

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 13 of 2022

In the matter of:

Petition seeking utilisation of 220 kV S/C Dedicated Transmission Line of M/s Greenko Budhil Hydro Electric Project for evacuating power from Generating Stations operating in Ravi Basin, Himachal Pradesh viz. Small Hydro Electric Projects of upto 31 MW and from Bajoli Holi HEP of upto 120 MW, using 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal, 220 kV S/C transmission line (1.8 km) from Lahal connecting to 220 kV side of S/S at Budhil HEP on the same Terms of Use (Alternative-A) as determined by the Commission vide its Order dated 04.12.2020 read with Order dated 30.06.2021.

In the matter of:

1. Himachal Pradesh Power Transmission Corporation Limited
2. Himachal Pradesh State Electricity Board Limited
3. M/s Bajoli Holi Hydro Power Pvt. Ltd. ... Petitioners

AND

In the matter of:

1. Uttarakhand Power Corporation Ltd.
2. M/s Greenko Budhil Hydro Power Pvt. Ltd.
3. State Load Dispatch Centre, Uttarakhand (SLDC) ... Respondents

CORAM

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

Date of Hearing: April 19, 2022

Date of Order: May 09, 2022

This Order relates to the Petition dated 25.03.2022 jointly filed by Himachal Pradesh Power

Transmission Corporation Limited (HPPTCL), Himachal Pradesh State Electricity Board Limited (HPSEBL) and M/s Bajoli Holi Hydropower Pvt. Ltd. (M/s BHHPL/Bajoli Holi HEP) (hereinafter collectively referred to as "Petitioners") under Section 64(5) of the Electricity Act, 2003 (the Act) and in the manner specified in Regulation 10 of UERC (Conduct of Business) Regulations, 2014 seeking approval of the Commission for utilisation of 220 kV S/C dedicated Transmission Line of M/s Greenko Budhil Hydro Electric project (hereinafter referred to as "M/s Greenko" or "Budhil HEP") for evacuation of power from generating stations operating in Ravi Basin, Himachal Pradesh and from BHHPL by connecting 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal, Himachal Pradesh to 220 kV side of S/S at Budhil HEP through a 220 kV S/C Transmission Line from Lahal to Budhil as an interim arrangement till 30.09.2022 or upto commissioning of 400 kV D/C Transmission Line whichever is earlier on the same terms of use as decided by the Commission vide Order dated 04.12.2020 read with Order dated 30.06.2021 and Order dated 17.01.2022.

The Petitioners have made the following prayers:

- (i) Expeditiously admit the accompanying Petition.
- (ii) Pass an interim order allowing Bajoli Holi HEP to evacuate power from 220 kV S/C dedicated Transmission Line of Budhil HEP upto 120 MW and SHPs to continue evacuating upto 31 MW power from 01.04.2022 onwards.
- (iii) Permit utilisation of 220 kV S/C dedicated Transmission Line of Budhil HEP for evacuating power from SHP's of upto 31 MW and from Bajoli Holi HEP upto 120 MW till 30.09.2022 or upto the commissioning of 400 kV DC Transmission line whichever is earlier from 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal, Himachal Pradesh to 220kV side of S/s at Budhil HEP through a 220 kV S/C transmission line (1.8 km) from Lahal to Budhil, on the same Terms of Use (Alternative-A) as approved by the Commission in its order dated 04.12.2020 in Petition No 31 of 2020 read with Order dated 30.06.2021.
- (iv) Allow the Petitioners to approach the Commission in case the evacuation arrangement is required to be continued for a short-term period beyond 30.09.2022 but not later than 31.03.2023 due to some unforeseen circumstances.

- (v) Condone any inadvertent omissions/errors/rounding off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required by the Commission.
- (vi) Pass any other Order as the Commission deem fit and proper keeping in view the facts and circumstances of the case.

1. Background

- 1.1. HPPTCL came into existence on 27.08.2008 as a part of unbundling of erstwhile HPSEB. It is a deemed transmission licensee under first, second and fifth provisions of Section 14 of the Act and is vested with the functions of intra-State transmission of electricity through Intra-State Network in the State of Himachal Pradesh as notified by the GoHP. Further, in terms of Section 39 of the Act, the GoHP declared HPPTCL as the State Transmission Utility (STU). HPPTCL is entrusted with the construction, operation and maintenance of substations and transmission lines of 66 kV and above. HPPTCL as STU is also entrusted with the formulation, up-dation and execution of Transmission Master Plan of the State for strengthening of Transmission network and evacuation of power from upcoming Generating Stations.
- 1.2. HPSEBL is a deemed licensee under the first proviso to Section 14 of the Act, 2003 for distribution and supply of electricity in the State of Himachal Pradesh.
- 1.3. BHHPL is a company incorporated under the companies Act 1956, having its registered office at 302, New Shakti Bhawan, IGI airport, New Delhi-110037. It is currently developing a 180 MW (3x60 MW) hydro power project on the River Ravi in the Chamba. The Project has also been registered with UNFCCC as a CDM Project and has completed the WCD audit.
- 1.4. M/s Greenko executed a PPA on 01.12.2015 with UPCL to supply power generated from its Budhil HEP plant which is situated in Himachal Pradesh and connected to Chamera-III Sub-station of PGCIL through its dedicated 220 kV S/C Zebra line on D/C tower, transmission line.
- 1.5. HPPTCL keeping in view of evacuation requirements of power from Bharmour Valley of Ravi Basin proposed construction of 33/220 kV, 50/63 MVA Pooling station & 220 kV line

from 33/220 kV Lahal substation up to 220 kV yard of Budhil HEP and submitted the DPR of the same for approval from CEA vide its letter No. HPPTCL/Tranch II/2012/1094 dated 26.05.2012. CEA, vide its letter No. 8/20/SP&PA-12/610 dated 05.06.2012 approved the construction of the same. Accordingly, HPPTCL developed the 33/220 kV, 50/63 MVA transformer as a part of above referred Lahal Pooling Station and also developed the 220 kV line from 33/220 kV Lahal Sub-station up to 220 kV yard of Budhil HEP. While the 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal and 220 kV line from Lahal Pooling Station achieved its commissioning, the construction of 400 kV D/C Twin Moose transmission line got delayed.

- 1.6. HPSEBL vide its letter dated 19.06.2020 addressed to HPPTCL had sought evacuation of 26 MW of power generated from SHPs of Himachal Pradesh using the dedicated Transmission Line of M/s Greenko as the commissioning of the Bajoli Holi HEP got delayed and was not expected in the near future. The proposed interim arrangement would have catered not only to the Budhil HEP system in case of (n-1) but the system would also be able to survive the tower outage contingency as two routes viz (i) through 220 kV Budhil-Chamera-III and (ii) through 220 kV Lahal-Budhil line shall be available.
- 1.7. Accordingly, HPPTCL and HPSEBL had jointly filed a Petition before the Commission seeking determination of Terms of Use for utilisation of 220 kV S/C dedicated Transmission Line of M/s Greenko for evacuation of power from Generating Stations operating in Ravi Basin, Himachal Pradesh viz. SHPs of upto 26 MW by connecting 2x315 MVA, 400/220/33 kV GIS Pooling Sub-station at Lahal, Himachal Pradesh to 220 kV side of S/S at Budhil HEP through a 220 kV S/C Transmission Line from Lahal to Budhil as an interim arrangement.
- 1.8. In the matter, the Commission vide its Order dated 04.12.2020 in Petition no. 31 of 2020 specified the terms of use of the dedicated transmission line to be utilised till 30.09.2021 and suggested two alternatives that could be exercised by the concerned parties based on mutual agreement of the concerned parties.
- 1.9. Subsequently, in compliance to the Commission's said Order, a meeting was held on 15.01.2021 among the parties wherein UPCL suggested another methodology different from the alternative suggested by the Commission. The parties approached the Commission for appropriate directions in the matter since the methodology suggested by

UPCL in the meeting was different from the alternative suggested by the Commission vide its Order dated 04.12.2020 for recovery of transmission charges by M/s Greenko from HPPTCL/HPSEBL for using its dedicated transmission line for the purpose of evacuation of power from generating plants situated in Himachal Pradesh.

In the matter, the Commission vide Suo-moto Order dated 30.06.2021 decided that Alternative-A, i.e. *M/s Greenko shall charge from the Petitioners for the usage of its dedicated transmission line based on the Annual Revenue Requirement (ARR)/Annual Transmission charges (ATC) determined by HPERC for HPPTCL vide its Tariff Orders based on actual per MW per day usage basis corresponding to daily declared capacity till the interim arrangement is effective, i.e. upto 30.09.2021*, suggested by the Commission vide its Order dated 04.12.2020 shall be applicable for recovery of transmission charges for using dedicated transmission line of Budhil HEP.

1.10. Subsequently, HPPTCL had submitted a letter dated 29.09.2021 before the Commission requesting to allow time of three weeks to file the Petition before the Commission in accordance with the directions of the Commission. The Commission vide letter dated 05.10.2021 allowed the time extension sought by HPPTCL and directed HPPTCL to file a Petition in accordance with the provisions of UERC (Conduct of Business) Regulations, 2014 before the Commission. Accordingly, a Petition was jointly filed by HPPTCL, HPSEBL and Bajoli Holi HEP seeking approval of the Commission for utilisation of 220 kV dedicated Transmission Line of Budhil HEP for evacuation of power from SHPs situated in Himachal Pradesh upto 26 MW and from BHHPL upto 60 MW on the same Terms of Use (Alternative-A) as determined by the Commission vide Order dated 04.12.2020 and Suo-moto Order dated 30.06.2021.

1.11. In the matter, the Commission vide Order dated 17.01.2022 in Petition no. 38 of 2022 permitted the utilisation of 200 kV S/C dedicated Transmission Line of Budhil HEP for evacuating power from SHPs upto 26 MW and from Bajoli Holi HEP upto 60 MW only till 31.03.2022 on the same terms of use as approved by the Commission vide Order dated 04.12.2021 in Petition no. 31 of 2020 read with Suo-moto Order dated 30.06.2021 in Petition no. 29 of 2021 (Suo-moto).

1.12. However, the construction of 400 kV D/C Twin Moose Transmission Line got delayed due to heavy snowfall and due to unprecedented outbreak of 3rd wave of Covid-19 pandemic.

Accordingly, the present Petition has been filed by the Petitioners seeking permission of the Commission to allow to continue the interim evacuation of upto 31 MW for SHPs and 120 MW of Bajoli Holi HEP till 30.09.2021 or upto completion of the above transmission line whichever is earlier on the same terms of Use as decided by the Commission vide Order dated 04.12.2020 read with Order dated 30.06.2021.

2. Petitioners' submissions

- 2.1. The Petitioners submitted that HPPTCL is developing an evacuation system for transmission of power generated from various proposed/under construction Hydro Power Projects located in the Ravi Basin of Himachal Pradesh. The evacuation system consists of a 19 km 220 kV D/C Transmission Line to Lahal Pooling station, 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal and a 40 km, 400 kV D/C Twin Moose transmission line to Chamera Pooling Station of PGCIL.
- 2.2. HPPTCL submitted that in view of the evacuation requirements of power from Bharmour Valley of Ravi Basin, construction of 33/220 kV, 50/63 MVA Pooling station & 220 kV line from 33/220 kV Lahal Sub-station up to 220 kV yard of Budhil HEP was proposed and it submitted the DPR of the same for approval from CEA vide its Letter no. HPPTCL/TranchII/2012/1094 dated 26.05.2012. CEA, vide its Letter no. 8/20/SP&PA-12/610 dated 05.06.2012 approved the construction of the same. Accordingly, HPPTCL developed the 33/220 kV, 50/63 MVA transformer as a part of above referred Lahal Pooling Station and also developed the 220 kV line from 33/220 kV Lahal Sub-station up to 220 kV yard of Budhil HEP.
- 2.3. The Petitioners submitted that HPSEBL has signed PPAs with various SHPs operating in the Ravi Basin of Himachal Pradesh and intended to utilise the above transmission assets for evacuating the power produced from the SHPs. While the 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal and 220 kV line from Lahal Pooling Station achieved its commissioning, the construction of 400 kV D/C Twin Moose transmission line got delayed.
- 2.4. The Petitioners submitted that some of the SHPs have achieved commissioning, the delay in the construction of above line had led to non-evacuation of hydro power resulting in plant idling. HPPTCL and HPSEBL in order to resolve the issue, had jointly filed a Petition for seeking determination of Term of Use for Utilisation of 220 kV S/c dedicated

Transmission line of Budhil HEP for evacuation of power from Generating Station operating in Ravi Basin, Himachal Pradesh by connecting 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal, Himachal Pradesh to 220 kV side of S/s at Budhil HEP through a 220 kV S/C transmission line from Lahal to Budhil.

- 2.5. The Commission vide Order dated 04.12.2020 in Petition No. 31 of 2020 allowed the evacuation arrangement till 30.09.2021 and also formulated two alternatives for usage of the said dedicated line. Further, the Commission vide its Suo-Motu Order dated 30.06.2021 in Petition No. 29 of 2021 (Suo-Moto) approved Alternative A along with payment of proportionate PoC Injection Charges and GIS Bay Charges by the Beneficiaries of the System as the most suitable alternative. However, the construction of 400 kV D/C Twin Moose transmission line got delayed due to abnormal rainfall and due to unprecedented outbreak of 2nd wave of covid-19 pandemic in 2021 and was expected to be commissioned latest by March 2022.
- 2.6. The Petitioners submitted that in addition to the 26 MW being evacuated, as Bajoli Holi HEP was in advanced stage of construction and was expected to be completed by October 2021 and required evacuation from 15.11.2021 and in order to avoid idling of hydro generation, BHHEP intended to evacuate upto 60 MW of power outside the State of Himachal Pradesh from the said interim arrangement and was willing to pay the transmission and other charges on terms laid down by this Commission vide its Order dated 04.12.2020 read with Order dated 30.06.2021 at that time.
- 2.7. The Petitioners submitted that they had jointly filed a Petition on 19.10.2021 seeking permission of the Commission for utilization of interim evacuation system for evacuating power from small hydro projects of up to 26 MW and from Bajoli Holi HEP of up to 60 MW. The Commission vide its Order dated 17.01.2022 in Petition No. 38 of 2021 permitted utilisation of 220 kV S/C dedicated Transmission Line of Budhil HEP upto 86 MW only till 31.03.2022 on the same terms of use as approved by the Commission vide Order dated 04.12.2021 in Petition no. 31 of 2020 read with Suo-moto Order dated 30.06.2021 in Petition no. 29 of 2021. Further, the Commission in its order directed the Petitioner to make necessary modification in SPS so that power of SHEPs and/or Bajoli Holi HEP can be backed down to avoid overloading. The Petitioners submitted that they have complied with

the above direction of modification of SPS system and have been evacuating power under the above arrangement.

2.8. The Petitioners submitted that even with best efforts to commission the line by March 31, 2022, the Petitioner could not complete the above line due to following uncontrollable factors.

- (i) Adverse condition at site: - Due to excess snowfall the approach road to the site was closed during November 2021 to January 2022 which restricted the movement of heavy equipments, manpower and other logistics. Hence, installation of transmission towers was not possible amidst heavy snowfall and high wind speeds.
- (ii) COVID-19: - Restrictions due to third wave of COVID-19 completely disrupted the project work and various processes like transportation of material at site and supply of labours/Contractors at site were severely impacted.

In view of the above, the construction of 400 kV D/C Twin Moose transmission line could not be completed by 31.03.2022 and is now expected to be commissioned latest by 30.09.2022.

2.9. The Petitioners submitted that due to the above delay, HPSEBL is desirous to continue the interim evacuation of upto 31 MW till 30.09.2022 or upto completion of the above transmission line whichever is earlier. The Petitioner also clarified that the SHPs are the very same SHPs for which approval was granted in Petition no. 38 of 2021. With regard to the increased capacity for evacuation it is submitted that another SHP namely Chirchind SHP of 5 MW is expected to come up and thus would also require evacuation.

2.10. In addition to the above, the Petitioners submitted that Bajoli Holi HEP is fully commissioned and can generate upto 180 MW Round the Clock (RTC). However, considering that evacuation is to be done through Budhil Chamera 220 kV transmission line with Zebra Conductor, evacuation of only 120 MW is being sought which allows considerable margin for safety.

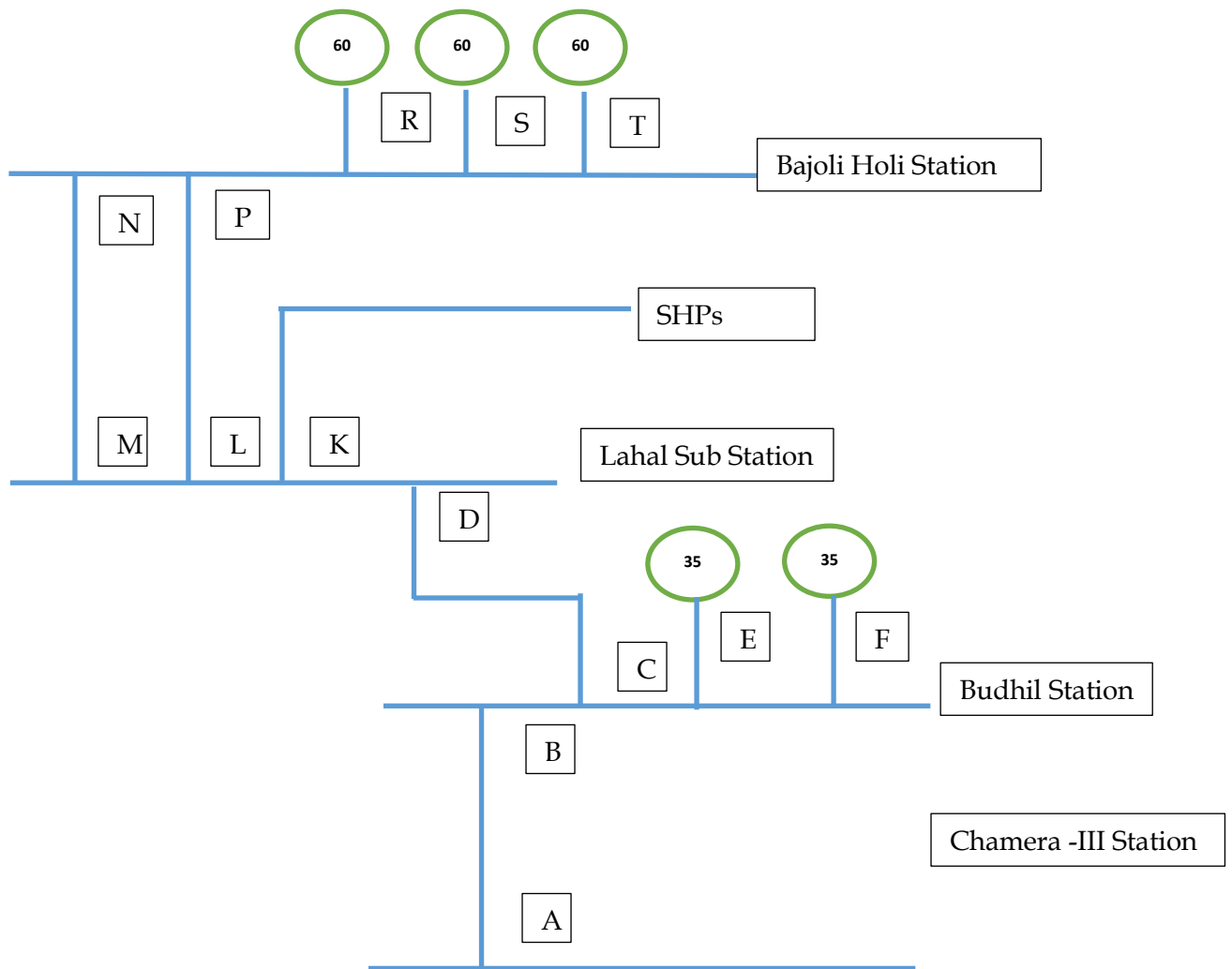
2.11. The Petitioners submitted that as per minutes of meeting of 173rd Operation Co-ordination Sub-Committee of NRPC dated 04.08.2020, Transmission capacity of Budhil Chamera line

is 360 MW given the low ambient temperature. Further, with the revised requirement, the maximum loading of the transmission line shall be only 228 MW (Budhil- 77 MW with overload, SHPs- 31 MW and BHHEP- 120 MW).

2.12. The Petitioners submitted that the proposed evacuation of power was discussed in the meeting held with CEA dated 17.06.2021 and after detailed deliberations, following was agreed:

- (i) Evacuation of power from BHHPL may be allowed only with SPS through Lahal- Budhil- Chamera III- Chamera Pooling Station 220 kV line as an interim arrangement till the commissioning of Lahal- Chamera 400 kV D/c line. Also, first priority of power evacuation through the existing lines is of Budhil HEP and Chamera III HEP. It is worth mentioning that the Budhil- Chamera III 220 kV S/C line is a dedicated line of Greenko for Budhil HEP.
- (ii) Injection of power from Bajoli Holi HEP and small hydro stations connected at Lahal should be such that it does not overload the 220 kV S/c line from Budhil to Chamera- III HEP considering the injection of power from Budhil HEP. In case of outage of one ICT at Chamera Pooling Station, the generation projects connected at Lahal need to be backed down.
- (iii) HPPTCL needs to file petition in UERC for the quantum of power planned to be evacuated through this path.

2.13. The Petitioners submitted a diagrammatic representation of the evacuation of the power from BHHPL (120 MWs) and SHPs (31 MW) through Lahal- Budhil- Chamera III- Chamera PS 220 kV line as an interim arrangement:



- Injection of (Budhil+HP) at ISTS injection = A
- Main Set Budhil HEP Gross Injection (H) = E+F
- Standby Set Budhil HEP Gross Injection (Hs) = B-C
- Budhil HEP Net Injection (I) = $H \times (1 - 0.0019) = 0.9981 \times H$
- HP injection = Bajoli Holi injection + Small Hydro Injection
- HP Injection = A-I

With regard to above arrangement, the Petitioners submitted that as required above, SPS is already commissioned and operational and is being presently utilised in evacuating 86 MW of power through the above system without any difficulty being faced by anyone. With regard to first right of usage, the Petitioners re-iterated that the first right shall lie with Budhil HEP in line with the Commission's Order dated 04.12.2020.

2.14. The Petitioners also submitted that after including the desired evacuation capacity (upto 151 MW) along with Budhil HEP capacity at 10% overload (77 MW) sums to 228 MW which

is way below the transmission line capacity as mentioned above. The Petitioner also submitted that till the commissioning of 400 kV Lahal D/C Transmission Line and in order to avoid idling of hydro generation, BHHEP intends to evacuate upto 120 MW of power outside the State of Himachal Pradesh from the said interim arrangement and is willing to pay the transmission and other charges on terms as laid down by the Commission vide Order dated 04.12.2020 read with Order dated 30.06.2021.

2.15. HPPTCL submitted that the project location falls under very sensitive zone and time and again is exposed to various vagaries of nature such as cloud burst, heavy rainfall, heavy snowfall, landslides which are entirely beyond the control of HPPTCL which makes it entirely difficult to execute as per plan. The Petitioners submitted that though they are very confident that line shall be commissioned latest by 30.09.2022, however, as the above uncontrollable factors cannot be entirely ruled out, the Petitioners requested the Commission to allow the Petitioner to approach the Commission for further extension through a letter at least 15 days prior to 30.09.2022.

2.16. The Petitioners requested the Commission to allow the utilisation of the dedicated Transmission Line of Budhil HEP till 30.09.2022 for evacuation of power from Bajoli Holi HEP up to 120 MW and 31 MW from SHPs on the same terms of usage as specified by the Commission vide Order dated 04.12.2020 read with Suo-moto Order dated 30.06.2021.

3. Respondents' submissions

3.1. The Commission forwarded the copy of the Petition to M/s Greenko, SLDC and UPCL for comments latest by 08.04.2022 and fixed a hearing on 12.04.2022. Subsequently, the hearing in the matter was rescheduled to 19.04.2022. SLDC vide its letter dated 06.04.2022 submitted that it does not have any comments to offer on the subject matter. M/s Greenko and UPCL submitted its comments vide letter dated 09.04.2022 and 18.04.2022 respectively which have been dealt in subsequent paragraphs.

3.2. In the matter, M/s Greenko requested the Commission to consider the issues of 'treatment of transmission losses', 'Deviation Settlement Mechanism (DSM)', "backing down of the HPSEB's plant in the event of contingency' and 'impact of any revision in schedule by the said SHPs on the power drawl entitlement of UPCL'.

3.3. M/s Greenko also submitted that the following interim directions issued by the Commission in its Order dated 04.12.2020, Suo moto Order dated 30.6.2021 and Order dated 17.01.2022 qua power evacuation arrangement, are required to be complied with by the Petitioners:

- (i) Budhil HEP has the first right with respect to the usage of the dedicated line between Budhil HEP - Chamera-III. In case of any contingency in the said line, all the connected entities other than Budhil HEP shall be curtailed on pro-rata basis of their scheduled energy.
- (ii) Historical data of Budhil HEP suggests that existing line losses are 0.19% and as per meeting held on 03.01.2020 in CEA any increase in loss beyond 0.19% shall be borne by HPSEBL.
- (iii) NRLDC has agreed for separate scheduling and DSM accounting in line with the agreed loss levels by the entities.
- (iv) Any revision in schedule, if any, by SHP of Himachal Pradesh and BHEPP will neither change the schedule of Budhil HEP nor will impact drawl entitlement of UPCL.
- (v) HPPTCL/HPSEBL vide letter dated 09.07.2020 have undertaken to make good any loss incurred by Budhil HEP or/and UPCL arising out of operation of interim arrangement for evacuation of power injected at HPPTCL's Lahal Pooling Substation and further transmitted by Budhil to Chamera-III transmission line.
- (vi) Further, any additional expenditure incurred or to be incurred by Budhil HEP or/and UPCL due to interim arrangement for evacuation of power from SHPs and BHEPP of Himachal Pradesh which have executed PPA with HPSEBL, shall be reimbursed by the HPPTCL/ HPSEBL to Budhil HEP or/and UPCL, as the case may be.

3.4. M/s Greenko also submitted that the above directions need to be suitably modified to cover the usage of dedicated 220 KV transmission line for the incremental power supply through the subject transmission line being sought by the Petitioners.

3.5. M/s Greenko submitted that it has faced serious operational issues w.r.t. trippings which

have been ignored by the stakeholders without reflecting upon the accountability and responsibility to ensure a seamless evacuation arrangement in terms of the Commission's directions issued vide Order dated 04.12.2020. Further, the Commission vide its Order dated 17.01.2022 directed that based on the mutual agreement necessary up-gradation of sub-station elements including protection system may be carried out at Budhil HEP end or HPPTCL/Bajoli Holi HEP end for smooth evacuation of power at the cost of HPPTCL/Bajoli Holi HEP. M/s Greenko requested that similar directions be issued to the Petitioners with respect to the power evacuation from dedicated 220 kV transmission line beyond 31.03.2022 also.

- 3.6. M/s Greeko submitted that in the recent past it had also faced serious operational issues due to timely unavailability of consent of the Petitioners to enable it to undertake routine or emergent maintenance of the subject transmission line so as to ensure an efficient and reliable transmission arrangement. In addition, the Petitioners also did not share the details of the project which shall be utilizing the subject transmission line. It is extremely important for the Petitioners to share the relay data with regard to tripping of any of the generating units/ load centers connected to Budhil HEP's 220 kV Dedicated Transmission Line in a timely and reliable manner, so as to ensure system restoration.
- 3.7. M/s Greenko requested the Commission to issue further appropriate directions fixing appropriate liability on the concerned entities and stakeholders who have been allowed to use 220 kV Dedicated Transmission Line on an interim evacuation arrangement basis, so as to avoid any disturbance in the operation requirements leading unseen outages and consequential generation loss. M/s Greenko also highlighted that due to the oncoming peak season for generation, the risk of generation loss to Budhil plant shall be higher in case of any disturbance to its operations. M/s Greenko further requested the Commission to issue directions terminating the aforesaid interim arrangement in the event of any extreme eventuality so as to avoid any further damages/ losses to the grid and Budhil HEP's evacuation requirement in terms of the definite Power Purchase Agreement (PPA) entered into with UPCL.
- 3.8. M/s Greenko requested the Commission to issue further appropriate directions in continuation of orders dated 4.12.2020, 30.6.2021 and 17.01.2022 of the Commission and

further fix responsibility, appropriate liability on all concerned entities using / proposed to use the Budhil HEP's 220 kV Dedicated Transmission Line and indemnify M/s Greenko so as to avoid any disturbance on the normal operations and unseen outages of Budhil HEP and consequential generation losses/ DSM losses to it and allow discontinuance of interim power evacuation in extreme cases to prevent any further damage to grid safety to Budhil HEP and UPCL.

- 3.9. M/s Greenko vide email dated 30.04.2022 submitted that there is fewer possibility that any time with the load of 250 MW this line conductor may cross its conductor thermal limit of 85°C with ambient temperature of 36°C. M/s Greenko also submitted that Budhil HEP is not running all the time at full load and sufficient margin is available with the line minus their generation. Hence, the margin available can be considered for allowing injection from power plants of the Petitioners also.
- 3.10. UPCL submitted that Bajoli Holi HEP seems to be evacuating interstate power which was not the case in the earlier matter and it should file a separate Petition as per law which will be dealt and decided on its own merits. UPCL submitted that the Petitioners have not provided any information regarding the status of actual evacuation arrangement or the reasons due to which it has not completed.
- 3.11. UPCL submitted that in earlier Order dated 30.06.2021 only 26 MW capacity was considered for interim arrangement and thereafter vide Order dated 17.01.2022 additional 60 MW capacity was permitted for Bajoli Holi HEP and in the present Petition, the Petitioners are further proposing additional 60 MW RTC from Bajoli Holi HEP and 5 MW for SHP. Further, M/s Greenko while evacuating 86 MW power faced problem and has shown its inability to make any possible correction due to the act of HPPTCL and HPSEBL, additional 65 MW would infact collapse the whole system especially keeping in mind that the installed capacity of Bajoli Holi HEP is 180 MW.
- 3.12. UPCL submitted that since UPCL and M/s Greenko have raised objection on the request of the Petitioners, therefore, the Petition is not maintainable, and the Commission does not have jurisdiction to consider the Petition of the plant situated outside the State of Uttarakhand. UPCL also submitted that M/s Greenko is facing difficulties and no payment till date of whatever nature has been received so far, therefore, before taking up the matter,

HPPTCL and HPSEBL be directed to make complete payment together with LPS w.r.t. past utilisation of the dedicated transmission line.

- 3.13. UPCL submitted that M/s Greenko has telephonically informed that the said 220 kV S/C line can only transmit 190 to 200 MW under normal continuous flow conditions and considering 31 MW of SHPs and 120 MW of Bajoli Holi HEP alongwith 77 MW of Budhil HEP would add to 228 MW which can lead to heating of the conductor and making the evacuation at risk.
- 3.14. UPCL requested the Commission not to extend terms and conditions for usage of dedicated Transmission Line of Budhil HEP by HPPTCL and HPSEBL as the Commission has already given sufficient time to HPPTCL & HPSEBL and they cannot continue to take such benefits for their inefficiency. The evacuation of power of this quantum cannot be done by an interim arrangement, the arrangement was given considering the urgency of the situation, however, the very fact that even after so many months they have failed to commission the concerned evacuation system clearly shows lapses on the Petitioners' part and the consequences of the same shall be borne by them as per the agreed terms and conditions between the Petitioners. UPCL also submitted that the Petitioners are trying to evade the commercial implication arising out of their failure at the cost of UPCL.

4. Petitioners' rejoinder

- 4.1. With regard to M/s Greenko's comment on treatment of transmission losses, DSM losses, backing down of HPSEBL plants in the event of contingency and impact of any revision in schedule by SHP of Himachal Pradesh on the entitlement of UPCL on power drawl, the Petitioners submitted that these issues have already been considered and addressed by the Commission vide Order dated 04.12.2020 and Suo-moto Order dated 30.06.2021 and Order dated 17.01.2022. The Petitioners submitted that first priority of power evacuation through the existing lines is of Budhil HEP and in case of any contingency, Himachal Pradesh power shall be backed down first and an SPS system is already operational. Further, necessary modifications have already been done at Bajoli Holi HEP to include Bajoli Holi Power.
- 4.2. With regard to M/s Greenko's comment on unwanted tripping faced at Budhil HEP end on account of power flow from 220 kV Lahal-Budhil Line and timely unavailability of consent to able to undertake routine maintenance, the Petitioners denied the allegations

and submitted that M/s Greenko made a general statement without placing on record any documents in support of such objections.

- 4.3. With regard to the comment of M/s Greenko on termination of interim evacuation in the event of extreme eventuality to avoid damage to the grid, the Petitioners submitted that the present evacuation arrangement is monitored by both HPSLDC and NRLDC and in any such eventuality appropriate regulations are already in place on which Load Dispatch Centre shall act. The Petitioners submitted that subject transmission line has enough capacity to transmit the requested capacity. Further, the Petitioners submitted CERC's Order dated 22.04.2013 and CEA's document relating to Progress of National Reliability Council for Electricity (NRCE) dated 20.02.2015. The said document lays down the ampere carrying capacity of Zebra conductors and operational guidelines which specifies the load ability of zebra conductors. At a maximum conductor temperature of 85°C, the maximum current carrying capacity of zebra conductor at an ambient temperature of 36°C is 799 Amp which translates to power evacuation capacity of 293 MW. The Petitioners requested the Commission to allow the Petitioners to utilise the margin available with the subject transmission line as an interim arrangement.

5. Commission's Analysis and view

- 5.1. The present Petition has been filed jointly by HPPTCL, HPSEBL and BHHPL under Section 64(5) of the Act, in the manner specified in Regulation 10 of UERC (Conduct of Business) Regulations, 2014 seeking approval of the Commission for utilisation of 220 kV S/C dedicated Transmission Line of Budhil HEP for evacuation of power from SHPs operating in Ravi Basin, Himachal Pradesh and from BHHPL by connecting 2x315 MVA, 400/220/33 kV GIS Pooling Station at Lahal, Himachal Pradesh to 220 kV side of S/S at Budhil HEP through a 220 kV S/C Transmission Line from Lahal to Budhil as an interim arrangement till 30.09.2022 or upto commissioning of 400 kV D/C Transmission Line whichever is earlier on the same terms of use as decided by the Commission vide Order dated 04.12.2020 read with Order dated 30.06.2021.
- 5.2. The Commission heard the matter on 19.04.2022 and vide Order dated 19.04.2022, the Commission also ordered that till further Orders in the matters, the terms and conditions specified by the Commission vide Order dated 04.12.2020 and Suo-moto Order dated

30.06.2021 shall continue to remain in force.

- 5.3. The Commission heard all the parties and carefully considered their written submissions. The Commission has critically analysed the issues raised by the Petitioners, UPCL and M/s Greenko. After examining the relevant material available on records, issues raised by the Petitioners and the Respondents have been dealt in the subsequent paragraphs of this Order.
- 5.4. The Commission has considered the submissions of HPPTCL, HPSEBL, M/s Greenko and UPCL. The Petitioners requested the Commission to allow usage of dedicated Transmission Line of M/s Greenko for evacuation of power upto 31 MW and 120 MW of Bajoli Holi HEP on the same terms and condition as determined by the Commission vide its Order dated 04.12.2020 and Suo-moto Order dated 30.06.2021 for evacuation of power upto 26 MW from the SHPs situated in Himachal Pradesh and Order dated 17.01.2022 for evacuation of power upto 26 MW from SHPs and 60 MW from Bajoli Holi HEP.

In the matter, M/s Greenko had once again expressed its concern over the issues of treatment of transmission line losses, DSM losses, backing down of HPSEBL's plants in case of contingency and impact of any revision in schedule by SHPs of Himachal Pradesh on the power drawl entitlement of UPCL and tripping of dedicated Transmission Line on account of power supply from Lahal end. Apart from this M/s Greenko raised an issue regarding delay in timely unavailability of consent of the Petitioners to enable it to undertake routine maintenance.

Further, UPCL raised its concern over the issue of jurisdiction of the Commission, filing of separate Petition by Bajoli Holi HEP, status of actual evacuation arrangement, reasons for additional evacuation of 60 MW RTC from Bajoli Holi HEP.

- 5.5. With regard the comments on jurisdiction of the Commission, the Commission has already exercised its jurisdiction on the similar matters and had dealt with this issue in its earlier orders dated 04.12.2020 and 17.01.2022 and the issue has since then attained finality. Further, the issues of transmission losses, Deviation Settlement Mechanism (DSM) losses, backing down of HPSEBL's plants in case of contingency and impact of any revision in schedule by SHPs of Himachal Pradesh on the power drawl entitlement of UPCL, it is pertinent to mention that the Commission has already dealt with the issues vide its Order

dated 04.12.2020 in Petition no. 31 of 2020 and Order dated 17.01.2022 in Petition no. 38 of 2021. Accordingly, the Commission does not find it prudent to reiterate the issues which have already been dealt in aforesaid orders.

- 5.6. With regard to physical progress, the Petitioners submitted that 400 kV Laha-Chamera Transmission Line has 112 numbers of towers and out of these, 87 numbers of towers have been erected. There are two numbers of erections and five number of stringing teams working at various locations along with sixteen numbers of gangs for foundation work. It is anticipated that if all the site conditions remain favourable and with the best efforts from HPPTCL along with the firms, it is expected that the line shall be completed by the end of September, 2022.
- 5.7. Further, Ms/ Greenko submitted that the Petitioners also did not share the details of the project which shall be utilizing the subject transmission line. In the matter, the Commission directs the Petitioners to submit the requisite details to M/s Greenko within one week from the issue of this Order.
- 5.8. UPCL has submitted that there is difficulty in exercising control over the utilities operating outside the State. In the matter, it is worth mentioning that UPCL is drawing electricity from Budhil HEP since December 2015 and has never raised an issue regarding complications faced by it except determination of NAPAF and applicability of incentives which has already been dealt by the Commission vide Order dated 18.12.2017 in Petition no. 12 of 2017. Further, UPCL has not mentioned how come it is facing difficulties in exercising its rights or loss of power from Budhil HEP due to evacuation of power of SHPs of Himachal Pradesh. Accordingly, the Commission does not find UPCL's comment tenable. Moreover, adequate control is being exercised on the SHP's and BHEPP connected to the Budhil system by HPSLDC and NRLDC.
- 5.9. With regard to UPCL's comment on non-receipt of any amount from HPPTCL and HBSEBL against the usage of dedicated transmission line, the Commission vide Order dated 19.04.2022 directed M/s Greenko to submit justification for not raising invoices to the Petitioners for utilising the subject transmission line. In the matter, M/s Greenko vide letter dated 19.04.2022 submitted that the invoices for the period July 2020 to December, 2021 have been raised to HPSEBL and the payment for the same has been successfully remitted

by HPSEBL. The benefits of these receipts shall be passed to UPCL and shown in the true-up Petitions of M/s Greenko for respective years. In this regard, M/s Greenko is directed to raise invoices on HPSEBL within a fortnight from the end of the month and HPSEBL is required to make payments within 2 weeks from the receipts of the bills.

5.10. With regard to M/s Greenko submissions on delay on the part of the Petitioners to give their consent to enable M/s Greenko to undertake routine maintenance of dedicated Transmission line, the Commission has gone through the submission of the Petitioners as well as M/s Greenko. The Commission observed that the Petitioner has not shared any specific instance of such delay. However, in case of planned maintenance M/s. Greenko is advised to inform the Petitioners atleast one week in advance of any activity towards maintenance of the line in writing and the Petitioners are directed to give their consent within 3 days of the receipt of such communication failing which it shall be construed as their deemed consent.

5.11. In the present Petition, the Petitioners has requested the Commission to allow additional capacity of 65 MW (60 MW from Bajoli Holi HEP and 5 MW from SHP). After considering this additional capacity, the total load of the subject transmission line will be 228 MW (Budhil -77 MW including overload, Bajoli Hole HEP – 120 MW and SHPs – 31 MW).

With regard to loading capacity, the Petitioners in the Petition has submitted that as per minutes of meeting of 173rd Operation Co-ordination Sub-Committee of NRPC dated 04.08.2020, PGCIL during the meeting submitted that the line capacity is 360 MW. The Commission has gone through the minutes of meeting dated 04.08.2020 and observed that load capacity of 360 MW is 220 kV Chamera Pooling S/s – Chamera- III Transmission line and not the load capacity of Budhil- Chamera-III Transmission Line. The Commission observed that as per minutes of meeting dated 17.07.2021 to discuss issues related with transmission projects in Himachal Pradesh, M/s Greenko Budhil had submitted that Budhil-Chamera-III line's loading capacity is only 180 MW.

It is pertinent to mention that the load limit for any transmission line shall be its thermal loading limit and the same is determined by design parameters based on ambient temperature, maximum permissible conductor temperature, wind speed etc. CEA publishes its guidelines from time to time for safe usages of lines and for the purpose of

stability of grid and publishes data on optimum ampacity (ranging from 65⁰C to 85⁰C for Zebra conductors) to be considered for safe operation on various Ambient Temperature (ranging from 40⁰C to 50⁰C) for different level thermal capacities.

M/s Greenko vide email dated 30.04.2022 submitted that the ambient temperature in the terrain is running below 36 ⁰C which is far below the lower range of temperature, i.e. 40⁰C and there is fewer possibilities that any time with the load of 250 MW, the line conductor may cross its conductor thermal limit of 85⁰C with the observed ambient temperature of 36⁰C. Further, the power factor in the area is running close to 0.99 and hence, load ability in MVA would be equal to MW itself. M/s Greenko also submitted that the Budhil HEP is not running all the time at full load and margin is available with the line minus its generation. Hence, the margin available can be considered for allowing HP injection.

Based on the above discussion and as per CEA manual on transmission planning criteria, the load capacity of the subject line works out to about 290 MW considering Power Factor of 0.99, Ambient temperature of 40⁰C and ampacity at maximum conductor temperature of 85⁰C, i.e. 769 Amperes .

5.12. Based on the above discussions, the Commission permits utilisation of 200 kV S/C dedicated Transmission Line of Budhil HEP for evacuating power from SHPs upto 31 MW and from Bajoli Holi HEP upto 120 MW only till 30.09.2022 as capacity of the Budhil line is limited on the same terms of use as approved by the Commission vide Order dated 04.12.2020 in Petition no. 31 of 2020 read with Suo-moto Order dated 30.06.2021 in Petition no. 29 of 2021 (Suo-moto) and Order dated 17.01.2022 in Petition no. 38 of 2021.

5.13. Further, the Commission directs that based on the mutual agreement necessary up-gradation of sub-station elements including protection system may be carried out at Budhil HEP end or HPPTCL/Bajoli Holi HEP end for smooth evacuation of power at the cost of HPPTCL/Bajoli Holi HEP. The Petitioners are directed to make necessary modification in SPS so that power of SHPs and/or Bajoli Holi HEP can be backed down to avoid overloading of dedicated Transmission line of Budhil HEP. Furthermore, all the additional expenditures incurred or to be incurred by M/s Greenko pertaining to interim arrangement for evacuation of incremental power of upto 120 MW of Bajoli Holi HEP and incremental

power of 5 MW of SHP shall be borne by the Petitioners.

6. Ordered accordingly.

(M.K. Jain)
Member (Technical)

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