

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 30 of 2021

In the Matter of:

Petition for in-principle approval of capital investment under DRIP-II for strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and **Virbhadra Barrage** of UJVN Ltd. under Section 61 and 86 of the Electricity Act, 2003 read with the relevant regulations and guidelines of the Commission.

And

In the Matter of:

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

...Petitioner

Coram

Shri D.P. Gairola Member (Law)

Shri M.K.Jain Member (Technical)

Date of Order: December 29, 2021

ORDER

This Order relates to the Petition filed by UJVN Ltd. (hereinafter referred to as "UJVN Ltd" or "the Petitioner") under Section 61 and 86 of the Electricity Act, 2003 read with Regulation 23 'Renovation and Modernization' of UERC (Terms and Conditions for Determination of Multi Year Tariff) Regulations, 2018 (hereinafter referred to as MYT Regulations, 2018) and provisions of UERC (Conduct of Business) Regulations, 2014 for seeking in-principle approval of capital investment under Dam Rehabilitation

& Improvement Program (DRIP-II) for strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and Virbhadra Barrage of UJVN Ltd.

However, on the request and urgency shown by the Petitioner the works pertaining to Maneri Dam and Joshiyara Barrage covered under DRIP-II Scheme were analyzed on priority followed by issuance of part Order dated 12.10.2021 excluding the works proposed for: - i) 'Construction/provision of additional back regulator TRC gates at Dharasu Power House site', ii) 'Expansion/modification in cavern of Valve House Chamber of MB-II project at Dharasu'.

Thereafter, the Petition of Dakpathar Barrage was analyzed on priority as requested by UJVN Ltd. and part Order w.r.t. Dakpathar Barrage for DRIP-II scheme was issued vide Commission's Order dated 29.11.2021.

Subsequently, the Petitions pertaining to Ichari Dam and Asan Barrage were analyzed and the Commission vide its part Order dated 14.12.2021 gave in-principle approval for the works w.r.t. Ichari Dam and Asan Barrage.

Accordingly, this Order is part Order of the 'Petition for seeking in-principle approval of capital investment under Dam Rehabilitation & Improvement Program (DRIP-II) for strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and Virbhadra Barrage of UJVN Ltd.' delving with the works proposed under DRIP-II Scheme for the **Virbhadra Barrage**.

Background

2. UJVN Ltd. vide its letter No. 28/UJVNL/03/D(P)/ dated 25.06.2021 had filed an Application under Section 61 and 86 of the Electricity Act, 2003 read with Regulation 23 of MYT Regulations, 2018 and provisions of UERC (Conduct of Business) Regulations, 2014 seeking approval in the matter of Petition for in-principle approval of capital investment under DRIP-II for strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and Virbhadra Barrage.

3. The Petitioner in its Petition has furnished that:-
- (1) The Central Water Commission (CWC) with assistance of World Bank had initiated a programme called “Dam Rehabilitation and Improvement Project (DRIP)” for the strengthening and up-gradation to ensure safety of existing Dam/Barrages. Dam Rehabilitation and Improvement Project (DRIP) was started in 2011 but UJVN Limited was included in July 2015 with five Dams/ Barrages namely Ichari Dam Maneri Dam, Asan Barrage, Dakpathar Barrage and Virbhadra Barrage under DRIP-I amounting to ₹ 235 Cr.
 - (2) UJVN Ltd. has also been allowed for carrying out the works proposed under DRIP-II Scheme. In the proposal of works under DRIP-II, the remaining works of all the 5 Dams/ Barrages proposed under DRIP-I and all works of Joshiyara Barrage have been included.
 - (3) The Petitioner had earlier filed its proposals of ₹ 432 Crore covered under DRIP-II for approval of the Commission vide its letter no. M-130/UJVNL/02/D(O)/B-8 dated 27.01.2021 during the tariff proceedings for FY 2021-22. The Commission had found the works covered under DRIP-II of Renovation & Modernization nature and informed the Petitioner to file a Petition before the Commission under the provisions of Regulation 23 of UERC (Terms and Conditions for Determination of Multi Year Tariff) Regulations, 2018. Further, the Commission at para 5.9.2 of its Tariff Order dated 26.04.2021 directed the Petitioner to approach the Commission with a separate detailed proposal for approval of the additional capitalization on account of the works to be executed under DRIP-II and DRIP-III Schemes.
 - (4) The Detailed Project Report for ‘strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and Virbhadra Barrage’ has been prepared by the Petitioner in-house and approved by the Board of Directors of the Petitioner during the BOD meeting held on 24.06.2021.
 - (5) The details of estimated expenditure in DPRs of all 6 Dams/ Barrages covered under DRIP-II is tabulated as under:

Sl. No.	Name of Dam/Barrage	Cost in DPR (₹ Cr)		
		Part A (approved by World Bank)	Part B (proposed, if additional budget available)	Total (A+B)
1.	Ichari Dam	35.69	14.72	50.41
2.	Dakpathar Barrage	39.24	24.21	63.45
3.	Asan Barrage	28.62	0.00	28.62
4.	Virbhadra Barrage	45.26	41.46	86.72
5.	Maneri Dam	72.29	15.09	87.38
6.	Joshiyara Barrage	53.31	62.21	115.52
	Total	274.40	157.69	432.09

4. With regard to Financing Plan, the Petitioner has submitted that as per DRIP funding plan informed by GoI, 90% of the loan component i.e. 72% of total cost of ₹432 Crore is to be transferred to GoU as grant from GoI. UJVN Ltd. has made formal communication with GoU vide letter no. 415/UJVNL/01/MD/DRIP dated 29.01.2021 for transfer of 72% grant from GoI directly to the UJVN Ltd. The decision on the same is awaited from GoU.

However, as per modified condition by GoU for DRIP-II amounting to ₹ 432 Crore, 20% equity shall have to be borne by UJVN Ltd. So, the revised funding plan for DRIP-II works has been revised and is as given below:

(₹ in Crore)

Cost for DRIP-II (₹ in Crore)	Counterpart funding (Equity 20 % of ₹ 432 Crore) to be borne by UJVN Ltd.	Loan component @ 80% of ₹ 432 Crore (as interest free loan)
432	86.40	345.60

5. With regard to Phasing of investment, the Petitioner has submitted that the total tenure of the DRIP-II/DRIP-III is 10 years & main fund requirements will be in initial 4-5 years, therefore, the Petitioner have to invest about ₹ 13-14 Crore yearly in four consecutive financial years. However, for remaining works, action will be

taken in subsequent years after allocation of additional fund by CPMU/World Bank.

6. Accordingly, the Petitioner has requested the Commission to approve the total capital investment of ₹ 432.09 Crore under DRIP-II for strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and Virbhadrha Barrage of the Petitioner.
7. UJVN Ltd. has submitted that the proposed works might not give any direct generation benefits but are likely to increase life of the project with enhancement in the safety level of the Dam/Barrage operation. However, the benefit to cost analysis has been worked out on the basis of assumptions as given in the DPRs.
8. The instant Order is a part Order pertaining to **Virbhadrha Barrage**. Hence, the cost break-up of the works proposed under DRIP-II for **Virbhadrha Barrage** of UJVN Ltd. as provided in Petition are only detailed below:-

(1) **Virbhadrha Barrage**

PART-A: - Detail of works under DRIP-II for **Virbhadrha Barrage** works (included in initial ₹274 Crore) is summarized below:

<u>S. No.</u>	<i>Description of Works</i>	<i>Amount (in Lakhs)</i>
<u>i) Civil Works:</u>		
1	<i>Works Related to Chain Link Fencing along with Right Afflux Bund road of Virbhadrha Barrage at Rishikesh.</i>	166.49
2	<i>Protection & Refurbishment work from spillway Glacis to end-sill of gate No. 05 to 15 of Pashulok Barrage, Rishikesh.</i>	907.37
3	<i>Renovation work of barrage Railing and other Related civil works.</i>	107.55
4	<i>Construction of Coffor Dam/Ring bandha at Virbhadrha Barrage, Pashulok, Rishikesh.</i>	160.00
5	<i>Construction of New Control Room Building at Virbhadrha Barrage, Rishikesh.</i>	184.25
6	<i>Construction of Training Centre/Transit Camp Building at Rishikesh.</i>	449.74
7	<i>Construction of Guest House Building Near Police Chowki at Virbhadrha Barrage-Rishikesh.</i>	182.01
8	<i>Construction of Residential Building at Hydrel Colony at Virbhadrha Barrage, Rishikesh</i>	366.82
9	<i>Procurement of 04 No. Vehicles</i>	49.90
10	<i>Procurement of Furniture for office/Training Center at Rishikesh.</i>	40.00

11	Consultancy works related to Supervision of Design for Structures and Supervision of Civil & Basic Facilities works.	28.10
12	Hydrographic Survey of Virbhadra Barrage, Pashulok, Rishikesh.	19.00
	Subtotal Part-A (Civil works)	2661.23
ii) E&M Works:		
13	Replacement of S.S. plate on track guide of gate groove of all Barrage gates at Virbhadra Barrage, Pashulok, Rishikesh	46.02
14	Replacement of Sill Beams at Virbhadra Barrage, Pashulok, Rishikesh.	174.03
15	Renovation of Barrage Gates and Head Regulator at Virbhadra Barrage, Pashulok, Rishikesh.	269.70
16	Supply, Installation, Testing and Commissioning of Package substation of 500kVA, 11 kV/415V CSS at Virbhadra Barrage, Pashulok, Rishikesh.	84.96
17	Providing and fixing of Chequered Plates at Barrage Gates, HR Gate and Gantry Crane Platform at Barrage Structure of Virbhadra Barrage, Pashulok, Rishikesh.	185.45
18	Epoxy painting on under sluice gates, other bay gates and Head Regulator gates at Virbhadra barrage, Rishikesh.	306.65
19	Repair and Strengthening of Boulder Excluder Tunnel of Under Sluice Gate No. 01 at Pashulok Barrage, Rishikesh	324.50
20	Providing and fixing of New Pre-fabricated Cabin above Hoisting Equipment of Under Sluice Gate NO. 01 to 04, Other Bay Gate 05 to 15, Head Regulator Gate No. 01 to 05 at Pashulok Barrage, Rishikesh.	58.05
21	Design, Supply, Installation, Commissioning & Testing of Early warning & Public Address system at Virbhadra Barrage, Pashulok, Rishikesh.	161.84
22	Supply, Installation, Testing & commissioning of fuel free solid waste disposer at Virbhadra Barrage, Pashulok, Rishikesh	53.43
23	Replacement of damaged Wire Rope Pullies of Under Sluice Gates, Other Bay Gates and HR Gates at Virbhadra Barrage, Rishikesh.	199.98
	Subtotal Part-A (E&M works)	1864.61
	Total Part-A (Civil + E&M Works)	4525.84
PART-B:- (Detail of works to be taken up if additional budget allocated to UJVN Ltd. under DRIP-II)		
S. No.	Description of Works	Amount (in Lakhs)
Civil Works:		
1	Construction to Supply basic drinking water facilities for O&M staff at Virbhadra Barrage.	30.00
2	Fencing work on Barrage Bridge and in downstream side of Barrage Bridge at Pashulok Barrage, Rishikesh.	183.00

3	Protection & Refurbishment Work of U/s Right Side Afflux Bundh at Virbhadra Barrage Rishikesh.	187.38
4	Epoxy Treatment work of U/S Side at Virbhadra Barrage Rishikesh.	293.00
5	Protection Work of U/S Left Side between both nala at Virbhadra Barrage Rishikesh.	324.21
6	Construction of building for re-recreational activities including the development of basic facilities as per bare minimum requirement for O&M staff near Virbhadra Barrage Rishikesh.	323.84
7	Construction of approach road from barrage to dumping yard of Virbhadra Barrage.	48.00
8	Water Quality Analysis of reservoir water at Virbhadra Barrage Rishikesh.	3.00
9	Instrumentation of Virbhadra Barrage Rishikesh.	30.00
10	Digitization of Existing Drawing of Virbhadra Barrage Rishikesh.	6.00
11	River Training works of Bin River for protection of Chilla HEP.	618.00
12	Construction of Drainage Network of Power Channel.	300.00
	Subtotal Part-B (Civil works)	2346.43
	E&M Works:	
13	Design, supply, installation, commissioning and testing of Central Control and Command Center of all power project, Dam/barrages of UJVN Ltd.	1800.00
	Subtotal Part-B (E&M works)	1800.00
	Total Part-B (Civil + E&M Works)	4146.43
	Total (Part A + Part B)	8,672.27 Say ₹ 86.72 Cr.

9. On examination of the DPR of **Virbhadra Barrage** certain deficiencies/infirmities and requirement of additional information were identified and the Commission vide its letter No. 933 dated 16.12.2021 directed the Petitioner to submit/furnish its compliance on the following at the earliest: -

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1. UJVN Ltd. is required to confirm that works covered under DRIP-II scheme works have not been proposed under any other previous works/schemes/deferred works.
2. UJVN Ltd. is required to furnish the following:-
 - (i) The observations of CPMU/CWC/World Bank on the works proposed for Virbhadra Barrage.
 - (ii) Point-wise status of compliance made by UJVN Ltd. on the observations of CPMU/CWC/World Bank/DSRP.

- (iii) *The basis for fixing rates of the items, not covered in P.W.D./CPWD schedule of rates.*
3. *UJVN Ltd. is required to submit the measurement sheet & readable drawing of the proposed works.*
4. *UJVN Ltd. is required to confirm that the following works are recommended by DSRP or not:-*
- (i) *Works related to Chain Link Fencing along with right afflux bund road of Virbhadra Barrage at Rishikesh.*
- (ii) *Construction of Guest House Building near Police Chowki at Rishikesh.*
- (iii) *Procurement of 04 nos. vehicles.*
- (iv) *Supply, Installation, Testing and Commissioning of Package substation of 500 kVA, 11kV/415V CSS at Virbhadra Barrage, Pashulok, Rishikesh.*
- (v) *Design, supply, installation, commissioning and testing of early warning & public address system at Virbhadra Barrage, Pashulok, Rishikesh.*
5. *UJVN Ltd. is required to furnish details of works proposed under DRIP-II scheme at Virbhadra Barrage (if any), which are in continuation to the works executed under DRIP-I scheme.*
6. *It is observed that most of the works proposed under Part-B of DRIP-II Scheme for Virbhadra Barrage have not been specifically approved/recommended by DSRP. UJVN Ltd. is required to clarify regarding the same."*
10. In response, UJVN Ltd. vide its email dated 23.12.2021 submitted its compliance and furnished the following: -
- "
1. *The works proposed under DRIP-II are not proposed under any previous works/scheme/deferred works.*
2. I) *Observations of CPMU/World bank are enclosed as **Annexure-I**.*
II) *Point wise compliance is attached as **Annexure-II**.*
III) *The NSI (Non Schedule Items) are approved by the competent authority as per the rules followed in Nigam.*
3. *Detail of Measurement along with Drawings is enclosed as **Annexure-III**.*
4. *Sheet with the status of all the works proposed under DRIP-II (Part-A) is enclosed as **Annexure-IV**.*
5. *No work of DRIP-I is in continuation under the proposed works of DRIP-II.*
6. *Sheet with the status of all the works proposed under DRIP-II (Part-B) is enclosed as **Annexure-V**.*

In addition as per the mail on 21.12.2021,

*I) Sheet for works of Part A and Part B with the present status of recommendation from DSRP/CWC/CPMU/World bank is enclosed as **Annexure-IV & Annexure-V.***

..."

Commission's Observations, Views & Directions:-

11. On examination of the Petition and subsequent submissions of the Petitioner following has been observed: -

(1) UJVN Ltd. has proposed an expenditure of ₹ 1.60 Crore against 'Construction of Coffor Dam/Ring bandha at Virbhadra Barrage, Pashulok, Rishikesh, in this regard, the Commission observed that the primary objective of the said works is to provide a dry zone for safe working of manpower for the works proposed for 'Repair & Strengthening of Boulder excluder tunnel of under sluice gate#1 at Virbhadra Barrage, Pashulok, Rishikesh' under Part-A.

Since the said expenditure is a one-time expense and accordingly, all the associated works which calls for dry zone for safe working of manpower should be carried out simultaneously so that not only recurring expense on coffer dam/ring bandha can be avoided but also the work requiring dry zone for effective working can be ensured.

(2) With regard to the 'Procurement of 04 nos. Vehicles', the Commission has observed that the said work has been kept under Part-A of the works proposed for Virbhadra Barrage. The Petitioner in its DPR has mentioned that for effective supervision of Barrage and its appurtenant structures the requirement of 04 nos. vehicles is essential. In this regard, the Commission is of the view that the Petitioner should ascertain the necessity of additional vehicles as the same comes with an inherent liability of Operation & Maintenance expenses.

(3) With regard to the Cost Benefit Analysis, the Commission has observed that the Petitioner has claimed a benefit to cost ratio of 1.01 with Internal Rate of Return (IRR) as 10.0% from the proposed capital investment of ₹ 86.72 Crores. Although no direct relation can be drawn with respect to enhancement in

energy generation post execution of the proposed works, however, the Commission foresees the proposed investment as a life extension opportunity for its Civil and Hydro-mechanical infrastructures installed at its Dams/Barrages which is of paramount importance from safety point of view.

12. The Commission has observed that availability of funds for the works pertaining to safety which do not have direct tangible benefits remains a challenge for the developer/HEPs and the works proposed under the instant Petition are of similar nature. However, considering the availability of funds from World Bank for DRIP II Scheme, the Commission finds it prudent to give a nod to such works which are important from the perspective of Dam/Barrages safety. Further, it has come to the notice of the Commission that Govt. of India has launched schemes pertaining to 'Budgetary Support for Flood Moderation/Storage Hydro Electric Projects (HEPs)' and 'Budgetary Support to Cost of Enabling Infrastructure, i.e., roads/bridges' which envisages to make hydro generation tariffs more competitive in the interest of the consumers of the State. UJVN Ltd. is expected to utilize such schemes to the maximum extent for the projects under its jurisdiction.
13. The Commission has observed that the majority of works covered under Part-B have not been approved by DSRP/CPMU and therefore the Commission is of the view that the Petitioner should approach the Commission for approval of the works included in Part-B of the DRIP-II Scheme works proposed for Virbhadra Barrage through a separate Petition.
14. Based on the above discussion, the Commission grants in-principle approval for the works proposed under Part-A and as discussed above for **Virbhadra Barrage**. The in-principle approval is being granted subject to the following: -
 - (1) The Petitioner is directed to obtain the prices through competitive bidding for the works allowed by the Commission under the prevailing rules & regulations and prudence of the prices will be scrutinized at the time of fixation of tariff after completion of the said works.
 - (2) The Petitioner to make its all efforts for conversion of loan amount to grant from the Govt. of Uttarakhand/World bank as the case may be.

- (3) All the loan conditions as may be laid down by the funding agency (if any) in their detailed sanction letter are strictly complied with. However, the Petitioner is directed to explore the possibility of swapping the loan with cheaper debt option available in the market.
 - (4) The Petitioner to explore possibility of funding the aforesaid works through various Schemes launched by Govt. of India offering grant viz. 'Budgetary Support for Flood Moderation/Storage Hydro Electric Projects (HEPs)' and 'Budgetary Support to Cost of Enabling Infrastructure, i.e. roads/bridges' so that hydro generation tariffs can be made more competitive in the interest of the consumers of the State.
 - (5) 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 proposed works.
 - (6) After completion of the aforesaid works, the Petitioner shall submit the completed cost and financing of the project.
 - (7) The cost of servicing the project cost shall be allowed in the Annual Revenue Requirement of the Petitioner after the assets are capitalized and subject to prudence check of cost incurred.
15. The Commission in its Tariff Order dated 26.04.2021 had held that the nature of works executed under Dam Rehabilitation and Improvement Program (DRIP) are similar to that of Renovation and Modernization of Dams/Barrages and the Commission found it prudent to consider the additional capitalization under DRIP as Renovation and Modernization. The Petitioner is directed to adhere to the same while accounting/capitalization of the assets/works covered under DRIP Scheme.

Besides above, the Petitioner is also directed to ensure that all the works carried out by the contractors shall be duly executed as per the drawings approved by the competent authority and procedures laid down for ensuring the quality & quantity of the work.

With this part Order of Virbhadra Barrage, the 'Petition for in-principle approval of capital investment under DRIP-II for strengthening and up-gradation of 6 Dams/Barrages i.e. Ichari Dam, Maneri Dam, Joshiyara Barrage, Asan Barrage, Dakpathar Barrage and Virbhadra Barrage of UJVN Ltd. under Section 61 and 86 of the Electricity Act, 2003 read with the relevant regulations and guidelines of the Commission' is hereby disposed off.

Ordered accordingly.

(M.K. Jain)
Member (Technical)

(D.P. Gairola)
Member (Law)