Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 16 of 2023

In the Matter of:

Petition seeking approval of capital investment for protection works in upstream and downstream side at Bin Super Passage of Chilla Power Channel.

And

In the Matter of:

Managing Director,
UJVN Limited,
"UJJWAL", Maharani Bagh, GMS Road,
Dehradun.

...Petitioner

Coram

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

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

Date of Order: April 25, 2023

ORDER

This Order relates to the Petition filed by UJVN Ltd. (hereinafter referred to as "the Petitioner") seeking approval of capital investment for protection works in upstream and downstream side at Bin Super Passage of Chilla Power Channel under Section 61 and Section 86 of the Electricity Act, 2003 read with the Regulation 22(4) of Uttarakhand Electricity Regulatory Commission (Terms and Conditions for Determination of Multi Year Tariff) Regulations, 2021 and guidelines issued by the Commission .

Background

2. The Petitioner vide its letter No. M-141/UJVNL/02/D(O)/B-8 dated 02.02.2023 submitted a Petition for 'Seeking approval of capital investment for protection works in upstream and downstream side at Bin Super Passage of Chilla Power Channel'.

3. The Petitioner under the facts of the case has submitted that:-

"…

3.4 *Chilla Hydro Electric Power Project 36MW x 4 is one of the major HEP of Uttarakhand state, which was commissioned in 1981. It is "first one in the chain of Hydro Electric Project (Constructed /Proposed) in Ganga Valley". The project was started to construct around in 1973-74 and got completed in 1980-81. Under this HEP a barrage and Head regulator on river Ganga at Virbhadra, Pashulok, 5 Km downstream of Rishikesh is constructed.*

3.5 *Virbhadra Barrage, the barrage is named after a holy and ancient shrine Virbhadra of Lord Shiva, diverts a maximum 680 cumecs of water in 14.220 Km long power channel out of this discharge, 115 cumecs passes through silt ejector tunnel and 565 cumecs is used for power generation at Chilla HEP where it is again dropped in river Ganga about 5 Km U/s of Haridwar.*

3.6 *At chainage 5.95 of power channel, super passage is provided on Bin River. At this place power channel flows through siphon and Bin River flows over the power channel.*

3.7 *Earlier the Protection work at Bin Super Passage was provided in the year 2014-15. At present most of the protection work eroded, damaged badly and in some places, it was washed away completely.*

3.8 *An incessant rain fall took place on 19th and 20th August 2022 for more than 30 hours in multiple locations of Yamkeshwar Block of Pauri District, Uttarakhand. Besides this, cloudbursts in the same region during the period further amplified the situation and resulted into a deadly flash flood in Bin River and other associated ephemeral rivers in the downstream. This heavy discharge passed through Bin Super passage at Chainage 5.45 km of Chilla Power Channel which completely washed the earlier damaged protection work.*

3.9 *Higher officers of UJVN Ltd visited the affected site on 27.08.2022 for assessing the damage to the assets due to heavy rain fall and cloud burst.*

3.10 *A meeting was convened by the higher management of UJVN Ltd at Ujjwal on 03.09.2022 regarding damaged caused by heavy flood on 19th and 20th August*

2022 at different locations near Chilla HEP wherein, taking technical inputs from field specific experts was decided for formulating the protection works.

3.11 *A committee was constituted with the approval from the competent authority for technical appraisal and decision on technical issues during design for the protection work of Chilla HEP with the following experts-*

(i) Shri D.K. Agarwal Former Eng.-in-Chief, UPID as Chairperson

(ii) Shri B.G. Agarwal, Former General Manager, THDC-Member

(iii) Shri R. Chalisgaonkar, Former Eng.-in-Chief, UPID- Member

3.12 *The Committee visited affected sites on different occasions during which, project officers briefed the committee about the problems being faced at different work sites.*

3.13 *As the Bin super passage protection works needs to be carried out before coming Monsoon, hence after various site visits, submission of survey work, project drawings, Data and technical discussions Committee submitted their report on 04.01.2023 regarding "Protection works in Upstream and Downstream Side at Bin Super Passage of Chilla Power Channel". The Report submitted by the Committee is being presented as part of the DPR.*

3.14 *As per Regulation 22 (4) of UERC Tariff Regulations, 2021, a generating company is required to get prior approval for the additional capitalization works exceeding ₹ 5 Crore. The Regulation 22 (4) of UERC Tariff Regulations, 2021 states that:-*

"Any addition/modification to the existing assets exceeding Rs. 2.50 Crore in case of distribution licensees and Rs. 5 Crore in case of generating companies/transmission licensees shall be taken up only after prior approval of the Commission. The investment approval applications covered under this sub-regulation are excluded from the application of proviso to Sub-regulation (2) of Regulation 10 of UERC (Conduct of Business) Regulations, 2014 in so far as the requirement of submission of documentary evidence with respect to the approval of BoD is concerned."

3.15 *Therefore, a DPR amounting to ₹ 17.85 Crore including taxes has been prepared in-house and is approved by the Competent Authority for protection works in*

upstream and downstream side at Bin Super Passage of Chilla Power Channel. The works proposed in the DPR will be carried out during the financial year 2022-23 and FY 2023-24.

3.16 *The estimated cost for carrying out the capital investment for protection works in upstream and downstream side at Bin Super Passage of Chilla Power Channel is summarized as under –*

S. No	***Description***	***Rates (In Rs.)***	***Remark***
1.	*Protection Work in Downstream of Bin Super Passage.*	*9,94,74,971.00*	
2.	*Protection Work in Left Bank at Just Upstream of Bin Super Passage.*	*5,56,43,978.00*	
3.	*Protection Work in Left Bank near Vindhyavasini Site at Bin River.*	*2,33,62,578.00*	
	Total with taxes	*17,84,81,527.00*	*Rs 17.85 Crore*
	(Rs. Seventeen Crore Eighty-Four Lakh Eighty One Thousand Five Hundred and Twenty Seven Only)		

"

4. The Petitioner in its DPR has annexed the photographs of the damaged portions of downstream and upstream of Bin Super Passage along with the relevant cross-sectional drawings, which explicitly depict the dilapidated condition of the same.

5. The Petitioner under the section 'Necessity of Work' has mentioned that due to the heavy rainfall and cloud bursting, heavy flood came down in Bin river and other associated ephemeral reverse in the region. This heavy discharge passed through Bin Super Passage at chainage 5.45 km of Chilla Power Channel. This heavy flood completely washed earlier protection works executed in year 2014-15. Further, the Petitioner submitted the brief detail of the damaged protection works and need for its reconstruction as follows:-

"**A. *Bin Super Passage Protection Work:-***

At chainage 5.95 of power channel, super passage is provided. At this place power channel flows through siphon and bin river flows over the power channel. Due to the continuous erosion by Bin River in Monsoon, the protection work provided earlier for the safety of Bin super passage was damaged badly. But in the flood of

19th & 20th august , the protection work provided washed away completely. The heavy discharge dismantled the concrete blocks. In the right side portion, the base portion of the blocks provided in just downstream of super passage is washed away completely and now these blocks are in overhanging position up to 3.5 meter along the flow and more than 70 meter across the flow. The river flow scoured the protection work provided earlier up to the depth of more than 2.00 meter. The blocks provided in the further downstream have been damaged along with the toe wall and these damaged blocks are scattered in the river bed. On the left side about 25 meter across the flow although the blocks provided in steps up to 30 meter have not been dislodged but they are damaged extensively. These blocks also scoured in every step from 1.5 to 2 meter. These all works needs to be taken up completely and on urgent basis otherwise such situation may even endanger the safety of canal siphon structure.

B. River Training Work at Bin Super Passage:-

On the left bank (Just Upstream side) of Bin Super passage earlier the protection were provided up to a total length of 500 m in the form of gabions and wire crates. At present the protection works provided earlier were washed away completely. In the absence of this protection the river changes its course and the water intruded on the left bank portion due to which water accumulated in the nearby field and formed a pond near the left bank of power channel. Also the flow damaged the 70 meter part of the approach road in which 20 meter portion of the road washed out completely. The accumulation of large quantity of water may exert additional pore water pressure on the Power channel panels. Further increase in water flow during the Monsoon may endanger the safety of power channel. Also the protection of the road is very important as it is the only way along the power channel to approach the power house. Thus it is very necessary to provide the protection work both on left bank of Bin river with proper height and along the road for the protection of road and power channel.

C. River Training Work in Upstream of Bin River:-

At 2 km upstream of the river, river training work was carried out up to a length of 500 meter to confine the flow in its middle course in the year 2015 in the form of gabions and wire crates. River flow at this reach often diverts towards the left bank due to low lying area and accumulates in the field near left bank of power channel. On 19th and 20th August 2022 flood, river water washed away the protection work of left side provided earlier thus the river changes its course and flows to the nearby villages. From this side also water accumulated in the field near left bank of power channel and forms the pond. This accumulated water creates the danger for the safety of power channel and nearby villages. In this reach protection works should be provided with proper height so that safety of Power Channel and nearby villages can be ensured."

6. The Petitioner has enclosed report of Technical Committee in its DPR in which the Technical Committee has given its following observations/ recommendations: -

*"**A. Scheme of Protection Works Downstream of Super Passage***

…

As seen at site, protection works have been constructed in past from time to time. These protection works have been in the form of laying concrete blocks, stone filled wire crates of varying sizes, cross walls forming panels for placing wire crates, toe walls etc. Large scale protection works of this kind were implemented in year 2015. Same have been affective till year 2021 but suffered appreciable damage in major flood occurring in year 2019. These protection works have been totally damaged in floods of year 2022. The wire crates, concrete blocks were dislodged from their position and are lying scattered in the downstream area.

….

Design Scheme

Design scheme has been devised based on existing site conditions. In view of the steep gradient of river bed downstream of the super-passage. It is prudent to join the top floor of the super-passage with the river bed in steps of appropriate height. Design scheme provides for laying the concrete blocks in steps such that the floor of the super passage is connected to the river bed level of 328.53 m in a total length of 35.0 m. Length of the proposed blocks abutting the existing blocks at left abutment and extending up to the right bank of the river has been selected so as to match with the length of existing blocks on left bank. Concrete blocks shall be constructed in concrete of grade M-15 except that the top 1 meter height of the blocks shall be in concrete grade M25. Maximum size of the aggregates shall be 40 mm. Before laying proposed concrete blocks, the gaps below all overhangs or other cavities shall be thoroughly packed with pumped concrete of grade M15. New concrete shall be placed only after the job of backpacking the spaces below the existing blocks is thoroughly inspected and okayed by an officer not below the rank of Assistant Engineer.

A toe wall, 4.5 m deep is provided at the end of concrete floor. The toe wall is provided with distribution reinforcement in the form of horizontal bars of 12 mm diameter placed

at 300 mm c/c and vertical bars of 12 mm diameter placed at 250 mm c/c. Toe wall shall extend into the high ground on either bank in a length of about 5 m. The pit for the toe wall shall be excavated such that its side slopes nearly match with the minimum excavation face shall be packed with backfill concrete of grade M10.

…

B. Protection at Left Bank upstream of Super passage

Water in Bin River, during the floods in year 2022. Inundated a large area of forest land on the left bank of Bin river. The water stood in the form of a large pond for sufficiently long time after flooding. Evidently the ground at left bank of the river, just, upstream of the super passage is lower than the flood level that hit the river in year 2022. It is evident that the left bank needs to be raised so as to contain the flood water within the banks of the river, for which the ground at left bank needs to be raised.

Topographical survey in this reach could not be carried out in sufficient distance near and beyond the left bank, reportedly due to certain limitations. Coutour Map of this area as furnished by UJVNL is shown in drawing no. Bin/LB Protection/01. This information is totally inadequate to ascertain the required length of left bank needing protection or the height by which the ground at left bank needs to be raised. Project personnel by virtue of their observation of river flow find that the left bank needs to be raised in a distance of about 600 meter and in a height of about 3.0 meter. Technical Committee inspected the site by walking to a distance of about 400 meter and concurs with the observation of project personnel. The ground on left bank in this reach may be raised to a height of 3.0 meter above the present ground level at left bank. The raising of the bank may be achieved by constructing a retaining wall of 3.0 meter height with the help of mechanically woven gabions of appropriate size. The general size of the stones filled in the gabions should be about 300 mm with packing of voids by stones of suitable size. Plan and X-section of the gabion wall is shown in drawing no. Bin/LB Protection/01. A launching apron in the form of two rows of gabions of size 2m X 1m X 1m may be provided to take care of the scour at the retaining wall.

As per requirement of the forest department, certain gaps need to be provided in between the gabion wall for the ease of movement of the wild animals. For this purpose two gaps of about 100 meter length each are proposed to be left. These gaps shall be blocked against

overtopping by constructing earthen embankments of 3.0 m height in RBM. The crest width of the embankment may be 2.0 m. The faces of the embankment shall be sloping at 3:1. Upstream face of the embankment shall be provided with 600 mm thick stone pitching within panels by constructing stone masonry walls of section 300mm X 800 mm at about 5 m c/c or at a distance as considered appropriate by site engineer. The section of the earthen embankment is shown in drawing No. Bin/LB Protection/02. Some protection by stone filled gabions is also required along the road to power house in a length of about 60-70 meter which may be placed as per site conditions.

C. Protection at Left Bank nearly 2.5 km upstream of Super Passage

It is observed that the Bin River outflanks the left bank during high floods resulting in inundation of forest land at left bank of the river. Left bank needs to be raised in this reach in an appropriate length. Some boulder crate walls of short length were provided in past at this location but the same have been damaged by the flood water gushing out by the side of these walls. As a long term protection measure it is proposed to raise he left bank in a height of 3.0 m by placing gabions as per scheme shown in drawing No-Bin/LB Protection/02. It is difficult to ascertain the exact length in which the left bank is required to be raised. As informed by site personnel and checked by a reconnaissance survey. It is proposed to raise the left bank in a length of about 500 meter. Project personnel may recheck this requirement during construction as per site conditions."

7. The Petitioner under the Cost Benefit Analysis section has mentioned that:-

"…the execution of the proposed work will:-

- ✓ *Ensure the safety of power channel, canal siphon and help to avoid its further deterioration/damages. Thus, limiting the damages vis-à-vis protection cost.*
- ✓ *Help in arranging the expert working agency with the desired quantity of manpower, material etc well within planned time and in a proper (open tender process) manner. Thus avoiding any additional generation loss.*

…

- ✓ *Help to maintain the efficacy of power channel.*
- ✓ *Mitigate the risk of force closure / sudden failure of power channel.*

- ✓ *Avoid unexpected generation loss as a consequence of force closure / sudden failure of power channel.*

During the life extension, no other capital expenditure is likely to be incurred and normal O&M activities shall be carried out to maintain Power Channel and its components. From the above mentioned points, it is evident that the proposed works have huge benefits over the cost in long term scenario."

8. Further, the Petitioner under the Recommendation section has mentioned that: -

"…The protection works in the downstream side of Bin Super passage is very important for the safety of canal siphon while the upstream works are for the safety of power channel. The earlier protection works at bin super passage were carried out in the year 2015. To meet out the electricity demand of the state, the power channel is in continuous service without any major repair works since the last Seven years. Unlike the other electrical / mechanical equipments and machines, the power channel also requires a scheduled refurbishment after every certain interval for smooth functioning & maintaining its service life.

Earlier also the Dam Safety Review Panel (DSRP) team visited the site in the year 2019-20 and shows concern over the damage of Bin Super passage. In his inspection report, "The DSRP recommends that protection work be provided. These works properly designed and reconstructed after proper investigation to guard against the unwanted deep scouring. The design must take into account the expected high flood in the Bin river and the silt factor of the sedimentation deposited in the bed of Bin.

Accordingly all the Protection works were formulated as per the designs and directions of Technical Committee. At Bin Super passage in the downstream side Design scheme provides for laying the concrete blocks in steps such that the top floor of the super passage is connected to the river bed level of 328.53m in a total length of 35.0m. Length of the proposed blocks abutting the existing blocks at left abutment and extending upto the right bank of the river has been selected so as to match with the length of existing blocks on left bank. Concrete blocks shall be constructed in concrete of grade M-15 except that the top 1 meter height of the blocks shall be in concrete grade M25. Maximum size of the aggregates shall be 40mm. Before laying proposed concrete blocks, the gaps below all overhangs or other cavities shall be thoroughly packed with pumped concrete of grade M15.Also during

the execution of the work, provision has been made for third party consultancy services, for proper designing, quality and timely completion of the work.

Thus to avoid any damage to Power channel, canal Siphon and nearby project affected villages, the above damages/protection work needs to be reconstructed/restored before the Monsoon of 2023-24. The works are very critical for the safety of Bin Super Passage, power channel along with the smooth operation of Chilla HEP.

The proposed works are not of annual occurring nature thus, can be considered under Capital Expenditure of Chilla HEP as per the Honorable UERC guidelines.

*Keeping in view the exigency, importance and above cited narration, it is kindly requested to accord the Administrative Approval for the work "**Protection works in upstream and downstream side at Bin Super passage of Chilla Power Channel"** Amounting to Rs. 17, 84, 81, 527.00 (Rs. Seventeen Crore Eighty Four Lacs Eighty One Thousand Five Hundred Twenty Seven Only) against Capital Expenditure of Chilla HEP for the FY 2022-23 & 2023-24."*

9. Furthermore, the Petitioner has enclosed bar charts for the proposed works (A) Protection Work in downstream of Bin Super Passage (B) Protection Work in left bank at just upstream of Bin Super Passage (C) Protection Work in left bank near Vindhyavasini site at Bin River indicating the schedule of works to be started in the month of March, 2023 & completion in the first week of July, 2023.

10. On examination of the Petition & DPR and site visit of officers of UERC on 13.04.2023, certain deficiencies/infirmities were identified and accordingly, the Commission vide its letter No. 61 dated 17.04.2023 directed the Petitioner to submit/furnish its compliance on the following at the earliest: -

"

1. *UJVN Ltd. is required to submit the details of major protection/civil works carried out at Bin Super Passage and upstream/downstream of Bin River during last 15 years in the following format:*

Sl. No.	*Details of the executed work*	*Location where the work has been executed*	*Duration of work*		*Expenditure incurred in Rs.*	*Present condition of the executed work*
			Start date	*Completion date*		
1						
2						

2. *UJVN Ltd. has submitted that most of the protection works at downstream, Left bank of upstream of Bin Super Passage and at Left bank near Vindhyavasini site of Bin River are eroded and damaged badly during incessant rainfall took place in August, 2022. In this regard, UJVN Ltd. is required to submit its learning and confirm how the proposed works are different from the works executed in past and the same would be capable of withstanding such instances in future, if any.*

3. *UJVN Ltd. is required to submit whether any effort has been made by it for funding the proposed works through Centrally funded scheme/soft loan other than DRIP scheme.*

4. *Since the major beneficiaries of protection works in the Left bank of Bin River near Vindhyavasini site (2 Km. on upstream of Bin Super Passage) proposed in the Petition are nearby villages alongwith the population residing in the vicinity of Haridwar-Chilla-Rishikesh road and UJVN Ltd. has proposed to execute the works through its own resources. In this regard, UJVN Ltd. is required to submit whether it has approached the Government of Uttarakhand or its agencies responsible for carrying out/funding of such flood protection works in the State.*

5. *UJVN Ltd. is required to furnish the details of the clearances to be obtained from the concerned Govt. authorities viz. Department of Forests etc., if any."*

11. In compliance to the above observations of the Commission, UJVN Ltd. vide its letter No. 97/UJVNL/01/MD Office/GM(CM)/T-4 dated 18.04.2023 submitted its reply as mentioned below: -

"

1. *Earlier the operation and maintenance work of Barrage and power channel of Chilla HEP was carried out by Irrigation Department which was handed over to UJVN Limited by Irrigation department in the year 2010. After that the major protection work on Bin Super passage was carried out in the year 2015 in Downstream, just upstream of Bin Super Passage and at Vindhyavasini site and detail of the work is enclosed as Annexure -1.*

2. *Earlier Earlier the protection work provided have been in the form of laying concrete blocks. Stone filled of varying sizes, cross walls forming panels for placing wire crates. Present protection works of Bin Super passage has been prepared on*

the recommendation of technical committee formed for the protection work of Chilla HEP. The committee comprises following members:

1. *Shri D.K. Agarwal Former En-in-Chief, UPID as Chairperson*
2. *Shri B.G.Agarwal, Former General manager, THDC-Member*
3. *Shri R. Chalisgaonkar, Former En-in-Chief, UPID- Member*

Committee visited the site on different occasions and the Project officers briefed the committee about the problems being faced at different work sites. After various site visits, submission of survey work, project drawings, Data and technical discussions committee submitted their report on 04.01.2023 regarding ***"Protection works in upstream and downstream side at Bin Super passage of Chilla Power Channel"****. On the basis of the report given by Technical committee, the protection works has been formulated, prepared and incorporated in the DPR. As per the suggestion of Technical Committee, in the downstream side concrete blocks will be provided in steps (7 Steps) up to a distance of 35 meter with I meter fall. The top one meter of concrete blocks will be of M-25 Rich concrete with the stones embedded on top. This will diminish the erosive action of water. At the end of the concrete blocks RCC toe wall will be provided for stability of Concrete blocks. The provision of M-25 rich concrete and RCC toe wall was not provisioned in the earlier protection work carried out in 2015. In the upstream side the gabion wall upto a height of 3 meter and 600 and 500 meter in length will be provided. In these works provision of Mechanically woven gabions (Hexagonal) has been made. In between the gabion wall passage in the form of earthen embankment has been made for animal movement. In the earlier upstream side protection work the wire crates has been used with insufficient height. Also Mechanically woven gabions are much durable and strong in comparison to wire crates. All these protection works will withstand for a long time at Bin Super passage.*

3. *The protection works at Bin super passage were formulated and designed by the technical committee and the committee submitted its report after detail survey, necessary field test and thorough discussion with project officials on 04.01.2023 after which the proposals of protection work were prepared. As protection work of Bin Super Passage has to be carried out before start of Monsoon Period hence in*

the view of time constraint to carry out the work, it was decided that expenditure shall be made through internal resources under Add Cap.

4. *From the Vindhyavasini site water changes its course during Monsoon season and the flood water accumulates at the bottom of Kaudia Village in the vicinity of left side of the power channel and forms the pond. This water logging can exert additional pore water pressure on the Power channel panels and also to the toe wall of Kaudia village. The villagers residing in the Kaudia village are the project affected people at the time of construction of Chilla HEP. Further increase in water flow during the Monsoon may endanger the safety of power channel, village and even the road and the same was discussed in detail during site visit of Hon'ble UERC officers dated 13.04.2023. Thus it is very necessary to provide the protection work with proper height in left bank at Vindhyavasini site for the protection of power channel, Village and road. As main concern of these works is the protection of power channel of Chilla HEP, hence no other agency has been approached for carrying out these works.*

5. *Regular approval has been obtained from forest department to carry out the civil works of Chilla HEP in Raja ji National park and copy of same is enclosed for kind consideration."*

Commission's Observations, Views & Directions: -

12. Based on the examination and analysis of the Petition & subsequent submissions and observations during the site visit by officers of the Commission, proposed works can be divided in two parts namely (A) Protection works in the **Downstream** side of Bin Super Passage (B) Protection works in the **Upstream** side of Bin Super Passage, which are detailed hereunder:

(A) Protection works in the Downstream side of Bin Super Passage –

With regard to the protection works in the downstream side of Bin Super Passage, it has been observed that several cement concrete blocks are dislodged and scattered on the river-bed besides creating a cavity zone at the fall area adjacent to the Bin Super Passage structure. Moreover, some blocks have been found in the overhanging position along the river flow.

Though at present, the structure of Bin Super Passage appeared to be intact & safe, however, the existing cavities on the downstream portion of the Bin Super Passage are posing big risk to the safety of the Super Passage as the depth of the existing cavities cannot be precisely measured/ascertained. Further, it can clearly be visualised that with heavy discharge of water in the coming monsoon the cavities may further increase and cause a substantial threat to the Siphons at the Bin Super Passage.

(B) Protection works in the Upstream side of Bin Super Passage

a. **Protection works in left bank at just upstream of Bin Super Passage**

With regard to the protection works in left bank at just upstream of Bin Super Passage, it has been observed that earlier executed works of gabions/wire crates are found in damaged condition and certain portion of the approach road of Project in the close vicinity of the Bin Super Passage have also been found to be damaged. Further, it has been observed that the Project approach road area just on the left bank of Bin Super Passage lies in the lower level in comparison to the upper left bank of Bin Super Passage, which may experience sharp inflow of water from upper level during floods. The Petitioner in its submission has furnished that accumulation of large quantity of water on left bank of Bin River may exert additional pore water pressure on the Panels of Power Channel of Chilla HEP which could be detrimental for the Power Channel.

b. **Protection works in left bank near Vindhyavasini site at Bin River-**

With regard to the protection works in left bank near Vindhyavasini site of Bin River, the Petitioner in its submission has submitted that the river flow near the site located at 2 km upstream of the river diverts towards the left bank due to low lying area and water accumulates in a large open area near left bank of Power Channel.

This accumulated water creates danger for the safety of the Power Channel and nearby villages.

The Commission is of the view that the issues discussed at Sl. No. (B)(a) & (B)(b) above are inter-related. Further, it is observed that the genesis of the problem discussed at Sl. No. (B)(a) above pertaining to the protection works in left bank at just upstream of Bin Super Passage is due to partial change of river flow near Vindhyavasini site and flow of water from the upper lands on the left bank of the Bin Super Passage, which accumulates in the lower lying areas on the left bank of Bin Super Passage adjacent to the Project approach road. In this regard, the Commission is of the view that ideally the flow of accumulated water (due to partial change of river flow as well as water flow from upper lands in vicinity) should be channelized back to Bin River rather not to get it confined in the nearby area of the left bank.

13. With regard to the project execution period, the Petitioner has envisaged to execute works prior to monsoon season. The Commission opines that since the Petitioner proposes to execute the works mentioned in the instant Petition prior to the current monsoon season, therefore, the Petitioner should judicially mobilize its resources in order to meet its deadlines i.e. before the current monsoon season.

14. With regard to the quality and durability of the proposed works, the Commission opines that the Petitioner should execute the proposed works duly considering the observations/suggestions/recommendations of the Technical Committee.

15. Since the Power Channel is an essential link in hydro-power generation and in order to maintain continuity of power generation, it calls for regular monitoring/maintenance and upkeeping of its water conducting parts viz. siphons, side panels, linings etc.

16. The Commission has observed that from the criticality perspective the works proposed at downstream of Bin Super Passage are more critical and need urgent attention. Therefore, the Commission is of the view that the works proposed in the downstream of Bin Super Passage be executed on priority. With regard to the

funding of the project, the Petitioner has submitted that same shall be sourced through its internal resources. However, the works proposed on the upstream of the Bin Super Passage i.e. 'Protection work in left bank at just Upstream of Bin Super Passage' and 'Protection works in left bank near Vindhyavasini site at Bin River' has lesser degree of criticality in comparison to the works proposed on downstream of Bin Super Passage. Moreover, in response to the specific query of the Commission whether the Petitioner approached Government of Uttarakhand or its agencies responsible for carrying out/funding of such flood protection works in the State, it is evident from the Petitioner's submission dated 18.04.2023 that no efforts were made at its end for sourcing the funding of the said works through grant. Therefore, the works proposed on the upstream of the Bin Super Passage be executed after exploring all the possibilities of funding through Grant available under various programs/schemes of the GoI/GoU.

17. Based on the above discussions and considering the safety of the Bin Super Passage and Power Channel of Chilla HEP, the Commission grants in-principle approval for the proposed works subject to the following:

(1) The Petitioner should go for the competitive bidding for obtaining the most economical prices from the bidders.

(2) The Petitioner should execute the proposed works duly considering the observations/suggestions/recommendations of Technical Committee at Para 6 above and ensure that the works should be executed with quality and durability.

(3) 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.

(4) The Petitioner must submit the detailed sanctioned letter from the Financial Institution, if any, to the Commission as soon as they get approval for the same. All the loan conditions as may be laid down by the funding agency, if any, in their detailed sanction letter should be strictly complied with.

However, the Petitioner is directed to explore the possibility of swapping the loan with cheaper debt option, if any, available in the market etc.

(5) The Petitioner shall make all its endeavor for executing the works proposed in upstream of Bin Super Passage through Grant as discussed at Para 16 above.

(6) 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, if any, agreed by the State Government or any other source in respect of the said works.

(7) The Petitioner shall ensure to maintain photographic/videographic evidence at each stage of the proposed works and submit the same to the Commission alongwith Completion Report of the Project, comprising the completed cost of each of the works with as-built drawings alongwith expenditure incurred and financing of the Project.

(8) The cost of the Project and servicing on the same shall be allowed in the Annual Fixed Cost 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)