

**Before**  
**UTTARAKHAND ELECTRICITY REGULATORY COMMISSION**

Pet. No. 15 of 2023 & Pet. No. 42 of 2023

**In the Matter of:**

**Application seeking approval for the investment on the works for “Distribution Component of Uttarakhand Transmission Strengthening & Distribution Improvement Programme (UTSDIP)” of EAP (Externally Aided Project) funded from ADB (Asian Development Bank).**

**And**

**In the Matter of:**

**Supplementary Petition for seeking approval for the investment on the works for “Uttarakhand Climate Resilient Power Sector Development Project (UCRPSDP)” of EAP (Externally Aided Project) funded from ADB (Asian Development Bank).**

**In the Matter of:**

Managing Director,  
Uttarakhand Power Corporation Ltd.,  
Victoria Cross Vijeyta Gabar Singh Bhawan,  
Kanwali Road, Dehradun.

...Petitioner

**Coram**

<b>Shri D.P. Gairola</b>	<b>Member (Law) /Chairman (I/c)</b>
<b>Shri M.K. Jain</b>	<b>Member (Technical)</b>

**Date of Order: October 19, 2023**

**ORDER**

This Order relates to the Petition filed by Uttarakhand Power Corporation Limited (UPCL) (hereinafter referred to as “UPCL” or “the Petitioner” or “the licensee”) seeking prior approval of the Commission for ‘Application seeking approval for the investment on the works for “Distribution Component of Uttarakhand Transmission Strengthening & Distribution Improvement Programme (UTSDIP)” of EAP (Externally Aided Project) funded from ADB (Asian Development Bank)’.

**Background**

2. The Petitioner vide its letter reference No. 115/D(P)/UPCL/UERC (C-4) dated **16.01.2023** has filed its application under provisions of clause 11 of Distribution and

Retail Supply Licence and Regulation 40 of Uttarakhand Electricity Regulatory Commission (Conduct of Business) Regulations, 2014 which stipulates that licensee shall obtain prior approval of the Commission for making investment in the licensed business if such investment is above the limits laid down by the Commission in the Licence conditions i.e. investment exceeding Rs. 2.5 Crore.

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

*"Uttarakhand Power Corporation Ltd. (UPCL), the distribution licensee, & Power Transmission Corporation of Uttarakhand Ltd. (PTCUL), the transmission licensee, have jointly prepared and submitted the "Uttarakhand Transmission Strengthening and Distribution Improvement Programme (UTSDIP)" to Asian Development Bank (ADB), the funding agency, through Department of Energy, Govt. of Uttarakhand (GoU) and Department of External Affairs (DEA), Govt. of India (GoI). Executing Agency (EA)-Wise Planned Financial Outlay of the programme is as follows:-*

<b>Item</b>	<b>Approximate Cost</b>	<b>Approximate Cost*</b>
Transmission Strengthening component (PTCUL)	Rs. 843.72 Crore	USD 115.23 Million
Distribution Improvement component (UPCL)	Rs. 831.86 Crore	USD 113.61 Million
<b>Total for UTSDIP</b>	<b>Rs. 1,675.58 Crore</b>	<b>USD 228.84 Million</b>

*\*(Assuming exchange rate of US \$ = INR 73.22 as on dated 07.01.2021)*

*Power Transmission Corporation of Uttarakhand Ltd. (PTCUL) has submitted the separate petition for the investment under the transmission component, however, Uttarakhand Power Corporation Ltd. (UPCL) is submitting the petition for distribution component of the aforesaid programme comprising of the following work:*

<b>Sr. No.</b>	<b>Name of work</b>	<b>Cost (Rs. in Cr.)</b>
A	Construction of 7 no. new 33/11 kV Sub-stations along with associated 33 kV Lines and Enhancement of capacity of 25 no. existing 33/11 kV Sub-stations.	81.86
B	Undergrounding of HT & LT Electrical Networks of arterial roads in Dehradun city.	750.00
<b>Total</b>		<b>831.86</b>

4. The Petitioner under the Scope of Works in its application has mentioned that:-

*"*

*The projects under the program has been formulated for District Almora, Dehradun, Nainital, Pithoragarh, Udham Singh Nagar for the work of construction of new*

substations and enhancement of existing capacity of 33/11 kV sub-station and undergrounding the overhead lines to underground lines (Cables) of arterial road of Dehradun. The details of works covered under the programme are as below:-  
“

- 4.3 Construction of following 07 no. new 33/11 kV Sub-station & associated Lines;
  - 4.3.1 2X10 MVA, 33/11 kV Sub-station at Guniyal Gaon (Dehradun) & associated Lines;
  - 4.3.2 2X5 MVA, 33/11 kV Sub-station at Suwakholi, Mussoorie (Dehradun) & associated Lines;
  - 4.3.3 2X10 MVA, 33/11 kV Sub-station at Near Collectorate, Rudrapur (US Nagar) & associated Lines;
  - 4.3.4 2X5 MVA, 33/11 kV Sub-station at Bharauni, Sitarganj (US Nagar) & associated Lines;
  - 4.3.5 2X5 MVA, 33/11 kV Sub-station at Kaniya, Ramnagar (Nainital) & associated Lines;
  - 4.3.6 2X5 MVA, 33/11 kV Sub-station at Badave (Pithoragarh) & associated Lines;
  - 4.3.7 2X5 MVA, 33/11 kV Sub-station at Pankhu (Pithoragarh) & associated Lines;
- 4.4 Enhancement of Capacity of following existing 33/11 kV Sub-station with total capacity of 135.5 MVA;
  - 4.4.1 Enhancement of Capacity of 33/11 kV S/s Sahastradhara (Dehradun).
  - 4.4.2 Enhancement of Capacity of 33/11 kV S/s Hathibarakala (Dehradun)
  - 4.4.3 Enhancement of Capacity of 33/11 kV S/s Sahiya Vikasnagar (Dehradun)
  - 4.4.4 Enhancement of Capacity of 33/11 kV S/s Sawra Vikasnagar (Dehradun)
  - 4.4.5 Enhancement of Capacity of 33/11 kV S/s Rudrapur Doiwala (Dehradun)
  - 4.4.6 Enhancement of Capacity of 33/11 kV S/s Ramnagar Danda, Doiwala (Dehradun)
  - 4.4.7 Enhancement of Capacity of 33/11 kV S/s Lal Tappar, Doiwala (Dehradun)
  - 4.4.8 Enhancement of Capacity of 33/11 kV S/s Tarikhet, Ranikhet (Almora)
  - 4.4.9 Enhancement of Capacity of 33/11 kV S/s Bajol, Ranikhet (Almora)
  - 4.4.10 Enhancement of Capacity of 33/11 kV S/s Lamgarah (Almora)
  - 4.4.11 Enhancement of Capacity of 33/11 kV S/s Sairaghat (Almora)
  - 4.4.12 Enhancement of Capacity of 33/11 kV S/s Kamalwaganja, Haldwani (Nainital)
  - 4.4.13 Enhancement of Capacity of 33/11 kV S/s Transport Nagar, Haldwani (Nainital)
  - 4.4.14 Enhancement of Capacity of 33/11 kV S/s Phoolchaur, Haldwani (Nainital)
  - 4.4.15 Enhancement of Capacity of 33/11 kV S/s Garampani (Nainital)
  - 4.4.16 Enhancement of Capacity of 33/11 kV S/s Talla Ramgarh (Nainital)
  - 4.4.17 Enhancement of Capacity of 33/11 kV S/s Sarghakhhet (Nainital)
  - 4.4.18 Enhancement of Capacity of 33/11 kV S/s Pines (Nainital)
  - 4.4.19 Enhancement of Capacity of 33/11 kV S/s Matkota (T), Rudraur-I (US Nagar)
  - 4.4.20 Enhancement of Capacity of 33/11 kV S/s Bhadaipura, Rudraur-I (US Nagar)

- 4.4.21 Enhancement of Capacity of 33/11 kV S/s Lalpur, Rudraur-I (US Nagar)
- 4.4.22 Enhancement of Capacity of 33/11 kV S/s Sitarganj, Sitarganj (US Nagar)
- 4.4.23 Enhancement of Capacity of 33/11 kV S/s Jhankat, Khatima (US Nagar)
- 4.4.24 Enhancement of Capacity of 33/11 kV S/s 20 no. S/s Kashipur (US Nagar)
- 4.4.25 Enhancement of Capacity of 33/11 kV S/s Doraha, Bazpur (US Nagar)
- 4.5 Undergrounding of 33 kV, 11 kV & LT network in following arterial roads of Dehradun City;
  - 4.5.1 Dilaram Chowk to Mussoorie Diversion;
  - 4.5.2 Survey Chowk to Ladhpur;
  - 4.5.3 Darshanlal Chowk to Prince Chowk and Doon Hospital;
  - 4.5.4 Krishan Nagar Chowk to Ballupur Chowk;
  - 4.5.5 Aarghar Chowk to Fountain Chowk to Rispana Bridge;
  - 4.5.6 Aarghar Chowk to Dharampur to Rispana Bridge;
  - 4.5.7 Ballupur Chowk to Transport Nagar Chowk;
  - 4.5.8 Lakhibagh to Subhash Nagar Chowk;
  - 4.5.9 Kamla Palace to Niranjarpur Chowk;
  - 4.5.10 Shimla Bypass Chowk to St. Jude's Chowk;
  - 4.5.11 Rishpana Bridge to Mohkampur Flyover;
  - 4.5.12 Ladpur to Jogiwala;
  - 4.5.13 Fountain Chowk to Dobaal Chowk;
  - 4.5.14 Mayur Vihar to Krishali Chowk "

5. Further, the Petitioner in its Petition with regard to Goals and Objectives of the project has mentioned that:-

"

*The Government of Uttarakhand is committed to provide 24x7 quality power to all households across the State in a time bound manner through optimum use of resources and to achieve customer satisfaction, financial sustainability and promote economic development. Some of the identified objectives of the proposed distribution improvement project (for the areas covered under the project) are:*

- i) To provide 24x7 quality power to all consumers;*
- ii) To improve SAIFI, SAIDI, MAIFI which in turns improve satisfaction of consumers and also minimize the damage rate of equipments;*
- iii) Safety of third party;*
- iv) Reduction of AT&C losses, improved supply hours to domestic consumers at cheaper cost;*
- v) To cater the future load growth 10% per annum approximately;*
- vi) To minimize the fault and quick restoration of supply.*
- vii) To minimize the response time.*
- viii) To approach and facilitate maximum no. of consumers. "*

6. With regard to 'Technical Benefits & Outcome of the Project' and 'Commercial benefits and Other Intangible Benefits', the Petitioner in its Petition has mentioned that:-

“

**4.7 Technical Benefits & outcome of the Project:**

*That the implementation of ADB in UPCL shall result in the:-*

- a. *Improved voltage profile and better power quality, leading to better consumer satisfaction, and reducing the possibility of malfunctioning of equipment.*
- b. *Reduced losses, due to reduction in length of 33 kV & 11 kV feeders, resulting in, power savings, saving money spent on power purchase costs, and consequent lowering of tariff burden on consumers.*
- c. *Providing reliable supply to consumers.*
- d. *The enhanced power handling capability of the transmission system would help to meet future requirements of consumer load growth.*
- e. *Better consumer satisfaction.*
- f. *Improved system availability.*
- g. *Reduced frequency and duration of power interruptions and outages.*
- h. *New employment opportunities.*
- i. *Industrial and economic growth.*
- j. *Improved SAIFI, SAIDI & MAIFI.*
- k. *Meeting future load growth.*
- l. *Better aesthetics.*
- m. *Better utilization of right of way.*

**4.8 Commercial benefits and Other Intangible Benefits:**

- i). *Reduced power losses (of UPCL) would also reduce pollution & global warming.*
- ii). *Enhanced power handling capability would help to provide adequate and reliable supply for industrial growth in the state. Higher industrial output may create potential for more tax revenue for state by potentially enabling higher industrial growth and would also help to increase employment opportunities through better industrial growth.*
- iii). *It would help to provide Affordable energy access and help to meet United Nations Sustainable Development Goal Number Seven (SDG-7).*
- iv). *During construction of the project, employment may be generated as people would be involved in construction.*
- v). *During construction of the project, local economy may be benefitted since the EPC contractors & their staff may spend money at project sites for their daily needs.*
- vi). *The proposed enhanced capacity would help to meet future load requirements in view of growing urbanization as well as industrialization in the area.*

- vii). *System strengthening would reduce the time and effort spent on repair and maintenance and would help to focus more on revenue realization."*
7. With regard to the 'Stakeholders of the scheme', the Petitioner in its Petition has mentioned that:-
- "
- 4.9 Stakeholders of the scheme:-**
- 4.9.1 *Secretary (Energy), Govt. Of Uttarakhand has been nominated the Project Director;*
- 4.9.2 *Mr. Har Singh Bonal, Finance Controller, is nominated as Finance Controller for the project;*
- 4.9.3 *Structure of ADB- PMU has been proposed and is in process of approval at GoU Level;*
- 4.9.4 *State Government to provide support on policy issues, upfront payment of revenue subsidy, facilitate the clearances (RoW etc.), to furnish the guarantee for loan component."*
8. With regard to the 'Mode of Implementation and Period', the Petitioner in its Petition has mentioned that the project shall be implemented on turn-key basis. The turnkey contract shall be awarded after carrying out the open competitive bidding process. Projects under the programme shall be completed within a period of 36 months from the date of issue of Letter of Award (LoA) by the utility (UPCL).
9. The Petitioner in its Petition has enclosed copy of 106<sup>th</sup> Board Meeting Minutes dated 15.11.2022 vide which it was resolved that "*... in view of the detailed factual position as stipulated in the Agenda Note and taking into consideration the approval of HPSC of Govt of UK and Government GO No. 1374/I(2)/2022/05-12/2004 dated 25.10.2022, approval of the Board of Directors be and is hereby accorded to implement the project of Uttarakhand Transmission Strengthening & Distribution Improvement Programme (UTSDIP) under EAP (Externally Aided Project) and ADB (Asian Development Bank) for Strengthenig of Electrical Distribution System and undergrounding of HT & LT Electrical network of Dehradun city.'*

*RESOLVED FURTHER THAT approval of the Board be and is hereby also accorded to the following:*

- a) That 52% of project cost (Rs. 432.57 Cr.) shall be adjusted from ADB loan as Grant.*
- b) That 20% of project cost (Rs. 166.37 Cr.) shall be met either by equity share from State Government.*
- c) That 20% of Project cost (Rupees 166.37 Cr.) shall be met by arranging debt from any Financial Institution i.e. M/s PFC/ M/s REC/ any other Financial Institution.*

*d) That 8% of Project cost (Rs. 66.55 Cr.) shall be met by arranging debt from ADB through GOU."*

10. On examination of the submissions made in the Petition & DPRs certain deficiencies/infirmities were identified and accordingly, the Commission vide its letter No. 122 dated 27.04.2023 directed the Petitioner to submit/furnish its reply on the following latest by 25.05.2023:-

**"General**

1. *UPCL is required to confirm that the works proposed have not been covered under any other project/scheme of State/Central Government and no issue of duplicity would arise in the instant application.*
2. *It has been observed that several works of electric pole realignment/erection of new lines are under progress in the Dehradun city. Moreover, several works of undergrounding have been executed/are to be executed under Dehradun Smart City Project.*  
*In this regard, UPCL is required to furnish the details of works alongwith cost executed under Smart City Project and depict the same on a map of Dehradun City clearly identifying the landmarks for lucid understanding of the same and depict the proposed works on the same. Further, UPCL is required to furnish the details of funding for works executed under Smart City Project.*
3. *UPCL is required to furnish the details of issues/challenges encountered while executing the electrification/undergrounding works under the Smart City Project and ways & means adopted for mitigating the said issues/challenges.*
4. *UPCL is required to furnish technical loss calculation for a proposed feeder on sample basis substantiating that the proposed works would result in technical loss reduction as claimed in the proposal where the proposed network is of more length in comparison to existing network.*
5. *With regard to request made at 'Prayer' at Para 10.0 of the Petition, UPCL is required to furnish the status of tendering pertaining to the proposed works. Further, UPCL is also required to furnish copy of document pertaining to project readiness from Department of Economic Affairs (DEA) compelling UPCL to float the tender for undergrounding of HT and LT electrical network.*
6. *It is observed that several road widening/line shifting works are under progress/are to be executed under Smart City Project. UPCL is required to confirm whether the said executed works would also be dismantled and converted to underground network despite having executed recently. Further, UPCL has to confirm that no dual system of underground network and overhead network shall coexist in the roads/areas which have been covered under Dehradun Smart City Project/proposed works under the instant application.*
7. *UPCL is required to furnish the procedure/policy regarding the use/disposal of dismantled items from the existing network due to the execution of the proposed works.*

8. UPCL is required to furnish the abstract (work-wise breakup alongwith its cost) of the proposed works amounting to Rs. 831.86 Crore and further confirm regarding the impact of variation (+/-) of dollar prices on the project cost as the project is being funded through ADB.
9. It is observed that ADB is offering 72% grant for the project whereas the GoU is passing only 52% as grant. In this regard, UPCL is required to submit the reason for less grant allocation by GoU and furnish the details of efforts made by UPCL for seeking full 72% grant for the project.
10. UPCL at point no. 4.9 of its Petition has mentioned that the State Government shall provide upfront payment of revenue subsidy. UPCL is required to elaborate the statement.
11. With regard to inclusion of various contingencies viz. price contingency @ 6.8%, project overheads @ 5% and contingencies @ 3%, UPCL is required to submit the breakup of the items covered under these contingencies and also furnish the copy of ADB guidelines in this regard.
12. UPCL is required to submit the Project Report approved by GoU and submitted to Department of Economic Affairs (DEA), GoI for obtaining its approval. Further, UPCL is required to submit the MoM/letter of DEA in this regard alongwith the concurrence/comments of the concerned Ministries of GoI.
13. UPCL has enclosed a letter dated 25.10.2022 of Secretary (Energy), GoU stating that the approval is being granted on the basis of Order no. 72173/2022 dated 20.10.2022 issued by the Finance Department, GoU. UPCL is required to furnish a copy of the aforesaid Order dated 20.10.2022.

**Part-A: 'Construction of 7 no. new 33/11 kV Sub-stations along with associated 33 kV Lines and Enhancement of capacity of 25 no. existing 33/11 kV Sub-stations' [Rs. 81.86 Crore]**

14. UPCL is required to furnish the proposed Substation-wise status of land acquisitions, forest clearances and Railway clearances (if any) required for successful completion of the proposed works.
15. UPCL is required to furnish the single line diagram for the proposed new 33 kV Substations detailing the source of 33 kV incomers, type of conductor and loadings of 132 kV S/s for pre & post construction scenarios for the proposed 07 nos. 33 kV S/s.
16. UPCL is required to furnish the write-up substantiating the need/justification for construction of the proposed 07 nos. 33/11 kV Substations alongwith Cost Benefit Analysis (CBA). UPCL is required to provide the computation of CBA in excel format in soft copy as well as in hard copy.
17. UPCL is required to submit the reasons for proposing an underground 33 kV network for the incomer with 4X1C 630 sqmm cable for the 2x10 MVA Gunyal Gaon sub-station.
18. With regard to enhancement of existing Substation, UPCL is required to furnish the following:-



<b>Substation Name</b>	<b>Existing Transformation Capacity</b>	<b>Proposed Transformation Capacity</b>	<b>33 kV feeder Incomer Details</b>	<b>Load details on feeding 132/33 kV S/s at 132 kV &amp; 33 kV end</b>

19. UPCL is required to furnish the basis for calculation of received back items pertaining to proposed expenditure on 'Enhancement of capacity of existing 33/11 kV Substation'.
20. It appears that UPCL has not checked the Petition before filing to the Commission, the same has not been thoroughly checked and the pages have not been arranged in proper order as it is evident from page no. 686 onwards of the Petition in Volume-III. UPCL is required to check and furnish corrected pages in 7 sets.

**Part-B: 'Undergrounding of HT & LT Electrical Networks of arterial roads in Dehradun city' [Rs. 750 Crore]**

21. With regard to undergrounding works amounting to Rs. 750 Crore, UPCL is required to furnish separate Cost Benefit Analysis calculation considering the benefits accrued on account of 'Additional Load' to be catered by the underground network for following 02 scenarios:-
  - (1) Considering 52% grant (depreciation allowable on 38% of capital cost).
  - (2) Considering 72% grant (depreciation allowable on 18% of capital cost).
22. At page 48 of volume I of the Petition, several items quantity are mentioned but their rates are shown as Nil, UPCL is required to clarify in this regard.
23. UPCL at page no. 57 of Volume-I of the Petition has shown that for 33 kV network total 29.70 kms 33 kV cable would be used and shall be double circuit. However, on cross verification with the estimate, it is observed that the cable length is considered as 30 kms and also digging cost is considered for 21+9 kms at page no. 31, whereas, the circuit is double circuit which do not correlate with the total 33 kV cables length. UPCL is required to check its estimates and check for such anomalies elsewhere in its estimates and furnish the corrected estimates before the Commission.
24. UPCL is required to furnish arterial road-wise details of undergrounding circuit whether 'Single Run' or 'Double Run'. Further, UPCL is required to check its estimates that no over/under estimation in digging has been considered in its estimates.
25. UPCL is required to furnish a detailed Ampere capacity calculation for the proposed 33 kV, 11 kV cables at the depth mentioned in estimates and furnish a cross-sectional drawing with details of safety clearances/Standards which would be adopted at site [within the Sub-station and outside the Sub-station with clearance from municipal/civic facilities namely telephone, sewer, drainage, water supply etc.] for safe underground cable laying alongwith details of Inspection Chambers.
26. At page 49 of volume I Sl. No. 40 of the Petition, UPCL has shown that 6 inch dia HDPE pipe would be used at consumer premise. UPCL is required to clarify in this

regard when the main incomer LT line are using 4 inch dia HDPE pipe then how 6 inch dia HDPE pipe is being used for connection at consumer end. UPCL is required to check and correct such anomalies in its Petition at other places and furnish corrected estimates before the Commission.

27. At pages 58-59 of volume I of the Petition, UPCL is required to confirm whether 11 kV underground line will be single circuit or double circuit.
28. At page 58 of volume I of the Petition, it has been mentioned that PPCL and Ashok Vihar feeders are having the existing load of 250 ampere and 230 ampere respectively which are proposed to be replaced by 3C X 300 sqmm cable. UPCL is required to clarify whether the proposed cable would be suitable to cater the future load growth @ 10% per annum.
29. At Page 58-59 volume I of the Petition, it is observed that for many feeders, the length of proposed 11 kV cables is more than the existing 11 kV network. UPCL is required to explain how the line losses would reduce in such a condition when line length of the proposed network is increasing substantially in comparison to the existing network.
30. UPCL is required to furnish the 11 kV feeder-wise details of consumers who would be supplied power through underground HT/LT line.
31. UPCL is required to clarify regarding the earthing system mechanism for the underground 33 kV, 11 kV and 0.4 kV systems. Besides this, UPCL is also required to furnish how the earthing of individual LT consumer shall be ensured in underground system and furnish schematic drawings in this regard.
32. On examination of estimates at page no. 118 of volume I of the Petition, prima-facie it appears that GST has been calculated twice in the estimates pertaining to Fault Locater Machine. UPCL is required to check for such infirmities (if any) in its estimates of proposed works at other places and correct/resubmit the revised estimates before the Commission.
33. UPCL is required to explain regarding its looping methodology and how the LT underground network would be constructed including CSS etc. across the roads mentioned at page no. 129 of volume I of the Petition.
34. UPCL is required to furnish division-wise table of estimates proposed to be incurred totaling to Rs. 750 Crore (including taxes and duties) as mentioned below:-

<b>Division Name</b>	<b>33 kV U/G network</b>	<b>11 kV U/G network</b>	<b>0.4 kV U/G network</b>	<b>Total</b>
EDD, North				
EDD, Central				
EDD, South				
EDD, Raipur				
EDD, Mohanpur				
<b>Total</b>				<b>Rs. 750 Crore</b>

35. UPCL is required to furnish the existing feeder maps of 33 kV & 11 kV and highlight the sections on the same (in 7 copies) which are proposed to be made underground in the instant Petition with colored print on A3 sheet. The identification of

*existing/proposed works alongwith proper legends of various electrical assets like pole, transformers, RMU, CSS etc. are to be clearly depicted over such individual feeder map. Further, UPCL is required to furnish whether the GIS mapping of the existing assets has been done and submit the same.*

36. *UPCL is required to furnish the soft copy of all the estimates/working sheets in MS Excel format and also furnish the basis of quantity estimation in a separate column of its estimates in excel format, besides highlighting the corrected estimates as per the deficiencies/infirmities pointed out herein."*
11. In compliance with the above observations of the Commission, UPCL vide its letters dated **24.05.2023** requested to allow one month time extension for submitting the compliance. The aforesaid requests were allowed by the Commission vide its letter dated **01.06.2023** and directed UPCL to submit its reply by 26.06.2023. UPCL vide its letter dated **22.06.2023** again requested to allow additional one month time for submitting its reply.
12. UPCL vide its letter No. 09/CE(Level-1)(CSS&EAP)/UPCL/ ADB dated 27.07.2023 submitted its reply as mentioned below:-

*"*

1. *The work proposed under ongoing schemes has been checked and there is no duplication of work in these schemes. Further, during implementation no duplication of work proposed in the present DPR with any other scheme will be ensured, if any.*
2. *Work of Undergrounding of HT & LT line under the Smart City Project is under progress. Executed cost shall be prepared after completion of work. However, cost work of undergrounding under Smart City Project has been divided into 06 packages. The package-wise awarded cost is **annexed as annexure-A**. Funding of project shall be done by Government of Uttarakhand.*

*Works of electric pole realignment/erection of new lines are under progress for providing space for construction of drain & cable duct at some places on temporally basis on the request of M/s DSCL and shall be dismantled after successful completion of work under Smart City project.*

*Further, the route of the proposed work under the present DPR is not overlapping with the route of work being executed under the Smart City Project. A single line/map of route of work under both the scheme identifying the **landmarks is annexed as annexure-B**.*

3. *As per scope of work of Smart City Project, UPCL has to be laid the lines under Multi Utility Duct (MUD) being constructed by M/s Dehradun Smart City Ltd. (DSCL). However, during the execution of undergrounding work, main challenges faced were RoW & coordination issues in construction of Multi Utility Duct (MUD) and installation of CSS & RMU nearby commercial premises/shop. For co-ordination among different agencies to resolve the issues a coordination team under*

the CEO/District Magistrate, Dehradun was formed for interdepartmental co-ordination.

4. Most of 11 KV feeders are under grounded along the main road & upto 50-100 mtrs. on branch road. The length of 11 kV cable is more than the overhead feeder, at few places is mainly due to
  1. Loop at RMU & CSS
  2. Underground feeder mainly goes along road whereas the overhead line can cross lane, river and nala etc.

This has increased the overall length of feeder however current carrying capacity of 11 kV cable is higher and its resistance is low. The uptime of network will increase drastically and hence will reduce overall losses. During construction, UPCL will try to bifurcate the load of the 33 kV feeder to reduce I<sup>2</sup>R losses.

5. Copy of Office Memorandum issued by the FB & ADB Division of Department of Economic Affairs (DEA), MoF regarding "project Readiness Checklist for Assessment at various stages of the processing of EAP is **annexed as annexure-C**. In the check list at 5-Before Signing the loan documents, it is mentioned that "(i)-At least 30% of total project cost pertaining to the civil works is awarded". As per Aide Memoire of Fact-Finding Mission from the Asian Development Bank (ADB) conducted from 24 March to 5 April 2023 the Loan signing and effectiveness is August–October' 2023.
6. The dismantling of existing line/infrastructure has already been proposed under the Smart City Project. The existing line/infrastructure on the route shall be dismantled after successful completion of the work.
7. A committee will be formed to decide the quality/quantity of dismantled material. The dismantled material will be received back by the store of UPCL and shall be disposed/reissued as per policy of UPCL.
8. In reference to e-mail received from ADB on dt. 27.02.2023 to update the DPR on current rate schedule, DPR was revised to Rs. 971.99 Cr. from Rs. 831.86 Cr. The Revised DPR was sent to GoU for approval of High Power Committee (HPC) under chairmanship of Chief Secretary. HPC in its meeting held on dt. 01-06-2023 approved the project cost to Rs. 956.78 Cr. alongwith additional Rs. 20.25 Cr. for Project Implementation Support Consultant (PISC) and Financial Road Map Consultant (FRMC).

Further, during ADB Fact Finding Mission, ADB informed that 04 projects, namely construction of 33/11 kV Sub-station at Guniyal Gaon (Dehradun), Suwakholi (Mussoorie), Badave (Pithoragarh) & Pankhu (Pithoragarh) alongwith their associated lines do not full-fill the environment criteria of ADB and advise to drop them from the DPR. Therefore, projects have been dropped from the scheme.

The work-wise breakup along-with revised cost is as follows:

<b>Sl. No.</b>	<b>Name of work</b>	<b>Cost (Rs. In Cr.)</b>
1	Under Ground cabling Work under EDD (Central & North), Dehradun	353.05
2	Under Ground cabling Work under EDD (South), Dehradun	296.97
3	Under Ground cabling Work under EDD (Mohanpur & Raipur), Dehradun	236.37
4	Upgradation of 07 No., 33/11 Substation Garhwal Zone	9.22
5	Construction of 03 no. new Upgradation of 18no., 33/11 Substation Kumaun Zone	61.17
<b>Total</b>		<b>956.78</b>

The loan agreement with ADB will be signed in dollar however; the impact of variation (+/-) of dollar prices on the project cost shall be as per policy of GoU/Gol/ADB.

9. UPCL had a meeting with CAA&A office Janpath, New Delhi on date 05.09.2022. The synopsis of the discussion is as follows:

The officer of CAA&A has clarified that the Uttarakhand is currently falling as a special category state and as per the current procedure, the external assistance to the special category states is being passed as per the old system i.e. Grant/Loan ratio of 90:10. Synopsis of Meeting with CAA&A as sent by Director (F) is **annexed as annexure-D**.

In meeting possibility of passing the grant amount by the GoU under equity or loan to the UPCL was also discussed.

In this regard, they apprised that this is an internal matter between State Government and Utility and not concerned with the ADB as well as Central Government. This is the understanding between state government and utility.

In various meeting with GoU, UPCL has requested to pass-on the grant/loan as it is received to GoU from Gol/ADB. After detailed discussion on the matter in meeting of High Power Committee (HPC), headed by Chief Secretary, GoU held on 10th & 12th August, 2022 it was decided that 72% of project cost will be adjusted from ADB loan and 28% will be arranged by UPCL from its own resources. Component wise break up of passing the grant amount by the GoU to UPCL was decided as follows:

<b>Sl. No.</b>	<b>Description</b>	<b>Rate</b>
a	Grant from GoU	: 52% of Project cost
b	Equity Share from GoU	: 20% of Project cost
c	Loan to be taken by UPCL as per ADB norms from ADB	: 8% of Project Cost
d	Amount to be arranged by UPCL from its own resources	: 20% of Project cost

UPCL has requested GoU for release of 8% of ADB loan (out of total 80% of DPR cost) to UPCL on same terms and conditions as given to GoU by GoI. Copy of request letter and MoM of HPC is **annexed as annexure-E & F** respectively.

10. Request to allow to withdraw the point as it was mentioned by typing error.
11. A Special Evaluation Study on Project Cost estimates by ADB is **annexed as annexure-G**.
12. Approval from DEA is under process.
13. In letter dated 25.10.2022 from the office of Secretary (Energy), GoU has been issued after concurrence of Finance Department, GoU vide dispatch no. 72173/2022 dated 20.10.2022.

Further, Secretary (Energy), GoU has issued the G.O. vide letter no. 850/I(2)/2023/05-12-2004 dt. 24.07.2023 (**annexed as annexure-H**) for the project after concurrence of Finance Department, GoU vide dispatch no. 1/138827/2023 dated 18.07.2023 for the revised DPR.

**Part-A: 'Construction of 7 no. new 33/11 kV Sub-stations along with associated 33 kV Lines and Enhancement of capacity of 25 no. existing 33/11 kV Sub-stations' [Rs. 81.86 Crore]**

14. During the Fact Finding Mission meeting held with ADB on dt. 24-03-2023, ADB informed that 04 projects namely construction of 33/11 kV Sub-station at Guniyal Gaon(Dehradun), Suwakholi (Mussoorie), Badave (Pithoragarh) & Pankhu (Pithoragarh) alongwith their associated lines do not full-fill the environment criteria of ADB and advise to drop them from the DPR. Therefore, the projects have been dropped from the scheme. However, the arrangement of the land for proposed balance new 03 no. substations has already been done. No additional land will be required for the work of enhancement of capacity of 25 no. existing 33/11 kV Sub-stations. At present, no forest clearances are required for execution of the work and Railway clearances for 01 location will be required for line work.
15. During the Fact Finding Mission meeting held with ADB on dt. 24-03-2023, ADB informed that 04 projects namely construction of 33/11 kV Sub-station at Guniyal Gaon(Dehradun), Suwakholi (Mussoorie), Badave (Pithoragarh) & Pankhu (Pithoragarh) alongwith their associated lines do not full-fill the environment criteria of ADB and advise to drop them from the DPR. Therefore, the projects have been dropped from the scheme. The line diagram for the balance new 33/11 kV Substations, i.e. at Collectrate Rudrapur, at Bharoni, Sitarganj (both in U.S.Nagar) and at Kaniya, (Ramnagar), (Nainital) with requisite data is **annexed as annexure-I**.
16. As describe at point no. 15 above that 04 no. projects have been dropped from the scheme. The cost of balance 03 no. of substation i.e. at Collectrate Rudrapur, at Bharoni, Sitarganj (both in U.S.Nagar) and at Kaniya, (Ramnagar), (Nainital) is included in the total project cost. Construction of 33/11 kV substation has been proposed to ensure 24x7 quality and reliable power supply to the consumers, to minimize the fault and quick restoration of supply with reducing response time, to improve the voltage profile of area including SAIFI, SAIDI and MAIFI, reduction

in technical losses and to cater the future load growth. The calculation of cost benefit analysis (CBA) of total project cost is attached in reply of query no. 21 in this letter.

17. Proposal for construction of 33/11 kV sub-station at Guniyal Gaon is one out of the dropped Projects from the scheme.
18. Submission by UPCL:-

Sl. No.	Substation Name	Existing Transformation Capacity (MVA)	Proposed Transformation Capacity (MVA)	33 kV feeder Incomer Details	Load details on feeding 132/33 kV S/s at 132 kV & 33 kV end (MVA)*
1	2	3	4	5	6
1	Sahastradhara, Dehradun	2X10	2X12.5	IIP Mohkampur to Sahastradhara	14.19
2	Hathibarakala, Dehradun	2X10	2X12.5	Purukul to Hathibarakala	8.77
3	Sahiya, Dehradun	1X3	1X5	Dhokrani to Sahiya	2.10
4	Sawra, Dehradun	1X3	2X3	Dhokrani to Sawra	2.60
5	Rudrapur, Dehradun	1X3	1X3+1X5	Dhokrani to Rudrapur	3.24
6	Ramnagar Danda, Dehradun	1X3	2X3	Laltappar to Ramnagar Danda	2.70
7	Lal Tappar, Dehradun	2X5	2X10	Laltappar to Laltappar	6.34
8	Tarikhet, Almora	1X1.5+1X3	1X5+1X3	Naini Ranikhet to Tarikhet	3.10
9	Bajol, Almora	2X1.5	1X1.5+1X5	Naini Ranikhet to Bajol	2.43
10	Lamgarah, Almora	2X3	1X3+1X5	Syalidhar Almora to Lamgarah	3.80
11	Sairaghat, Almora	1X5	2X5	Syalidhar Almora to Sairaghat	3.29
12	Kamalwaganja, Nainital	2X12.5	2X12.5+1X10	Kamalwaganja to Kamalwaganja	22.86
13	Transport Nagar, Nainital	2X10	2X12.5	Kamalwaganja to Transport Nagar	18.00
14	Phoolchaur, Nainital	1X3+1X5	2X10	Kamalwaganja to Phoolchaur	7.00
15	Garampani, Nainital	2X3	2X5	Bhowali to Garampani	4.57
16	Talla Ramgarh, Nainital	2X3	2X5	Mehragaon to Talla Ramgarh	3.99
17	Sarghakhhet Mukteshwar, Nainital	1X3	2X5	Mehragaon to Sarghakhhet Mukteshwar	3.77
18	Pines, Nainital	1X5+1X8	2X10	Mehragaon to Pines	6.50
19	Matkota, US Nagar	3X10	3X12.5	Pantnagar to Matkota	21.15

Sl. No.	Substation Name	Existing Transformation Capacity (MVA)	Proposed Transformation Capacity (MVA)	33 kV feeder Incomer Details	Load details on feeding 132/33 kV S/s at 132 kV & 33 kV end (MVA)*
1	2	3	4	5	6
20	Bhadaipura, US Nagar	1X5+2X8+1X10	1X12.5+2X8+1X10	2 No. 33 kV feeder from 132 kV S/s Bhadaipura to Bhadaipura	21.58
21	Lalpur, US Nagar	2X8+1X10	1X8+2X10	2 No. 33 kV feeder from 132 kV S/s Kiccha to Lalpur	21.00
22	Sitarganj, US Nagar	1X10+1X12.5	2X12.5	Bhagora to Sitarganj	19.00
23	Jhankat, US Nagar	1X5	2X5	Bhagora to Jhankat	4.29
24	20 no. S/s Kashipur, US Nagar	1X5+1X8	1X5+1X10	Keshowala Bazpur to 20 no. S/s Kashipur	10.00
25	Doraha, US Nagar	1X5+2X8	1X5+1X8+1X10	Keshowala Bazpur to Doraha	15.00

\*Load in MVA at receiving end

19. The supply rates of major received back have been taken from the stock rates of items.
20. The corrected volume-II is annexed as annexure-J.

**Part-B : 'Undergrounding of HT & LT Electrical Networks of arterial roads in Dehradun city' [Rs. 750 Crore]**

21. The Cost Benefit Analysis calculation considering i) 52% grant is annexed as **annexure-K** and 72% grant is **annexed as annexure-L**.
22. As supply of these items are to be taken from the annexure 1.8 to annexure 1.11 and only de-centralized materials have been taken in these annexures. Therefore, the unit rates for the centralized materials have been mentioned as Nil.
23. It was an error and has been corrected in the revised estimate. In revised estimates excavation of earth has been taken in accordance with the cable lengths.
24. The estimate has been revised & now no over / under estimation in digging has been considered in the estimate. 33 kV lines have both single/double run cable & currently most of the lines have single run cable. During execution redundancy of system will be priority within the allotted cost/scope.
25. Section drawing of trench & ampere capacity calculation for 11 kV and 33 kV cable in ground is annexed at annexure-N.
26. The quantity of 160 mm HDPE pipe has been taken only 500 mtr. for LT work & it will only be used at very few locations, if required, where ever multiple service connection cables are to be laid due to space constraint.
27. Mostly 11 kV underground lines will be single circuit.



28. On PPCL 11 kV feeder, the load of rural feeder was also included. At present the load of rural feeder been removed from the PPCL feeder due to the damaged of 33 KV line feeding the 33/11 kV substation, Door Darshan. The 11 kV Deep Nagar & Rispana Bridge feeders having total load of 120amp. (approx.) was temporally connected to 11kV Ashok Vihar feeder from 33/11 kV substation Araghar. At present, both the 11 kV Deep Nagar & Rispana Bridge feeders are being fed from 33/11 kV substation, Door Darshan and 11 kV Ashok Vihar Feeder and PPCL feeder is having only load 110amp. and 60 amp. respectively.
29. For underground network the conductor size of 11 KV cable is higher as compared to the existing overhead conductor like weasel or rabbit. The overall length of existing overhead lines is 245km. whereas the length of proposed cable is 231km. Also in under grounding of existing lines will reduce the outage duration resulting in increased sale of energy. Hence the revenue will also increase.
30. The 11 kV feeder-wise details of consumers is **annexed as annexure-M**.
31. All CSS, RMU & LT feeder pillars will be earth separately in undergrounding network. Armored cable shall be used for providing service connection and will be connected to earth point of distribution box which will take care of earthing requirement of individual consumer.
32. In revised estimates/DPR rates for Fault Locator Machine has been taken from supply agreement no. 936/C(C&P-I)/UPCL/44/2020-2021/ K&B, dated: 23-06-2022 the copy of agreement is **annexed as annexure-N**.
33. The looping of 11 kV PPCL & Badripur feeders from Rispana Bridge to Mohkampur ROB is with 11 kV Rajeev Nagar and Jogiwalla Feeders respectively. The looping of 11 kV Ekta Vihar & Uppal feeder is with 11kV Uppal and Ekta Vihar respectively. This has been shown at sl.no. 2,3,8 & 10 of page no. 128 of Volume-I of the petition.
34. In reference to e-mail received from ADB on dt. 27.02.2023 to update the DPR on current rate schedule. The updated DPR was approved by GoU with a amount Rs. 956.78 Cr. having cost of undergrounding Rs. 886.40 Cr. The Division-wise breakup of estimates proposed is as follows:-

<b>Division Name</b>	<b>33 kV U/G network (Cr.)</b>	<b>11 kV U/G network (Cr.)</b>	<b>0.4 kV U/G network (Cr.)</b>	<b>Total (Cr.)</b>
EDD, Central	29.12	46.94	113.26	<b>189.32</b>
EDD, North	24.84	25.23	113.67	<b>163.74</b>
EDD, South	36.52	81.38	179.08	<b>296.98</b>
EDD, Raipur & EDD, Mohanpur	54.46	48.70	133.20	<b>236.36</b>
<b>Total</b>	<b>144.94</b>	<b>202.25</b>	<b>539.21</b>	<b>886.40</b>

35. As per scope of works, the detail route survey and design works for all 33 kV, 11 kV and LV underground lines is in the scope of contractor to be deployed:
- (a) Preparation of preliminary cable route plan and maps as per scope of works.
- (b) Ground Penetrating Radar (GPR) survey of existing underground networks / installations of all utilities along the proposed line routes such as water, gas,

*sewage, communication etc. GPR Survey report and associated drawings shall be submitted in soft and hard copy before execution of work.*

- (c) Detailed route survey, line design and preparation of geo referenced survey maps / drawings with final route plan for installation of underground cables and other facilities such as RMUs, DTRs, Compact substations, feeder pillars (LT), consumer indexing and locations for cable joints.*
- (d) Preparation of updated schedules of quantities / BOQs for each subproject, construction drawings and maps.*
- (e) Preparation of final as-built drawings /geo-referenced maps with all necessary details as required for O&M works upon completion of construction works.*
- (f) Survey maps and associated drawings shall be submitted in soft and hard copy both before and after execution of work.*

*However, The GIS maps of 33 kV & 11 kV feeders are annexed as annexure-O.*

36. *The following data is attached herewith in soft copy in MS Excel format:*

- i. All the estimates/working sheets/DPR.*
- ii. Calculation of Cost Benefit Analysis.*

#### ***Additional Information***

**1. *Change of name of Project:***

*It is to submit that the project has been renamed as “Uttarakhand Climate Resilient Power System Development Project” from Uttarakhand Transmission Strengthening & Distribution Improvement Programme (UTSDIP).*

**2. *Revision of Cost of the project:***

*It is to inform that in reference to e-mail received from ADB on dt. 27.02.2023 to update the DPR on current rate schedule, DPR was revised from Rs. 831.86 Cr. to Rs. 971.99 Cr. The Revised DPR was sent to GoU for approval of High Power Committee (HPC) under chairmanship of Chief Secretary. HPC in its meeting held on dt. 01-06-2023 approved the project cost to Rs. 956.78 Cr. alongwith additional Rs. 20.25 Cr. for Project Implementation Support Consultant (PISC) and Financial Road Map Consultant (FRMC).*

**3. *Revision of Scope of Work:***

*During ADB Fact Finding Mission, ADB informed that 04 projects, namely construction of 33/11 kV Sub-station at Guniyal Gaon (Dehradun), Suwakholi (Mussoorie), Badave (Pithoragarh) & Pankhu (Pithoragarh) alongwith their associated lines do not full-fill the environment criteria of ADB and advise to drop them from the DPR. Therefore, projects have been dropped from the scheme. Therefore, it is also requested to allow to withdraw the above 33/11kV substation work from the project.*

*It was also advised by ADB that associated 33 kV line for 33/11 kV Sub-station, Kaniya (Ramnagar) may be proposed complete underground in place of partially overhead and underground as overhead line does not comply the environment criteria of ADB, as its route falls in the proximity of Jim Corbett National Park (in buffer zone). The estimate was revised accordingly.”*

13. On examination of the reply furnished by UPCL dated 27.07.2023, the Commission observed certain additional deficiencies/infirmities in its submission and the Commission vide its letter dated **14.08.2023** directed it to furnish its compliance under affidavit before the Commission latest by **24.08.2023** on the below mentioned points and also directed it to make presentation in the matter on 07.09.2023 which was rescheduled to 06.09.2023:-

“

**General:**

1. UPCL was required to furnish its reply under affidavit, however, UPCL has submitted its reply dated 27.07.2023 without any affidavit. UPCL is required to clarify the same.
2. UPCL has enclosed revised DPR of works pertaining to 'Uttarakhand Climate Resilient Power System Development Project' (UCRPSDP) from Uttarakhand Transmission Strengthening and Distribution Improvement Program (UTSDIP). Further, UPCL has submitted that DPR was revised from Rs. 831.86 Cr. to Rs. 971.99 Cr. The Revised DPR was sent to GoU for approval of High Power Committee (HPC) under Chairmanship of Chief Secretary. HPC in its meeting held on dt. 01-06-2023 approved the project cost to Rs. 956.78 Cr. alongwith additional Rs. 20.25 Cr. for Project Implementation Support Consultant (PISC) and Financial Road Map Consultant (FRMC).

*In this regard, UPCL is required to file a Supplementary Petition in the instant matter in accordance with the UERC (Conduct of Business) Regulations, 2014 & UERC (Fees and Fines) (Second Amendment) Regulations, 2018 for the DPR which has been revised from Rs. 831.86 Cr. to 971.99 Cr.*

*Moreover, neither clear write-up on the cost escalation of the DPR nor any executive summary/abstract depicting various sub-heads of the proposed works alongwith the cost breakup has been furnished. UPCL is required to ensure the compliance in this regard.*

3. With regard to response at S. No. 2, UPCL has not superimposed the proposed underground works executed/ to be executed under Smart City Projects & ADB project for lucid understanding for the same as per the query. UPCL is required to ensure the same.
4. With regard to response at S. No. 5, UPCL is required to furnish the details of works pertaining to the project readiness criteria of at least 30% total project cost pertaining to civil works.
5. With regard to response at S. No. 6, it is observed that UPCL is committed to have only an underground network system and no overhead network shall co-exists in road/areas which have been covered under Dehradun Smart City Project/Proposed works under the instant Petition. However, **on examination of the Annexure-3 furnished with the submission dated 27.07.2023, it has been observed that 'N-1' line contingency provisions have not been envisaged rather the**

*ampere capacity calculation also depict that very less margin for future load growth has been considered. It is observed that in absence of sufficient margins in the underground cable network the threat of overloading of the lines would be prominent resulting inadequate underground system planning & designing. UPCL is required to furnish 33 kV & 11 kV feeder-wise existing load on feeder, proposed underground cable size on respective 33 kV & 11 kV feeder, future load growth considered and details of 'N-1' line contingency provisions.*

6. *With regard to response at S. No. 8, UPCL is required to furnish the job description, roles and responsibilities of the Project Implementation Support Consultant (PISC) and Financial Road Map Consultant (FRMC) on which an additional Rs. 20.25 Cr. proposed to be incurred. Further, UPCL is required to furnish details for the difference between Rs. 971.99 Cr. and Rs. 956.78 Cr. approved by High Power Committee (HPC) under Chairmanship of Chief Secretary of Uttarakhand.*
7. *With regard to response at S. No. 9, as per Annexure-D Uttarakhand being a special category State is entitled for 90% grant and 10% loan on the approved loan amount to Uttarakhand State against ADB funded projects. In this regard, UPCL is required to furnish the supporting documents for better clarity w.r.t. the original funding details from ADB to Central Government, Central Government to State Government and State Government to UPCL with details of grant from GoU, equity share from GoU, loan from ADB and amount as UPCL's share from its own resources.*
8. *With regard to response at S. No. 14, UPCL is required to confirm regarding the status of Railway clearance required for one of the 33/11 kV S/s namely Kaniya, Ramnagar. Further, with regard to the single line diagram furnished at Annexure-I of the aforesaid submission following has been observed:*
  - (i) *With regard to 33/11 kV S/s at collectorate campus, Rudrapur UPCL has shown the incomer feeder to 33/11 kV S/s Matkota as dog conductor with load of 508 Amps. Which do not appear to be correct, UPCL is required to clarify in this regard.*  
  
*Further, it is observed that 33/11 kV S/s Sidcul and proposed 33/11 S/s at collectorate campus, Rudrapur have only one incomer which is against the provisions of UERC (Distribution Code) Regulations, 2018. UPCL is required to confirm regarding the 'N-1' line contingency provisions for the existing as well as proposed 33/11 kV S/s depicted in the single line diagram.*
  - (ii) *With regard to 33/11 kV S/s at Bharoni, Sitarganj, it is observed that 33/11 kv S/s Nanakmata has only one incomer which is against the provisions of UERC (Distribution Code) Regulations, 2018 and the said incomer is on Racoon conductor which is taking care of 388 Amps which appears to be incorrect. Further, it is observed that an incomer cattering to a load of 388 amps translates to 22 MVA, whereas, the installed capacity of transformers is 20 MVA. UPCL is required to check and confirm the same.*
  - (iii) *With regard to 33/11 kV S/s at Kaniya, Ramnagar, it is observed that 33/11 kv S/s Chilkiya have only one incomer which is against the provisions of*

UERC (Distribution Code) Regulations, 2018. UPCL is required to confirm regarding the 'N-1' line contingency provisions for the existing 33/11 kV S/s depicted in the single line diagram.

UPCL is required to furnish the revised and corrected SLDs for the aforesaid 03 nos. 33/11 kV proposed Substations.

9. With regard to response at S. No. 18, UPCL is required to furnish the details of conductor type used for 33 kV feeder incomers for 25 nos. S/s.
10. With regard to response at S. No. 19, UPCL is required to furnish the details of stock rates of received backed items.
11. With regard to response at S. No. 23, UPCL is required to furnish feeder-wise details of underground cables alongwith details of single circuit/Double Circuit, maximum demand in ampere and other details as provided at page 57 of Vol-1 of its previous DPR for all of the feeders proposed to be underground in the instant Petition.
12. With regard to response at S. No. 24, UPCL is required to furnish arterial road-wise details of undergrounding circuit with description of single run/Double run and type of cable used in underground system. Further, UPCL is required to clarify how redundancy in underground system would be maintained within the allotted cost/scope.
13. With regard to response at S. No. 25, UPCL has not enclosed cross-sectional drawing with details of safety clearances/standards which would be adopted at site for safe underground cable laying.
14. With regard to response at S. No. 27, UPCL has to confirm that the future load growth has been duly considered for sizing of underground lines. Merely putting single run may pose serious challenges w.r.t. ampere current requirements for present and future load growth. From the current amperage calculation provided at annexure No. 3, it is observed that 3Cx300 sqmm 33 kV XLPE cable would suffice only 250 amps approximately. UPCL is required to cross-check the same with all its proposed underground network for suitability for catering to the present and future load growth requirements.
15. With regard to response at S. No. 30, UPCL has not enclosed Annexure-M. UPCL is required to submit the same.
16. With regard to response at S. No. 31, UPCL has not enclosed schematic drawings for the earthing system. UPCL is required to submit the same alongwith details of bonding at 33 kV, 11 kV & 0.4 kV underground system.  
Further, UPCL is required to clarify whether Surge Voltage Limiter (SVL) would be used for the purpose of bonding or not? If not, specify the reason for the same.
17. With regard to response at S. No. 34, UPCL is required to provide the details of the rate schedule which has been considered for revised DPR.
18. With regard to response at S. No. 35, UPCL has merely submitted the single line diagram of the 33 kV and 11 kV feeders which were furnished alongwith the original Petition. The submission made by UPCL is devoid of basic information on the underground network which is proposed in the instant Petition. Further, it appears

that the major work of detailed engineering would be done at contractor level itself which provides a free hand to the contractor to leverage the situation in his own favor. UPCL is required to furnish the details of checks & balances which would be adopted by it for optimizing/restricting the over estimates of the works executed/proposed by the contractor.

Further, UPCL is required to show in feeder drawings areas where underground cables are proposed to be installed with color coding for 33 kV, 11 kV & 0.4 kV. Moreover, the description of underground cable should be provided alongwith current load in the existing feeder in amps and details of no. of DTs and total installed capacity of DTs in a particular feeder.

19. With regard to response at S. No. 20, UPCL has not enclosed Annexure-J. UPCL is required to clarify in this regard.
20. UPCL is required to furnish the details regarding the quality control mechanism and provisions to be considered/ensured during the execution of the proposed works. Further, UPCL is required to furnish flow-chart for checks and balances during monitoring and execution of the proposed works.
21. UPCL is required to confirm regarding the defect liability period for the proposed works.
22. UPCL is required to confirm regarding protection system philosophy/methodology adopted for underground HT cable network for the proposed works.
23. UPCL is required to furnish copy of bill of quantities enclosed with the tender document on which the tender have been invited.
24. UPCL is required to furnish information on cost of supply installation, laying & Commissioning of underground cable network as per below format:-

(Cost in Rs. per meter)

S. No.	Description	Cost of digging	Cost of supply of HDPE pipe	Cost of HDPE pipe installation/Laying	Cost of cable laying, installation/Commissioning in HDPE pipe		
					0.4 kV	11 kV	33 kV
1	Manual cable laying						
2	Trench less technology	-					

Further, UPCL is required to furnish a comparative as per above mentioned format for the other underground cabling system projects executed by it in Haridwar & other places alongwith defect liability period for the previous executed projects.

25. On examination of the revised estimates on sample basis for EDD Central, Dehradun, it appears that the cost of laying of 11 kV XLPE cable has been considered twice, once with supply and laying HDPE pipe and another with separately considering laying and installing of 11 kV XLPE cable in its estimates.

*UPCL is required to clarify in this regard and check for such anomalies in its revised estimates for the proposed works.*

26. *UPCL is required to furnish soft copy of all the above responses in editable format of word/excel."*
14. The Petitioner vide its letter dated 26.08.2023 again requested for one month time extension for furnishing its compliance. In response, the Commission vide its letter dated 01.09.2023 decided to postpone the scheduled presentation in the matter on 06.09.2023 till submission of the desired reply by the Petitioner.
15. The Petitioner vide its letter dated 21.09.2023 submitted its Supplementary Petition for seeking approval for the investment on the works for "Distribution Component of Uttarakhand Climate Resilient System Development Project (UTSDIP)" of EAP (Externally Aided Project) funded from ADB (Asian Development Bank) and furnished its point-wise response to the deficiencies sent vide Commission's letter dated 14.08.2023 under affidavit as mentioned below:-

*"*

***Submission by UPCL –***

1. *The reply of the queries has been submitted according to the letter no. letter no. UERC/5/Tech/763/Pet. No.15 of 2023/122, dt. 27.04.2023 of Hon'ble UERC.*
- ...
2. *Abstract of revised DPR/estimates depicting various sub-heads of the proposed works including the cost breakup is annexed as annexure-I. Also a demand draft (No. 089810 dt. 21.09.2023) amounting Rs. 7,25,850/- is attached herewith against the requisite fee.*
3. *(Response to S. No. 2) Feeder-wise route diagram of line proposed for undergrounding in the ADB project as well as in Smart city project is annexed as annexure-II.*
4. *(Response to S. No. 5) Work of underground cabling for has been divided into 03 packages. The packages also include the civil work inside it. The BoQ is annexed as annexure-III (in soft). However, the Lot wise amount is as follows:*

<b><i>Lot No.</i></b>	<b><i>Name of Package</i></b>	<b><i>Estimated Value including taxes (Cr.)</i></b>
<i>Lot 1</i>	<i>Underground cabling for Electricity Distribution Division (North And Central) under Electricity Distribution Circle (Urban), Dehradun</i>	<b>266.97</b>
<i>Lot 2</i>	<i>Underground cabling for Electricity Distribution Division (South) under Electricity Distribution Circle (Urban), Dehradun</i>	<b>225.79</b>

<b>Lot No.</b>	<b>Name of Package</b>	<b>Estimated Value including taxes (Cr.)</b>
Lot 3	Underground cabling for Electricity Distribution Division, Mohanpur and Raipur) under Electricity Distribution Circle (Rural)	177.82
<b>Total</b>		<b>670.58</b>

5. (Response to S. No. 6) During the preparation of DPR/proposal normal load growth @5% (appox.) upto 10 years have been considered with the redundancy through looping feeders and Ring Main Units. Feeder-wise existing load on 33 kV & 11 kV feeder and size of underground cable is annexed as annexure-IV.
6. (Response to S. No. 8) ADB has drafted the Terms of Reference (ToR) for Engagement of Project Implementation Support Consultant (PISC) for the project As per ToR the scope of services of the PISC comprises providing complete project implementation and management services for the entire Project at all stages from planning, implementation, testing, commissioning, handover, and closure. PISC is also required to take responsibility in managing and completing the project within the allocated time frame and within proposed budget.

The services shall include but not limited to the following specific tasks;

- Project Planning
- Review of designs, drawings, BOQs, specifications / GTPs and test reports
- Design and Implementation of Online PMS System
- Coordination of Project procurement process
- Preparation of time to time meeting minutes should be prepared by Team Leader
- Monitoring and Supervision of implementation works
- Implementation of QAM
- Contract Management
- Support in certification of work completion / handing over
- Progress monitoring
- Financial Management
- Environmental Safeguard Management
- Social Safeguard Management
- Gender Equality and Social Inclusion Action Plan (GESI AP/GAP) Management
- Health and Safety Management
- Other Services
- Closure report of project (Physical & Financial)

It is to mention that the job description, roles and responsibilities and detailed scope of work of the Financial Road Map Consultant (FRMC) is under preparation by ADB.

Further, it is also to mention that on the suggestion of ADB DPR/estimates has been revised from Rs. 831.68 Cr. to Rs. 971.99 Cr. and submitted to GoU for approval of



High Power Committee (HPC) under chairmanship of Chief Secretary of Uttarakhand. HPC in its meeting held on 01.06.2023 has been approved the DPR amounting Rs. 977.03 Cr. The minutes of meeting is annexed as annexure-V.

7. (Response to S. No. 9) The original funding details from ADB to Central Government shall be as per loan signing agreement. The funding details from Central Government to State Government and State Government to UPCL with details of grant from GoU, equity share from GoU, loan from ADB and amount as UPCL's share from its own resources shall be as follows:

<b>GoI to GoU*</b>	<b>GoU to UPCL**</b>
Grant-90%	Grant : 52%
Loan-10%	Loan# : 8%
	Equity Share : 20%
	UPCL own resources : 20%

# as per ADB norms

\* The synopsis of meeting by Director (F) with the CCA&A officials, Janpath, Delhi on dt. 05.09.2022 is annexed as annexure-VI.

\*\* MoM deciding the funding pattern by the High Power Committee (HPC) headed by Chief Secretary, GoU is annexed as annexure-VII.

8. (Response to S. No. 14) The point-wise replies are as follow:

- (i) The current load on the 33 kV incomer feeder from 220/132/33 kV S/s Pantnagar to 33/11 kV S/s Matkota 400 Amps. After construction of proposed collectorate Campus substation it will become 371 Amp. The revised and corrected SLDs is annexed as annexure-VIII.

It is to mention that, to confirm the 'N-1' line contingency survey for feasibility of to construct a separate 33 kV line is under consideration.

- (ii) The current load on the 33 kV incomer feeder from 220/132/33 kV S/s Bhagora (Sitarganj) to 33/11 kV S/s Nanakmatta is 300 Amps. After construction of proposed substation at Bharauni it will become 263 Amp. The revised and corrected SLDs is annexed as annexure-IX.

It is to mention that, to confirm the 'N-1' line contingency survey for feasibility of to construct a separate 33 kV line is under consideration.

- (iii) It is to mention that, to confirm the 'N-1' line contingency survey for feasibility of to construct a separate 33 kV line is under consideration.

9. (Response to S. No. 18)

<b>Sl. No.</b>	<b>Substation Name</b>	<b>Existing Transformation Capacity (MVA)</b>	<b>Proposed Transformation Capacity (MVA)</b>	<b>33 kV feeder Incomer Details/Name of Conductor</b>	<b>Load details on feeding 132/33 kV S/s at 132 kV &amp; 33 kV end (MVA)*</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	Sahastradhara , Dehradun	2X10	2X12.5	i) IIP Mohkampur to Sahastradhara on DOG Conductor	14.19

Sl. No.	Substation Name	Existing Transformation Capacity (MVA)	Proposed Transformation Capacity (MVA)	33 kV feeder Incomer Details/Name of Conductor	Load details on feeding 132/33 kV S/s at 132 kV & 33 kV end (MVA)*
				ii) Purkul to Sahastradhara on DOG Conductor	
2	Hathibarakala, Dehradun	2X10	2X12.5	i) Purukul to Hathibarakala on DOG Conductor ii) Bindal to Hathibarakala with 3C X400sqmm. Cable (under ADB)	8.77
3	Sahiya, Dehradun	1X3	1X5	Dhakrani to Sahiya on DOG Conductor	2.10
4	Sawra, Dehradun	1X3	2X3	Dhakrani to Sawra on DOG Conductor	2.60
5	Rudrapur, Dehradun	1X3	1X3+1X5	Dhakrani to Rudrapur on DOG Conductor	3.24
6	Ramnagar Danda, Dehradun	1X3	2X3	Laltappar to Ramnagar Danda on DOG Conductor	2.70
7	Lal Tappar, Dehradun	2X5	2X10	Laltappar to Laltappar on DOG Conductor	6.34
8	Tarikhet, Almora	1X1.5+1X3	1X5+1X3	Naini Ranikhet to Tarikhet on DOG Conductor	3.10
9	Bajol, Almora	2X1.5	1X1.5+1X5	Naini Ranikhet to Bajol on RACOON Conductor	2.43
10	Lamgarah, Almora	2X3	1X3+1X5	Syalidhar Almora to Lamgarah on DOG Conductor	3.80
11	Sairaghat, Almora	1X5	2X5	Syalidhar Almora to Sairaghat on DOG Conductor	3.29
12	Kamalwaganja, Nainital	2X12.5	2X12.5+1X10	Kamalwaganja to Kamalwaganja on D/C PANTHER Conductor	22.86
13	Transport Nagar, Nainital	2X10	2X12.5	Kamalwaganja to Transport Nagar on DOG Conductor	18.00
14	Phoolchaur, Nainital	1X3+1X5	2X10	Kamalwaganja to Phoolchaur on DOG Conductor	7.00
15	Garampani, Nainital	2X3	2X5	i) Bhowali to Garampani on RACOON+RABBIT Conductor ii) 132kV Naini Ranikhet to Garampani on RACOON Conductor	4.57
16	Talla Ramgarh, Nainital	2X3	2X5	Mehragaon to Talla Ramgarh on RACOON Conductor	3.99

Sl. No.	Substation Name	Existing Transformation Capacity (MVA)	Proposed Transformation Capacity (MVA)	33 kV feeder Incomer Details/Name of Conductor	Load details on feeding 132/33 kV S/s at 132 kV & 33 kV end (MVA)*
17	Sarghakhet Mukteshwar, Nainital	1X3	2X5	i) 132kV Mehragaon to Sarghakhet Mukteshwar on RACOON Conductor or ii) 132kV Mehragaon to Padampur to Sarghakhet Mukteshwar on DOG Conductor (Proposed under RDSS)	3.77
18	Pines, Nainital	1X5+1X8	2X10	i) 132kV Mehragaon to Pines on DOG Conductor ii) Golakhal to Pines on DOG Conductor	6.50
19	Matkota, US Nagar	3X10	3X12.5	i) 132 kV Pantnagar to Matkota on DOG Conductor ii) Dineshpur to Matkota on DOG Conductor	21.15
20	Bhadaipura, US Nagar	1X5+2X8+1X10	1X12.5+2X8+1X10	132 kV S/s Bhadaipura to Bhadaipura on D/C DOG Conductor	21.58
21	Lalpur, US Nagar	2X8+1X10	1X8+2X10	132 kV S/s Kiccha to Lalpur on D/C DOG Conductor	21.00
22	Sitarganj, US Nagar	1X10+1X12.5	2X12.5	i) Bhagora to Sitarganj on DOG Conductor ii) Kanjabad to Sitarganj on DOG Conductor	19.00
23	Jhankat, US Nagar	1X5	2X5	Bhagora to Jhankat on DOG Conductor	4.29
24	20 no. S/s Kashipur, US Nagar	1X5+1X8	1X5+1X10	i) Keshowala Bazpur to 20 no. S/s Kashipur on DOG Conductor ii) Bazpur Road to 20 no. S/s Kashipur on PANTHER Conductor	10.00
25	Doraha, US Nagar	1X5+2X8	1X5+1X8+1X10	iii) Keshowala Bazpur to Doraha on DOG Conductor	15.00

\*Load in MVA at receiving end

10. (Response to S. No. 19) The supply rates of major received back items has been taken from the Weighted Average Cost (WAC) as issued by UPCL is annexed as annexure-X.
11. (Response to S. No. 23) Lot-wise Feeder-wise is annexed as annexure-IV.

12. *(Response to S. No. 24) Lot-wise and road-wide summary-sheet of undergrounding work along with details of backup feeder for redundancy is annexed as annexure-IV.*
13. *(Response to S. No. 25) It is to inform that IS:1255-1983 (Code of Practice for Installation and Maintenance of Power Cable upto and including 33kV) shall be follow for laying the cable. Relevant page is annexed as annexure-XI.*
14. *The sl. no. 27 of the response is regarding 3Cx300 sqmm, 11 kV. During the preparation of DPR/proposal normal load growth @5% (appox.) upto 10years have been considered and accordingly 3Cx300 sqmm, 11 kV cable has been taken in the proposal.*
15. *(Response to S. No. 30) Feeder-wise consumer summary is annexed as annexure-XII.*
16. *(Response to S. No. 31) The schematic drawings for the earthing system to used during the work is annexed as annexure-XIII.*  
  
*Further, Lightening Arrestors have been proposed in the project however, the Surge Voltage Limiter (SVL) is not considered. The same may be considered on the instruction of Hon'ble UERC.*
17. *(Response to S. No. 34) On the suggestion of ADB DPR/estimates has been revised in month of March'2023. The Weighted Average Cost (WAC) as issued by UPCL is annexed as annexure-xx. It also to mention the quotation for prices of CSS, RMU, and Cable has been asked from the reputed manufactured.*
18. *(Response to S. No. 35) Feeder drawings with color coding for existing/proposed underground line are annexed as annexure-XIV(in soft).*
19. *(Response to S. No. 20) The annexure has already been provided in 07 sets and the same has been explained during the meeting with official's of Hon'ble UERC.*
20. *To ensure the quality of material UPCL has already created the ADB Electricity Project Circle however, to ensure the quality of the work, the process for creation separate divisions/sub-divisions for execution of the project is under progress.*
21. *Relevant clause of Standard Bidding document as uploaded for tendering is annexed as Annexure-XV.*
22. *Earth fault and over current protection of 33kV and 11kV feeders are already in place at substation end and at RMU.*
23. *Bill of quantities uploaded on for tendering is annexed as Annexure-III (in soft).*
24. *The comparative of prices taken in the present project and the project executed in Haridwar is as hereunder:*

**Prices as taken in Estimates of ADB Project**

(Cost in Rs. per meter)

S. No.	Description	Cost of digging	Cost of supply of HDPE pipe	Cost of HDPE pipe installation/ Laying	Cost of cable laying, installation/Commissioning in HDPE pipe		
					0.4 kV	11 kV	33 kV
1	Manual cable laying	681.60	676.00	202.90	104.13	126.44	257.64
2	Trench less technology	-	676.00	1583.16	N.A.	126.44	257.64

**Prices as per agreement of undergrounding work in Haridwar**

(Cost in Rs. per meter)

S. No.	Description	Cost of digging	Cost of supply of HDPE pipe	Cost of HDPE pipe installation / Laying	Cost of cable laying, installation/Commissioning in HDPE pipe		
					0.4 kV	11 kV	33 kV
1	Manual cable laying	-	N.A.*	N.A.	507.76	506.32	537.97
2	Trench less technology	-	746.84	506.30	N.A.	75.95	88.61

\* In Haridwar half cut Hume pipe in place of HDPE pipe was used for open excavation and laying of the same was included with cable laying.

25.

Sl. No.	Original Provisions	Revised Provisions
1	Manual digging of cable trench upto 1 mtr wide and 1.2 mtr deep in mixed soil having soft & hard soil like stone and road cutting areas and in rocky terrains, back filling and removal of excess earth from site, soil compaction and reinstatement of road / footpath surface as per PWD Uttarakhand requirements and making good as original, including supply of all civil construction materials.	Manual digging of cable trench upto 1 mtr wide and 1.2 mtr deep in mixed soil having soft & hard soil like stone and road cutting areas and in rocky terrains, back filling and removal of excess earth from site, soil compaction and reinstatement of road / footpath surface as per PWD Uttarakhand requirements and making good as original, including supply of all civil construction materials.

<b>Sl. No.</b>	<b>Original Provisions</b>	<b>Revised Provisions</b>
2	Supply and laying of HDPE pipe (PN-6, PE 80 of size 160 mm. OD) with coupler, short and long bends in open cut trenches <u>and Laying of 11KV XLPE HT cable 3Cx300 sq mm in HDPE pipe</u> as per the code of practice for installation and maintenance of power cables as per IS 1255 :1983 or latest amendments using motorised mechanical cable pullers, rollers for cable support, Hydraulic jack for cable drum etc. including termination of cable on terminal gantry or RMU and final testing of HT cable	Supply and laying of HDPE pipe (PN-6, PE 80 of size 160 mm. OD) with coupler, short and long bends in open cut trenches as per the code of practice for installation and maintenance of power cables as per IS 1255 :1983 or latest amendments using motorised mechanical cable pullers, rollers for cable support, Hydraulic jack for cable drum etc. including termination of cable on terminal gantry or RMU and final testing of HT cable
3	Supply and Laying of HDPE pipe (PN-6, PE 80 of size 160 mm. OD) 1.2 to 1.5 mtr. deep using Horizontal Directional Drill method including excavation of HDD drill pits and back filling, removal of excess earth from site including earth compression and making good as original <u>and laying and installation of 11 KV XLPE HT cable 3Cx300 sq mm in HDPE pipe (160 mm dia PN-6, PE 80)</u> as per the code of practice for installation and maintenance of power cables as per IS 1255 :1983 or latest amendments using motorised mechanical cable pullers, rollers for cable support, Hydraulic jack for cable drum etc. including termination of cable on terminal gantry or RMU and final testing of HT cable	Supply and Laying of HDPE pipe (PN-6, PE 80 of size 160 mm. OD) 1.2 to 1.5 mtr. deep using Horizontal Directional Drill method including excavation of HDD drill pits and back filling, removal of excess earth from site including earth compression and making good as original as per the code of practice for installation and maintenance of power cables as per IS 1255 :1983 or latest amendments using motorised mechanical cable pullers, rollers for cable support, Hydraulic jack for cable drum etc. including termination of cable on terminal gantry or RMU and final testing of HT cable

<b>Sl. No.</b>	<b>Original Provisions</b>	<b>Revised Provisions</b>
4	Laying and installing, testing & commissioning of 11 KV XLPE HT cable <u>3Cx400</u> sq mm in HDPE pipe (in above sl. no. 2.102) as per the code of practice for installation and maintenance of power cables as per IS 1255 :1983 or latest amendments using motorised mechanical cable pullers, rollers for cable support, Hydraulic jack for cable drum etc. including cable marking & tagging, termination of cable on terminal gantry or RMU and final testing of HT cable in	Laying and installing, testing & commissioning of 11 KV XLPE HT cable 3Cx300 sq mm in HDPE pipe (in above sl. no. 2.102) as per the code of practice for installation and maintenance of power cables as per IS 1255 :1983 or latest amendments using motorised mechanical cable pullers, rollers for cable support, Hydraulic jack for cable drum etc. including cable marking & tagging, termination of cable on terminal gantry or RMU and final testing of HT cable.
5	Laying and installing, testing & commissioning of 11 KV XLPE HT cable <u>3Cx400</u> sq mm for cable loop using conventional method including soft sand cushioning 75mm. below and above cable, brick/CC tile protection layer, warning tape including including cable marking & tagging, supply of all civil materials, labour & T&P as per IS 1255 :1983 or latest amendments.	Laying and installing, testing & commissioning of 11 KV XLPE HT cable 3Cx300 sq mm for cable loop using conventional method including soft sand cushioning 75mm. below and above cable, brick/CC tile protection layer, warning tape including cable marking & tagging, supply of all civil materials, labour & T&P as per IS 1255 :1983 or latest amendments.

26. The soft copy of the above annexure is being provided through e-mail."

16. Further, the Petitioner enclosed a certificate dated 21.09.2023 declaring "...that the "Uttarakhand Climate Resilient Power System Development Project of Externally Aided Project from ADB" has been approved by Chairperson for the purpose of investment approval from Hon'ble UERC in anticipation of approval of Board of Directors of UPCL in upcoming BoD meeting.

The synopsis of the approval is as hereunder:

**i. Revision of Cost of the Project:**

Revision of Cost of Uttarakhand Climate Resilient Power System Development Project of Externally Aided Project from ADS as per following details:

<b>Name of Work</b>	<b>Original Project Cost</b>	<b>Revised Project Cost</b>
Construction of 03 no. new Sub-stations and their associated Lines under and	Rs. 81.86 Cr.	Rs. 70.39 Cr.

<b>Name of Work</b>	<b>Original Project Cost</b>	<b>Revised Project Cost</b>
Augmentation of Capacity of Existing 25 no. 33/11 kV Sub-stations.		
Underground cabling and strengthening of Electrical Distribution Network in Dehradun City.	Rs. 750.00 Cr.	Rs. 886.39 Cr.
Provision for deployment of Project implementation support consultant (PISC)	-	Rs. 20.25 Cr.
<b>Total</b>	<b>Rs. 831.86 Cr.</b>	<b>Rs. 977.03 Cr.</b>

**ii. Revision of scope of work:**

As per advice of ADB to drop 04 no. 33/11 kV Substations from the DPR as these do not full-fill the environmental criteria of ADS, following 04 projects have been dropped from the revised DPR and the balance projects are as per column No.2 of table below:

<b>Original Scope of Work</b>	<b>Revised scope of Work</b>	<b>Remark</b>
<b>1</b>	<b>2</b>	<b>3</b>
a) Construction of 07 no. new 33/11 kV Sub-stations and their associated Lines: i. Guniyal Gaon ii. Suwakholi iii. Sitarganj iv. Kaniya, Ramnagar v. Collectorate Rudrapur vi. Pankhu vii. Barabey	a) Construction of 03 no. new 33/11 kV Sub-stations and their associated Lines: i. Sitarganj ii. Kaniya, Ramnagar iii. Collectorate Rudrapur	Projects do not full-fill the environmental criteria of ADB so dropped from revised DPR as per ADB advice: i Guniyal Gaon ii. Suwakholi iii. Pankhu iv. Barabey
b) Augmentation of Capacity of Existing 25 no. 33/11 kV Sub-stations.	b) Augmentation of Capacity of Existing 25 no. 33/11 kV Sub-stations	No change
Underground cabling and strengthening of Electrical Distribution Network in Dehradun City.	Underground cabling and strengthening of Electrical Distribution Network in Dehradun City.	No Change
NA	Provision for deployment of Project implementation support consultant (PISC).	Provision included by ADB for consultant

**iii. Funding pattern:**

The following funding pattern as approved by HPC:

Sl. No.	Description	(Rs. in Cr.) As per Revised Cost
a	Grant from GoU-52% of Project cost	: 508.06
b	Equity Share from GoU-20% of Project cost	: 195.40



- |   |  |
|---|--|
| c | Loan to be taken by UPCL as per ADB norms from : 78.17 |
|   | ADB-8% of Project Cost                                 |
| d | Amount to be arranged by UPCL from its own : 195.40    |
|   | resources 20% of Project cost                          |

**Project cost 977.03**

*The matter shall be placed for formal approval of Board shortly in the next meeting and thereafter Certified True Copy of Board's Resolution shall be submitted to Hon'ble UERC."*

17. Thereafter, the Petitioner vide its letter dated 22.09.2023 apprised the Commission that the proposed works under the project is to be taken-up with ADB financing and PPR for the project lying dormant and has been revived upto 30.09.2023 by Department of Economic Affairs, Government of India in its 142<sup>nd</sup> meeting held on 31.08.2023. Further, the Petitioner requested to expedite the investment approval of distribution component of Uttarakhand Climate Resilient System Development Project (UTSDIP) of EAP (Externally Aided Project) funded from ADB (Asian Development Bank), as loan negotiation is likely to be held shortly and project readiness (project award status) status may be inquired by DEA for the loan negotiation.

In response, the Commission vide its letter dated 22.09.2023 with regard to their request for expediting investment approval instructed that the supplementary petition would be examined in detail at the appropriate level and thereafter, on the basis of merit the Petition shall be disposed of by the Commission.

18. On examination of the submission in the Supplementary Petition and revised DPR, the Commission observed certain observations on the same and vide its letter dated 06.10.2023 directed the Petitioner to furnish its compliance latest by 13.10.2023 on the following:-

**"Observations on submission dated 21.09.2023**

1. With regard to response at point no. 2 of submission dated 21.09.2023, Annexure-I UPCL is required to clarify on following points:-
  - (i) Basis of consideration of escalation of 2 years @ 6.8% per year in its estimates.
  - (ii) Basis of consideration of overhead charges and business margin @ 5% in its estimates.
  - (iii) Basis of computation of Interest During Construction (IDC) in its estimates.
  - (iv) No adjustment of received back items has been considered in its estimates.
2. With regard to point no. 8 of submission dated 21.09.2023, UPCL has enclosed SLD for 2x10 MVA 33/11 kV S/s Collectorate campus it is observed that neither the 'N-1' line contingency is at Matkota S/s nor at SIDCUL Sector 3 & proposed S/s at Collectorate campus having total installed capacity of more than 20 MVA.

UPCL is required to clarify in this regard, as it is mandatory as per provision of Regulation 3.6 (4) of UERC (Distribution Code) Regulations, 2018.

3. With regard to point no. 9 of submission dated 21.09.2023, UPCL is required to furnish load details in MVA on 132 kV level at feeding 132/33 kV S/s and also confirm that the augmented transformation capacity of the respective 25 no. 33/11 kV Substations would be catered by the respective feeding 132/33 kV S/s.
4. With regard to point no. 11 of submission dated 21.09.2023, UPCL is required to furnish the details of feeder length in Km. and length of each feeder to be made underground in a separate columns as submitted in Annexure-IV for all the 11 kV & 33 kV feeders. Further, UPCL is required to furnish colored feeder drawings of the proposed underground feeders depicting the existing overhead circuits and portions which are to be made underground for following 11 kV feeders:-

EDD, Central	EDD, North	EDD, South	EDD, Raipur
11 kV PPCL 11 kV Ordinance 11 kV Raipur (Circular)	11 kV Coronation	11 kV proposed backup 1 11 kV backup 2	11 kV Vidhan sabha 11 kV Badripur 11 kV PPCL 11 kV Jogiwalla 11 kV Rajeevnagar 11 kV Ring Road 11 kV CQI 11 kV Usha Colony 11 kV Ekta Vihar 11 kV Uppal Tower 11 kV Sahastradhara 11 kV Ladpur

Besides above, UPCL is required to furnish feeder drawings of proposed 33 kV feeders depicting the existing overhead circuits and portions which are to be made underground.

5. With regard to point no. 14 of submission dated 21.09.2023, it is observed that 3CX300 sqmm XLPE cable single run used for 11 kV Rajendra Nagar feeder (217 amp), 11 kV Sabji Mandi (230 amp) & 11 kV Clement Town (280 amp) would be overloaded in next couple of years of commissioning. Further, 33 kV cables i.e. 3CX400 sqmm XLPE for 33 kV opto D/c (370 amp), 33 kV IT Park 2 D/c (370 amp), would also be overloaded in next couple of years of commissioning. Furthermore, it is observed that 33 kV Selaqui-I UG (450 amp) & 33 kV Pharma City UG (450 amp) on single circuit of 3CX400 sqmm XLPE is insufficient to cater the mentioned load. UPCL is required to clarify in this regard.
6. With regard to point no. 24 of submission dated 21.09.2023, UPCL is required to recheck and confirm the prices as considered in estimates of ADB project and undergrounding work in Haridwar as huge difference in the prices has been observed.
7. UPCL had earlier submitted a DPR of 831.86 Crore and later revised it to Rs. 971.99 Crore. However, the High Power Committee of GoI has approved Rs. 956.78 Crore & additional Rs. 20.25 Crore for Project Implementation Support Consultant (PISC) and Financial Road Map Consultant (FRMC). UPCL is

required to clarify regarding the disallowances of Rs. 15.22 Crore leading to revision of project cost to Rs. 956.78 Crore and furnish reasons for the same.

**Observations on revised Detailed Project Report**

8. UPCL is required to furnish the systematic submission covering the abstract of works proposed for 25 nos. 33/11 Substations for which enhancement of capacity has been proposed.  
Further, it is observed that in certain estimates supervision charges @ 15% has been considered and in others the same has not been considered. UPCL is required to clarify in this regard.
  9. With regard to the estimates of construction of 11 kV feeder/lines for 33/11 kV S/s at Collectorate, Bharauni and Kaniya, it is observed that the estimates are same with practically no difference, it appears that the same has been copy pasted for all. UPCL is required to clarify in this regard.
  10. With regard to the estimates of construction of 2x10 MVA 33/11 kV S/s at Collectorate, it is observed that a cost of 1.4 Crores has been included in the estimates for construction of 2 no. 33 kV bay at 220/132/33 kV S/s SIDCUL Rudrapur. UPCL is required to clarify in this regard inlight of provisions of Regulation 3.4.3 (11) of UERC (The Electricity Supply Code, Release of new Connections and Related Matters) Regulations, 2020.  
UPCL is required to furnish editable soft copy of submission dated 21.09.2023 (Supplementary Petition) and reply on aforesaid observations including the Annexures."
19. The Petitioner vide its letter no. 2613 dated 17.10.2023, furnished its response to the observations pointed out vide Commission's letter dated 06.10.2023 as follows:-

"

**1. UPCL's Reply**

- i **Basis of Price escalation:** Provision for 6.8% for price contingency/Price escalation has been budgeted from the evaluation study on project cost estimate by operation evaluation of Asian Development Bank (annexed as Annexure-I).
- ii **Basis of Overheads Charges:** The estimates for the project have been framed by taking SoR rates as applicable in UPCL which are primarily derived on direct purchase item rate basis and wherever the SoR are not available the same has been taken on the basis of taking quotation from reputed manufacturers. As this is a turnkey work contractor overhead and business margin @5% has been taken.
- iii **Basis of computation of (IDC):** IDC has been calculated as per provision of appendix-1 of section 9 of Contract form of Standard Bidding Document of ADB project as 10% of the project cost is to be paid as mobilization advance to the contractors. Apart from that according to terms of Payments 60% of the purchase material cost (including 100% taxes) is also to be paid to the contractor. For calculation of IDC above facts have been considered.

*It is also to mention that High Power Committee (HPC) during its meeting directed to get the approval for variation in the IDC due to change in interest rate and change in drawl, on actual basis.*

*iv     **Received Back Items:** UPCL has issued the guideline for adjustment of received back material vide OM no. 2428/Dir(O)/UPCL/M-20 dated 07-06-2022 (Annexed as **Annexure-II**).*

- 2.     As we have already submitted that due to space constrains 'N- 1' line contingency was not taken previously during the construction of said S/s. However, for feasibility of the construction of separate 33 kV line for all 03no. 33/11kV sub-station mentioned to comply the provision of N-1 contingency of Hon'ble UERC (Distribution Code)' 2018 is under consideration and proposal shall be prepared accordingly and shall be submitted separately to UERC.*
- 3.     Load details in MVA on 220/132/33kV S/s Feeding to 33/11kV S/s proposed for Capacity Augmentation under ADB project is annexed as **annexure-III**.*
- 4.     Feeder-wise existing load on 33 kV & 11 kV feeder, name of conductor and length of feeder proposed for underground is annexed as annexure-IV.*

*It is also to submit that UPCL has already submitted 50.no. drawing for the feeders whose GPS co-ordinates are available. The GPS coordinates of the feeders as mentioned above are not readily available. However, hand drawing on google map of 03 no. 33kV feeders co-exist on route of the 11 kV feeders is annexed as annexure-V. Further, it is to inform that as per Standard bidding document of work, the detailed survey of existing lines and proposed route is in the scope of contractor. Scope also includes the submission of Survey maps and associated drawings in soft and hard copy both before and after execution of work.*

- 5.     Present load on 11 kV Rejendra Nagar, Sabji Mandi and Clementtown feeders are 217 amp., 230 amp. and 280 amp. respectively however their looping feeders are Doon School, Shimla by-pass and Mall feeders are having load 102 amp., 150 amp, and 160 amp. respectively. In case of overloading of main feeders these looping feeders may be used as a backup feeders. Further, Present load on both 33 kV on OPTO Feeder and IT Park-2 feeder is 370 amp. and both the feeders have been proposed for U/G with Double circuit 3x400 sqmm. cable. Furthermore, new 33 kV Selaqui-I U/G feeder (450 amp) & new 33 kV Pharma City U/G (450 amp) are proposed on double cable. Revise details is annexed as annexure-V.*
- 6.     Prices taken in estimate of ADB project and in the DPR/agreement of undergrounding work in Haridwar city has been compared. Prevailing prices of March 2023 has been taking for revision of cost of DPR for ADB work. However, the DPR for undergrounding work in Haridwar was prepared during 2017-18 and work was awarded in 2019. The comparative of prices taken in the present project and the project executed in Haridwar is as hereunder:*

**Prices as taken in Estimates of ADB Project**

S. No.	Description	Cost of digging	Cost of supply of HDPE pipe	Cost of HDPE pipe installation/Laying	Cost in Rs. per meter)		
					Cost of cable laying, installation/Commissioning in HDPE pipe		
					0.4 kV	11 kV	33 kV
1	Manual cable laying	681.60	676.00	202.90	104.13	126.44	257.64
2	Trench less technology	-	676.00	1583.16	N.A.	126.44	257.64

**Prices as per undergrounding work in Haridwar**

S. No.	Description	DPR/ Agreement	Cost of digging	Cost of supply of HDPE pipe*	Cost of HDPE pipe installation /Laying*	Cost in Rs. per meter)		
						Cost of cable laying, installation/Commissioning in HDPE pipe		
						0.4 kV	11 kV	33 kV
1	Manual cable laying	DPR	-	N.A.	N.A.	1250.00	1250.00	1250.00
		Agreement	-	N.A.	N.A.	507.76	506.32	537.97
2	Trench less technology	DPR	-	Inclusive in erection of cable	Inclusive In erection of cable	2100.00	2100.00	2100.00
		Agreement	-	746.84	506.30	N.A.	75.95	88.61

\*In Haridwar half cut Hume pipe was used in place of HDPE for Manual cable laying and laying of the same was included with cable laying.

7. It is to inform that on the suggestion of ADB DPR/estimates has been revised from Rs. 831.68 Cr. to Rs. 971.99 Cr. and submitted to GoU for approval of High Power Committee (HPC) under chairmanship of Chief Secretary of Uttarakhand. HPC in its meeting held on 01.06.2023 has approved the DPR amounting Rs. 977.03 Cr. The minutes of meeting has already been provided no other documents are available with UPCL.
8. Abstract of cost of 25 nos. 33/11kV Substations works proposed for capacity enhancement is annexed as annexure-VI. It is also to submit that the supervision charges @ 15% has not been considered in abstract of DPR amounting to Rs. 971.99 Cr. as provided earlier.
9. It is to submit that in the DPR the approximated length of line is estimated however, during the execution the actual length of line will be constructed as per site condition.
10. Clause no. 3.4.3 of the said regulation deals with the processing of the application received for new Electric Connection. The sub clause (11) of the clause 3.4.3 is reproduced as under;

*“11. In case, where supply of electricity to premises applied for requires commissioning of a new sub-station/bay, the distribution/transmission Licensee shall ensure completion of the works on the new substation/bay. However, the cost of the works pertaining to new substation/bay shall be borne by the respective Licensee (Distribution or transmission) and complete the work within the additional time specified.”*

*The aforesaid sub-station is proposed for strengthening of the electrical network and does not pertain to releasing the new service connection. Therefore, above regulation may not be applicable in this case.*

*UPCL is required to furnish copy of submission dated 21.09.2023 (Supplementary Petition) and reply on aforesaid observations including the Annexure in editable soft.*

*The soft copy of submission dated 21.09.2023 (Supplementary Petition) has already sent on dt. 22.09.2023 e-mail: secy.uerc@gov.in. However, reply on above observations including the Annexure is being sent through e-mail.”*

### **Commission’s Observations, Views & Directions:-**

20. On examination of the Petition, Supplementary Petition and subsequent submissions made by the Petitioner, the observations, views and decision of the Commission are mentioned hereunder:-

#### **A. Undergrounding Works**

- (1) With regard to the revision of project cost, the Commission has observed that initially UPCL had filed a Petition before the Commission for the works amounting to Rs. 831.86 Cr. for which it had taken approval from its Board of Directors in 106<sup>th</sup> BoD meeting held on 15.11.2022. However, later on the Petitioner submitted its revised DPR on current rate schedule amounting Rs. 971.99 Cr. Further, the revised DPR was sent to GoU for approval of High Power Committee (HPC) under the chairmanship of Chief Secretary. HPC in its meeting held on dt. 01-06-2023 approved the project cost to Rs. 956.78 Cr. alongwith additional Rs. 20.25 Cr. for Project Implementation Support Consultant (PISC) and Financial Road Map Consultant (FRMC). Thereafter, UPCL filed its Supplementary Petition before the Commission on 21.09.2023 and submitted that the total amount for the project implementation is Rs. 977.03 Cr. (Rs. 956.78 Cr.+Rs. 20.25 Cr.) which shall be financed 52% (Grant from GoU), 20% (equity share from GoU), 8% (loan taken by UPCL from ADB) and 20% (amount arranged by UPCL from their own resources).

The Petitioner alongwith aforesaid submission furnished the copy of resolutions passed by Board of Directors in 113<sup>th</sup> BoD meeting held on 13.10.2023 according its approval for the implementation of the aforesaid project cost of Rs. 977.03 Cr.

- (2) With regard to the work of undergrounding of HT & LT line under the Smart City Project, the Petitioner has apprised the Commission that the said works are under progress. In this regard, the Commission is of the view that flawless integration of the works of undergrounding under Smart City Project and works proposed under ADB is important and the Petitioner should ensure the same.
- (3) It is observed that the Petitioner has furnished that during execution of undergrounding work, main challenges faced were RoW & coordination issues in construction of Multi Utility Duct (MUD) and installation of Compact Substation (CSS) & Ring Main Unit (RMU) nearby commercial premises/shop. For co-ordination among different agencies to resolve the issues a coordination team under the CEO/District Magistrate, Dehradun was formed for interdepartmental co-ordination. In this regard, the Commission is of the view that certainly in implementing undergrounding of power cables, multiple agencies are involved, and it calls for effective communication/co-ordination amongst all agencies for flawless execution of the same. The Commission is of the view that in similar lines that of Smart City Project, the Petitioner should execute works by forming a co-ordination team which would establish contact with different agencies for flawless execution of the works.
- (4) With regard to the I<sup>2</sup>R losses, the Commission is of the view that in the undergrounding of power cables, the Petitioner is planning to install a CSS of 990 kVA. Further, the Petitioner plans to replace the existing small capacity transformers falling on the arterial roads by placing CSS of 990 kVA. In this regard, the Commission opines that the placement of CSS should be close to load center in order to restrict the I<sup>2</sup>R losses in LT network.
- (5) With regard to the earthing system requirements for the underground power cable network, the Commission is of the view that the Petitioner should

ensure that the earthing system for the underground power cable network including all CSS, RMU & LT feeder pillars should be safe and sound so that any leakage current and touch & step potential issues are adequately addressed. Moreover, the Commission cautions the Petitioner that the underground electrical network on one side has several benefits, however, the same may pose serious challenges on account of safety and security of man, machine & material if not executed properly. Therefore, the Commission is of the view that all the HT & LT undergrounding works should be executed with utmost care duly following the clearance and safety norms specified by Central Electricity Authority in its Regulations issued from time to time.

- (6) With regard to the adequacy of the proposed 11 kV & 33 kV underground power cable network, the Petitioner has furnished that 5% load growth for next 10 years have been envisaged for computing the size of underground power cables. In this regard, the Commission opines that sufficient margins should be kept in the underground power cable network, as the same is being planned for at least 10 to 15 years and the same also has an inherent limitation on flexibility of augmentation and maintenance. Therefore, the same calls for diligent assessment of load profile and choosing the underground power cable network accordingly. The Commission has observed that several 33 kV cables proposed under the project do not have adequate margins to take care of the future load growth requirements namely 33 kV Guniyal Gaon to Dhakpatti, 33 kV Bhandari bagh to Pathribagh, 33kV Selaqui-I UG, 33kV Selaqui-II UG, 33kV Pharmacity UG & 33kV Sara IND. Further, several 11 kV power cables namely 11 KV Rajender nagar feeder, 11 KV Patel Nagar, 11 KV Sabji Mandi, 11 KV Clement Town, 11 KV Ekta Vihar & 11 KV Ladpur are also inadequately designed to take care the future load growth requirements for next 10 years considering 5% load growth annually.

The Commission has observed that after categorically pointing out the insufficient feeder current carrying capacity for 33kV Selaqui-I UG & 33kV Pharmacity UG feeders the Petitioner in its submission dated 17.10.2023 accepted the same and proposed double run for the same. In this regard, the



Commission opines that proper underground cable sizing calculation needs to be done for the designing of the underground HT & LT power cable network as the same is of paramount importance. Any improper planning, designing & execution at Petitioner's end can lead to a catastrophic situation wherein not only it can be dangerous from safety point of view but also the same can seriously impact the availability of power supply to its consumers post implementation of the same.

- (7) It is observed that the Petitioner has time and again committed that no dual system of underground network and overhead network shall co-exist in the roads/areas which have been covered under Dehradun Smart City Project/Proposed works under the instant Petition. Further, UPCL has submitted that the existing line/infrastructure on the route shall be dismantled after successful completion of the work. In this regard, the Commission cautions the Petitioner to ensure the same as the existence of duplicate system of overhead and underground network post completion of Dehradun Smart City Project/works proposed under the instant Petition would defy the real intent of the investment proposed under the instant Petition.
- (8) With regard to the undergrounding works to be executed in Dehradun city at divisions namely EDD-Central, EDD-North, EDD-South, EDD-Mohanpur & EDD-Raipur, the Commission has observed that the Petitioner has proposed works amounting to Rs. 901.14 Cr. (all inclusive of taxes, duties, escalation, contingency, overhead, IDC etc.) and the Commission is also aware that the aforesaid undergrounding works would replace the existing overhead electrical infrastructure predominantly in the arterial roads of the Dehradun city. The Commission opines that ample electrical infrastructure assets viz. transformers, poles, conductors, insulators, support structures etc. would be dismantled from the field. In this regard, the Commission cautions the Petitioner to ensure meticulous proper accounting of the dismantled assets followed by decapitalization of the same in its books of accounts and further capitalization in the distribution network as and when required at the field level.

- (9) With regard to the submission of feeder-wise drawing of 11 kV & 33 kV feeders, despite Commission's categorical directions, the Petitioner was unable to furnish GPS based feeder maps of 11 kV & 33 kV feeders where undergrounding works have been proposed in Dehradun city. The Petitioner in its submission dated 17.10.2023 has submitted that GPS co-ordinates of 18 nos. 11 kV feeders and all 33 kV feeders are not available with them where the undergrounding of overhead lines is proposed. The Petitioner has submitted that it has attempted to depict 33 kV feeder for 3 nos. hand drawn drawings in which 33 kV & 11 kV feeders were co-existing. Further, the Petitioner has submitted that the detailed survey of existing lines and proposed route is in the scope of contractor. In this regard, the Commission is of the view that the Petitioner should have kept the scope of survey under its scope or should have got it done separately as projects of such mega scale should have been executed based on some thorough ground works of study/survey by the Petitioner and based on such study the Petitioner should have planned & designed the proposed underground power cable infrastructure in the Dehradun city. This would have certainly given the Petitioner an insight into its distribution infrastructure and ways & means to best design, plan, utilize and optimize its distribution infrastructure in the interest of its consumers. However, the Petitioner plans to get the said work done from the contractor. The Commission cautions the Petitioner about the possible pitfalls of over-estimation, under-estimation, improper designing, planning & execution by the contractor. This can seriously impact the Petitioner in long run if the said works are not executed meticulously.

#### **B. Construction of 33 kV Substations**

- (10) With regard to the Petitioner's submission that during ADB Fact Finding Mission, ADB informed that 04 projects, namely construction of 33/11 kV Sub-station at Guniyal Gaon (Dehradun), Suwakholi (Mussoorie), Badave (Pithoragarh) & Pankhu (Pithoragarh) alongwith their associated lines do not full-fill the environment criteria of ADB and advise to drop them from the DPR. In this regard, the Commission is of the view that the initial project report preparation should be thoroughly done to encompass the issues pertaining to environment also so that only the pragmatic proposals are sent

for consideration/approval and the unnecessary wastage of time and effort can be avoided.

- (11) With regard to the proposed 3 nos. new 33/11 kV Substations namely 2x10 MVA 33/11 kV S/s near Collectorate Rudrapur, 2x5 MVA 33/11 kV S/s Bharauni & 2x5 MVA 33/11 kV S/s Kaniya Ramnagar, the Commission has observed that the 11 kV outgoing feeders proposed for all the aforesaid 33/11 kV S/s were roughly estimated and UPCL in its submission dated 17.10.2023 has submitted that in the DPR the approximated length of line is estimated and execution of the actual length of line would be done as per site condition. In this regard, the Commission cautions the Petitioner not to repeat such rough estimates submission before the Commission as even the estimate submitted should not be in complete variance to the actual site conditions. In fact, it is presumed and understood that whatever estimates are being put forward before the Commission for approval have been prepared after a due diligence study as per actual site condition and only variation in estimates due to certain unforeseen factors which can not be envisaged at the time of estimates preparation are to be considered at the later stage. However, the approach adopted by the Petitioner is very vague and can be compared as seeking approval from the Commission on blank cheque. The Commission vehemently cautions the Petitioner not to repeat such act in future proposals else appropriate action may be initiated against the Petitioner.

Further, with regard to 'N-1' line contingency, it is observed that Regulation 3.6 (4) of UERC (Distribution Code) Regulations, 2018 provides that:-

### ***3.6 System Adequacy and Redundancy***

...

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

In this regard, the Commission opines that N-1 contingency provision for line must be created for the proposed 2x10 MVA 33/11 kV S/s near Collectorate Rudrapur as per the provisions of Regulation 3.6 mentioned above for taking care of the contingency conditions of outages/planned maintenance.

- (12) With regard to the estimates of construction of 2x10 MVA 33/11 kV S/s at Collectorate, it was observed that a cost of 1.4 Crores had been included in the estimates for construction of 2 no. 33 kV bay at 220/132/33 kV S/s SIDCUL Rudrapur. In this regard, the Petitioner was required to clarify it in light of provisions of Regulation 3.4.3 (11) of UERC (The Electricity Supply Code, Release of new Connections and Related Matters) Regulations, 2020. The Petitioner has responded that “...the aforesaid sub-station is proposed for strengthening of the electrical network and does not pertain to releasing the new service connection. Therefore, above regulation may not be applicable in this case.”

In this regard, the Commission is of the view that the intent for the aforesaid Regulation is to set clear demarcation of responsibilities amongst the distribution and transmission licensee. In the instant case, the Petitioner envisages to get the work of construction of 2 nos. bays at 220/132/33 kV S/s SIDCUL Rudrapur on deposit works basis with transmission licensee. However, the Petitioner would claim the said expense in its ARR under capital cost and would also be entitled for claiming R&M on the same as the computation of R&M is based on GFA. Since, the constructed bays would be under the jurisdiction/administrative control of PTCUL, therefore, the ownership and O&M of the asset would rest with PTCUL. The Commission is of the view that neither duplicity in accounts of transmission and distribution licensee should exist nor there should be any bone of contention w.r.t. ownership and O&M of an asset.

**Hence, the Commission directs the Petitioner to raise its demand for 02 nos. bay at 220/132/33 kV S/s SIDCUL Rudrapur to the transmission licensee and the transmission licensee would execute the said works on his own and claim expenditures in its ARR.**

#### **C. Enhancement of capacity of 25 nos. existing Substations**

- (13) With regard to the works proposed for enhancement of capacity of 25 nos. existing Substations, the Commission has observed that the Petitioner has shown a very lackadaisical approach while preparing its proposal for enhancement of capacity of 25 nos. existing Substations, the submissions were neither properly arranged and drafted nor the proposals were

accompanied by summary of the expenditures proposed. Despite Commission's categorical observations on the same the Petitioner has time and again made non-serious submissions in this regard. This act of the Petitioner reflects its indifferent approach towards compliance of the Commission's observations on its submissions. The Commission cautions the Petitioner to refrain from attempting such indifferent approach in its future submissions.

Further, on examination of UPCL's submission dated 17.10.2023, it has been observed that the received back material against the aforesaid 'work for enhancement of capacity of 25 nos. existing Substations', is amounting to Rs. 3.31 Cr. for Garhwal region and Rs. 8.20 Cr. for Kumoun region totaling upto Rs. 11.51 Cr. In this regard, the Commission is of the view that the Petitioner should ensure proper accounting of the received back item followed by decapitalization of the same in books of accounts and further capitalization as and when required at the field level.

The Commission in general is of the view that the Petitioner being the sole distribution licensee in the State has a prime responsibility of envisaging the future load growth in its 'Area of Supply' and plan for new Substations, lines and other infrastructure well in advance to provide quality and reliable power supply to its consumers. Accordingly, the Petitioner is directed to conduct regular power system studies/load requirement assessments in its each division followed by discussion with their counterparts in transmission licensee in this regard for identification of any bottleneck in transmission system. In fact, the distribution licensee should give atleast 10 to 15 years load projections to the transmission licensee so that the necessary and cost-effective action at their end can be taken up well in advance w.r.t. system planning, designing, procurement & execution of the works.

21. Therefore, based on the submissions made by the Petitioner and observations and views of the Commission mentioned above, the Commission hereby grants in-principle approval to the Petitioner for the 'proposed works for Uttarakhand Climate Resilient Power Sector Development Project (UCRPSDP) of EAP (Externally Aided Project) funded from ADB (Asian Development Bank)' subject to fulfillment of the conditions mentioned below:

- (1) The Petitioner should go for the competitive bidding for obtaining the most economical prices from the bidders.
- (2) 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 Quality, Optimum utilization of resources, Benefits accrued from the proposed investments etc.
- (3) The Petitioner shall ensure to furnish feeder-wise as-built drawings on the geographical map of Dehradun for all the 33 kV, 11 kV feeders proposed under the undergrounding project (including works under Smart city project) clearly depicting the positions of RMU, CSS & other vital electrical assets alongwith GPS co-ordinates of the same.
- (4) The Petitioner should comply to the following CEA and UERC Regulations and amendments thereof while Construction and Operation & Maintenance of the lines and should ensure the compliance of relevant standards and the Project should be executed with due diligence so that minimal incidents of break downs/fault occurrences/ hindrances are faced during operation and maintenance of the underground electrical network:-
  - (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 Electric Supply) Regulations, 2023.
  - (d) UERC (Distribution Code) Regulations, 2018.
- (5) The Petitioner must submit the detailed sanctioned letter from the Financial Institution to the Commission as soon as they get approval from the Financial Institution.
- (6) All the loan conditions as may be laid down by the funding agency i.e. ADB in their detailed sanction letter should be strictly complied. However, the Petitioner is directed to explore the possibility of swapping the loan with cheaper debt option if any, available in the market etc.

- (7) The Petitioner shall, within one month of the Order, submit letter from the State Government or any such documentary evidence in support of its claim for equity funding agreed by the State Government or any other source in respect of the said works.
- (8) On completion of the project, the Petitioner shall submit the completed cost of each of the works alongwith copy of measurement book & as built drawings and financing of the project.
- (9) The cost of the project and servicing on the same shall be allowed in the Annual Revenue Requirement of the Petitioner after the assets are capitalized and subject to prudence check of the cost incurred.

Ordered accordingly.

**(M.K. Jain)**  
**Member (Technical)**

**(D.P. Gairola)**  
**Member (Law) /Chairman (I/c)**