the other through a LILO arrangement from the 33 kV Express Feeder, situated approximately 1.03 km and 1.50 km, respectively, from the proposed Substation.

The details of the proposed 33 kV power sources, including the length and conductor type of the associated lines for the proposed Substations, are provided in the table below:

Particulars	33 kV power source from existing Rudraprayag-Sonprayag line	33 kV power source from Express Feeder
33/11 kV S/s Basvada	Total: 2x0.34 km • Dog Conductor: 2x0.30 km • 3x300 sqmm XLPE cable: 2x0.04 km	Total: 2x0.26 km • Dog Conductor: 2x0.17 km • 3x300 sqmm XLPE cable: 2x0.04 km • AAAC covered conductor: 0.05 km
33/11 kV S/s Madhmaheshwar	Total: 1.03 km • Dog Conductor: 0.65 km • 3x300 sqmm XLPE cable: 2x0.06 km • AAAC covered conductor: 0.32 km	Total: 2x1.5 km • Dog Conductor: 2x0.10 km • 3x300 sqmm XLPE cable: 2x0.06 km • AAAC covered conductor: 1.34 km

Further, in response to the Commission's query regarding the adequacy of the proposed N-1 line contingency for the 2x12.5 MVA S/s Basvada considering the LILO arrangement on Dog conductor, the Petitioner submitted that the proposed Substation has been planned to meet T-1 transformer contingency, future load growth and reliability requirements of the region, with two independent 33 kV sources to ensure operational redundancy. The Petitioner further submitted that the proposed LILO arrangement is technically feasible as the loading on the Dog conductor remains within its current carrying capacity under normal and contingency conditions, supported by reverse power flow from the 23.5 MW

Madhmaheshwar Hydro Project, lower coincident peak demand, load diversity, and appropriate protection and load management measures.

In this regard, the Commission observed that while the Petitioner has justified the proposed configuration based on transformer contingency, operational flexibility, future load growth and reverse power support from the Madhmaheshwar Hydro Project, the Petitioner has not substantiated the adequacy of the proposed N-1 line contingency through detailed technical studies. In particular, the Petitioner has not furnished line loading calculations demonstrating that a single LILO circuit on Dog conductor would be capable of carrying the entire load of the proposed 2x12.5 MVA Substation under the worst credible contingency conditions.

Accordingly, the Commission opines that the petitioner should conduct detailed load flow and contingency analysis, along with conductor loading calculations, establishing that the proposed arrangement complies with the N-1 reliability criterion and that the loading on the Dog conductor remains within its permissible thermal limits under both normal and contingency operating scenarios.

- (10) On examination of the certified true copy of the Minutes of the 128th Meeting of the Board of Directors of the Petitioner held on 27.04.2026, wherein approval for the project was accorded, it has been observed that the tender was invited on 11.02.2026 and opened on 03.03.2026. It is further observed from the said resolution that the Board of Directors approved the project at a total estimated cost of Rs. 21.95 crore, without approving any variation thereto. However, the Petitioner, vide its submission dated 27.05.2026, submitted that the tender had been scrapped due to the high quoted prices and that a fresh tender is being invited. In view of the above, the Commission directs the Petitioner to execute the project within the approved project cost of Rs. 21.95 crore, as approved by its Board of Directors in its meeting held on 27.04.2026.
- (11) In light of the above and safety & reliability of the power supply in the Kedar Valley, the Commission grants in-principle approval for the proposed

“2x12.5 MVA, 33/11 kV S/s Basvada (Ukhimath), District-Rudraprayag alongwith its associated 1.26 km 33 kV & 26 km 11 kV lines and 2x5 MVA, 33/11 kV S/s Madhmaheshwar (Guptkashi), District-Rudraprayag alongwith its associated 4.3 km 33 kV & 20.33 km 11 kV lines” subject to strict fulfillment of terms & conditions as mentioned below:-

- (i) The Petitioner is directed to go for the competitive bidding for obtaining most economical prices from the bidders under the prevailing Rules & Regulations.
- (ii) The Petitioner is directed to execute the project within the approved project cost of Rs. 21.95 crore, as approved by its Board of Directors in its meeting held on 27.04.2026.
- (iii) The Petitioner to strictly adhere to the observations/suggestions/recommendations mentioned in the Geological Assessment Reports of the land identified for 33/11 kV S/s Basvada & 33/11 kV S/s Madhamaheshwar during their execution and any changes with the observation/suggestion/recommendation shall be executed only after taking necessary approval from the concerned geologist or any other competent authority/expert agency. In all cases the safety of assets for its life must be ensured, any laxity on this part may attract penal action
- (iv) The Commission may verify/check the proposed works to be executed by the Petitioner at any point of time during/post execution of the works from the perspective of not only substantiating that the assertions & commitments made by the Petitioner have been fully complied and correct, but also to assess Quality, Optimum utilization of resources, Benefits accrued from the proposed investments etc. as has been projected by the Petitioner.
- (v) Post execution of the project, the Petitioner shall submit the Project Completion Report to the Commission alongwith geo-tagged photographs, expenditure incurred/completed cost, financing of the Project.

- (vi) The Petitioner shall safeguard its commercial interest by taking suitable insurance Policy for the instant project given the tough geographical terrain and climatic conditions.
- (vii) The Petitioner is directed to ensure that the design, supply, installation and commissioning of all electrical equipment comply with the relevant technical standards and are capable of withstanding the environmental and operational challenges associated with high altitude.
- (viii) The Petitioner shall comply to the following CEA and UERC Regulations and amendments thereof at every step of the Construction and Operation & Maintenance of the lines. The Petitioner shall also ensure the compliance of relevant standards, and the Project should be executed with safety and due diligence so that minimal incidents of break downs/fault occurrences/hindrances are faced during operation & maintenance:
 - (a) Central Electricity Authority (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations, 2011.
 - (b) Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022.
 - (c) Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2023.
 - (d) UERC (Distribution Code) Regulations, 2018.
- (ix) The Petitioner is directed to strictly comply with the prescribed design span limit of Poles in accordance with Regulation 89 of the CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022. Further, the Petitioner shall ensure that the requisite electrical clearances are duly maintained for proposed 33 kV & 11 kV lines, in accordance with the provision of CEA (Measures relating to Safety and Electric Supply) Regulations, 2023, duly considering the impact of sag, conductor deflection, wind load and snow load. The Petitioner shall also ensure that suitably

rated poles of appropriate height and strength, are provided in accordance with the applicable standards and site conditions

- (x) The Petitioner is directed that, in case the existing route is found unsuitable for construction of the proposed Steel Tabular Poles due to soil degradation, geological instability, or geotechnical constraints, the Petitioner shall suitably revise the alignment and undertake a detailed geological and geotechnical investigation prior to commencement of construction so as to ensure the structural safety, stability, and long-term reliability of the sub-transmission/distribution line. Further, in the event of any deviation from the existing alignment, change in route, or requirement of additional land beyond the approved corridor, the Petitioner shall require to obtain all requisite statutory approvals and clearances, including forest, wildlife, right-of-way, and geological clearances, from the concerned authorities prior to execution of the work.
- (xi) 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.

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. In case of violations of any of the condition mentioned above or in case any information provided, if at any time, later on, found to be incorrect, incomplete or in case relevant information was not disclosed, that materially affects the basis for granting the approvals, in such cases, the Commission may cancel the approval or refuse to allow all or part of 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