BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION AT PANCHKULA

HERC/Petition No. 34 of 2025

Date of Hearing	**:**	**19.05.2026**
Date of Order	**:**	**26.05.2026**

In the Matter of

Petition under Section 86(1)(b) of the Electricity Act, 2003 read with the Haryana Electricity Regulatory Commission (Conduct of Business) Regulations, 2019 seeking approval of source as well as approval of the Power Purchase Agreement (PPA) for the procurement of total of 340MW power from (1) Dibang Multipurpose Project (167 MW); (2) Teesta-VI HEP (30 MW); (3) Rangit IV HEP (11 MW); (4) Ratle HEP (21 MW), (5) Pakal Dul HEP(39 MW), (6) Kwar HEP (35 MW) and (7) Kiru HEP (37 MW), hydroelectric projects from subsidiaries of NHPC Ltd., as allocated by the Ministry of Power vide its letters dated 25.02.2025 and 15.04.2025, at the tariff to be determined under Section 62 of the Electricity Act, 2003 by the Ld. Central Electricity Regulatory Commission (CERC).

Petitioner

Haryana Power Purchase Centre (HPPC), Panchkula

Respondent

NHPC Limited

Present on behalf of the Petitioner

1. Mr. Raghujeet S. Madan, Advocate
2. Ms. Aerika Singh, Advocate
3. Mr. Lovepreet Singh, Advocate
4. Ms. Anupama Tiwari, Xen, HPPC

Present on behalf of the Respondent

1. Mr. Virendra Kumar, DGM, NHPC

Quorum

Shri Nand Lal Sharma	**Chairman**
Shri Mukesh Garg	**Member**
Shri Shiv Kumar	**Member**

ORDER

Brief background of the case

1. The present petition has been filed by Haryana Power Purchase Centre (HPPC) seeking the source approval as well as approval of the Power Purchase Agreement (PPA) to procure 340 MW hydro power comprising of power from Dibang Multipurpose Project (167 MW) Teesta-VI HEP (30 MW), Rangit IV HEP (11 MW), Ratle HEP (21 MW), Pakal Dul HEP(39 MW), Kwar HEP (35 MW) and Kiru HEP (37

MW), from NHPC for 40 years, at the tariff to be determined under Section 62 of the Electricity Act, 2003 by Hon'ble Central Electricity Regulatory Commission (CERC).

2. HPPC has submitted as under:

2.1. That NHPC Limited vide its letter No. NH/Comml./new projects/2022/6/3-14 dated 02.06.2022 sought consent for the procurement of power from its upcoming hydro-projects. The projects were being developed by NHPC Limited, its Joint Ventures and/or its subsidiaries. The consent for power tie-up on long term basis was sought for the following projects:-

Description	**Teesta VI**	**Rangit IV**	**Ratle**	**Dibang MPP**	**Dugar**
State/UT	Sikkim	Sikkim	UT of J&K	Arunachal Pradesh	Himachal Pradesh
Installed Capacity (MW)	500	120	850	2880	500
Design Energy (MU)	2400	507.88	3136.77	11223	1759.85
Peaking Capacity	2.3 Hrs.	3.0 Hrs.	1.96 Hrs.	More than 3.0 Hrs. (Storage)	3.62Hrs.
Levelized Tariff (Rs./kWh)	4.07	4.37	3.92	4.73	4.46

HPPC has submitted that the said letter further includes that:

"4. The actual Tariff of the above projects shall be determined by the Central Electricity Regulatory Commission (CERC) under section 62 of the EA 2003.

5. Allocation is to be done by Ministry of Power, GOI based on consent received from States/Discom(s)."

2.2. That NHPC Limited vide its letter No. NH/Comml. /CVVPL/2022/6/1044 dated 05.09.2022 sought consent for the procurement of power from Pakal Dul HEP and Kwar HEP, CVPPL, J&K. Major highlights of both projects were mentioned as under:-

Description	**Pakaldul HE Project**	**Kwar HE Project**
Installed Capacity	1000 MW (4* 250MW)	540 MW (4*135 MW)
Location & River	Kishtwar, J&K, Marusudar River	Kishtwar, J&K, Chenab River
Type of Project	ROR having 3.00 hrs peaking	ROR having 2.7 hrs peaking
Free Power & LADF % to Home State	13%	13%
Levelized Tariff	Rs. 4.28/unit	Rs. 4.44/unit
Annual Design Energy	3330.22 MUs	1975.55 MUs
Transmission Connectivity	ISTS Connectivity	
Useful Life	40 Years	

2.3. That HPPC placed the matter before the SCPP. The SCPP in its 67th Meeting dated 11.10.2022 considered and approved to give consent to the following quantum for the projects mentioned below:

SNo.	**Name of Project**	**Quantum Considered and approved (MW)**
1.	Pakal Dul HEP, CVPPL, J&K	250
2.	Kwar HEP, CVPPL, J&K	200
3.	Luhri Stage-I, HEP, SJVNL, HP	25
4.	Teesta-VI HEP, NHPC, Sikkim	100
5.	Rangit IV HEP, NHPC, Sikkim	100

6.	Dibang MPP, NHPC Arunachal Pradesh	400
7.	Ratle HEP, NHPC, J&K	250
8.	Dugar HEP, NHPC, Himachal Pradesh	100

2.4. That based on the consent and approval of SCPP, a Memo No. Ch-63/CE/HPPC/SE/C&R-I/PPA-121 dated 14.11.2022 and a Memo No. Ch-64/CE/HPPC/SE/C&R-I/PPA-121 dated 14.11.2022 were addressed by the Petitioner to NHPC giving its consent to procurement of 100 MW power from Teesta-VI HEP, 100 MW power from Rangit-IV HEP, 400 MW power from Dibang MPP, 250 MW of power from Ratle HEP, 250 MW power from Pakaldul HEP and 200 MW from Kwar HEP. It was stated in the said Memos that the –*"… consent is subject to the source approval of Haryana Electricity Regulatory Commission (HERC) which shall be taken after the allocation of quantum by Ministry of Power, Govt. of India."*

2.5. That NHPC Limited vide its letter No. NH/Comml./Kiru/2023/49 dated 16.08.2023 sought consent for the procurement of power from Kiru HEP, J&K. Major highlights of project were mentioned as under –

Description	**Kiru HE Project**
Installed Capacity	624 MW (4*156 MW)
Location & River	Kishtwar, UT of J&K on Chenab River
Type of Project	ROR having 2.7 hrs peaking
Free Power & LADF to Home state	13% (Free Power: 12% & LADF: 1%)
Available Power for sale	543 MW
Levelized Tariff	Rs. 4.64/unit
Annual Design Energy (MU)	2272
Transmission Connectivity	ISTS connectivity
Useful life	40 years
Actual tariff	Tariff/ Annual Fixed Charges (AFC) shall be determined by CERC under section 62 of Electricity Act' 2003.
Allocation of Power among States/Discom(s)	Allocation is to be done by Ministry of Power, GOI based on consent/ PPA signed with State/ Discoms(s).

2.6. That SCPP, in its 71st meeting, held on 02.01.2024 accorded consent for procurement of power from Kiru, HEP. The said consent was conveyed by HPPC to NHPC vide letter dated 23.01.2024. It was mentioned that –*"… consent is subject to the source approval of Haryana Electricity Regulatory Commission (HERC) which shall be taken after the allocation of quantum by Ministry of Power, Govt. of India."*

2.7. That the Ministry of Power ("MoP") vide its letter No. 11/29/2023-NHPC dated 25.02.2025 allocated 167 MW power from Dibang Multipurpose Project, 30 MW from Teesta-VI HEP and 11 MW from Rangit-IV HEP to the State of Haryana. The details of the allocation are as under:

Name of the Project	**Total Allocation (MW)**	**Share in Installed capacity (%)**
Dibang MPP, NHPC Arunachal Pradesh	167	5.8

Teesta-VI HEP, NHPC, Sikkim	30	5.9
Rangit IV HEP, NHPC, Sikkim	11	9

2.8. That as per the letter dated 25.02.2025, the allocation was made subject to the following:

"The percentage allocation will be operative for actual dispatch of power i.e. after reduction of auxiliary consumption, planned outage forced outage and as per availability of water.

… … …

3. The above allocation will further be subject to the following:

i. Power Purchase Agreements (PPAs) between NHPC Ltd. and State Power Utilities/ Union Territory (UT)/ DISCOMs.

ii. Tariff determination by CERC.

iii. Beneficiary State(s)/UT(s) ensuring compliance with the financial and commercial terms including the coverage for letter of credit or any other agreed payment securing mechanism as stipulated in the tripartite agreement/ bipartite agreement/ PPA between the parties.

iv. Tariff notification and/ or any other directive(s)/guideline(s) in regard to supply of power by central generating stations issued by Government of India and CERC from time to time."

HPPC has further submitted that the SCPP had already granted consent for the MWs over and above the quantum allocated by MoP.

2.9. That the Ministry of Power ("MoP") vide its letter No. 11/29/2023 (Part) -NHPC dated 15.04.2025 allocated 132 MW power from other HEP to the State of Haryana. The details of the allocation are as under:

Name of the Project	**Total Allocation (MW)**	**Share in Installed capacity (%)**
Ratle HEP, J&K	21	2.5
Pakaldul HEP, J&K	39	3.9
Kwar HEP, J&K	35	6.5
Kiru HEP, J&K	37	5.9

2.10. That the expected date of commissioning of the various projects forming subject matter of instant petition, as per the latest status available on the website of Central Electricity Authority is as under –

Sr. No.	Name of Project	Expected date of commissioning
1.	Teesta VI HEP	Dec-27
2.	Rangit IV HEP	Dec-25
3.	Dibang MPP	Nov-28
4.	Pakaldul HEP	Feb-32
5.	Kwar HEP	Sep-26

6.	Kiru HEP	Dec-27

2.11. That, draft PPA to be executed with each generator was shared by NHPC Limited. The PPA prepared is based on the current Regulations i.e. CERC (Indian Electricity Grid Code) Regulations, 2023 and includes provisions relating to Late Payment Surcharge etc. The final draft of the PPA agreed to between the parties for all the 7 generators is annexed herewith and marked as Annexure P-8 (colly).

2.12. That the power share from the aforesaid HEPs will count towards Hydropower Purchase Obligations (HPO) as per RPO Guidelines. The HPOs are considered under the RPO's trajectory as per MoP's notification dated 22.07.2022. Although the RPO trajectory has been revised by the MoP but the same has not been adopted by the Hon'ble Commission as yet. The HPO targets vis-à-vis the achievement as per guidelines are as under:

FY	**Energy available for sale to DISCOMs (including distribution losses)**	**Total Consumption of Electricity (after excluding distribution losses of 6.35%)**	**HPO targets mandated by MoP**	**HPO targets**	**Backlog**	**Total Targets**	**Energy from Existing Hydro Projects**	**Total energy available from Hydro projects commissioned after 08.03.2019**	**Short-fall (-) / Surplus (+)**	**% HPO**
	(MUs)		(%)	(MUs)	(MUs)	(MUs)	(MUs)	(MUs)	(MUs)	(%)
1	**2**		**3**	**4**	**5**	**4+5=6**	**7**	**8**	**9=8-6**	**10=(8/2) *100**
2025-26	54126	50689	1.48	801	0	801	849	1787	986	3.3
2026-27	56232	52661	1.8	1012	0	1012	1787	2748	1736	4.89
2027-28	58419	54709	2.15	1256	0	1256	2748	2857	1601	4.89
2028-29	60691	56837	2.51	1523	0	1523	2857	2100	577	3.46
2029-30	63052	59048	2.82	1778	0	1778	2100	2100	322	3.33

The excess HPO consumed beyond the target of HPO for that year from eligible Large Hydro Plants commissioned after 08.03.2019 shall count towards the achievement in shortfall of RPOs, if any, in "Wind RPOs" and "Other RPOs" category.

2.13. That as per Hydro Policy introduced by the Government of India, all the Hydro Projects which are yet to be established or are yet to execute PPA, will be governed in accordance with the new Hydro Policy. It is also submitted that the Hydro Projects are now categorized as "Renewable Projects" and therefore, any addition of the Hydro

Power in the contracted capacity exempts the Discoms from RE obligation mandated under National Tariff Policy, 2016.

2.14. That MoP, issued an order/ notification dated 01.12.2022 which provides that no ISTS charges shall be levied for transmission of power from hydro power projects where construction work is awarded and PPA is signed till 30.06.2025. However, ISTS charges shall be applicable for transmission of power from hydropower projects where construction work is awarded, and PPA is signed after 30.06.2025 as per the trajectory given in the order. Further, the waiver shall be applicable for a period of 18 years from the date of commissioning of the hydropower plants. As such, it would be beneficial for the Petitioner in case the PPA is approved and subsequently signed prior to 30.06.2025.

2.15. That the Hydropower stations have an inherent ability for instantaneous starting, stopping, load variations etc., and help in improving the reliability of the power system. Hydro stations are the best choice for meeting the peak demand. The generation cost is not only inflation-free but reduces with time. 70% of the power from Hydro Source comes in the peak season and therefore, the hydropower is most viable option to meet the peak demand of the State. Moreover, hydro plants achieve 100% PLF during the rainy season thereby helping meet the demand of the State for paddy season.

2.16. That the Hydro Policy, 2008, proposes an ideal mix of Thermal and Hydropower sources in the ratio of 60:40 (Thermal: Hydro) for meeting the peak and non-peak power demand of the State. However, Haryana currently has 20.03% share of hydropower out of total contracted capacity. Thus, procurement of hydropower will improve the hydro profile of the State.

2.17. That since the commissioning of all the allocated projects are expected around 2026-2031, the allocated power will help meet the deficit projected by the Petitioner. In this regard, Demand-Supply Projection Chart for the FY 2025-26 till FY 2034-35 is appended.

2.18. That further the Electricity Act (Amendment) Bill, 2020 (for brevity “Bill”) also provides for recognition of Hydro sources of energy as renewable sources of energy. The provisions of the Bill propose to expand the scope of renewable power purchase obligations to include Hydro sources. Section 3-A of the Bill, which deals with “National Renewable Energy Policy” specifies that the Central Government may, from time to time, after such consultation with the State Governments, as may be considered necessary, prepare and notify a National Renewable Energy Policy for the promotion of generation of electricity from renewable sources of energy and prescribe

a minimum percentage of purchase of electricity from renewable and hydro sources of energy.

2.19. That a perusal of the above evinces that any State having a major share of Hydro in its power portfolio will be less burdened with the Renewable Energy Targets. For instance, the State of Himachal has significant Hydro Power in its Power portfolio and therefore, experiences negligible RE targets. Haryana, being the State surrounded by Himachal / J&K and Uttarakhand, has the potential of procuring adequate power from Hydro Energy Sources. Therefore, efforts should be made to enter into long-term Hydro arrangements, which will not only support peak demand of the State but will also match the load pattern of the State throughout the year. Further, as per IEGC amendments made vide order of the Hon'ble Central Electricity Regulatory Commission dated 05.05.2017, the backing down of the Thermal Power Plants leads to an increase in Energy Charges, which burdens the electricity consumers of the State. This problem can be well addressed by increasing the share of Hydro Power Sources to match the State base demand and peak demand. The same will also help to reduce the backing down the issue of the Thermal Projects and consequent penalties levied on account of the same.

2.20. That for meeting the power deficit during the peak season and to ensure continuous and smooth supply in the State of Haryana, it is considered feasible and viable to procure power through Hydro Energy Sources.

2.21. That this tentative tariff specified by NHPC Limited is expected to be in the range of Rs. 3.92 – Rs. 4.73 per unit, which appears to be viable in the present power deficit situation. Thus, the procurement of power would be feasible.

2.22. That the power procured from the HEPs will help stabilize the deficit experienced in the State currently. In view of the foregoing, it is evident that the approval for procurement of power from the Generator is in the larger interest of the State.

2.23. That the following prayers have been made:-

a. Grant approval for source of procurement of:

i. 167 MW power from Dibang Multipurpose Project (12 x 240 = 2880 MW), Arunachal Pradesh;

ii. 30MW power from Teesta-VI Hydroelectric Project (4 x 125 = 500 MW), Sikkim; and

iii. 11 MW power from Rangit-IV Hydroelectric Project (3x40 = 120 MW);

iv. 21 MW power from Ratle Hydroelectric Project (850 MW);

v. 39 MW power from Pakaldul Hydroelectric Project (1000 MW);

vi. 35 MW power from Kwar Hydroelectric Project (540 MW);

vii. 37 MW power from Kiru Hydroelectric Project (624MW);

on long-term basis i.e. for a period of 40 years.

b. Grant approval to the Power Purchase Agreements (Annexure P-8) to executed between the parties; and

c. Pass any other order(s) and or direction(s), which the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

Proceedings of the Case

3. The case was first taken up for hearing on 02.06.2025, as scheduled. The Commission, vide its Interim Order dated 02.06.2025, directed the respondent (NHPC) to file the following details under affidavit in respect of each project proposed in the present petition:-

a. Date of approval of the project from competent authority i.e. CEA

b. Date of award of works

c. Date of beginning of construction

d. Period during which the construction was proposed to be completed

e. Physical as well financial progress (in absolute as well percentage terms) made till date

f. Current Status of the project

g. Scheduled date as well as Expected date of commissioning of project. Further, the reasons for delay, if any, may also be explained.

h. Expected levelized tariff as well as 1st year tariff.

Considering the urgency in the matter, the representatives of NHPC well conversant with the projects were directed to be present on the next date of hearing.

The Commission further directed that the petitioner as well as respondent may mutually agree to certain terms of the PPA in order to project the interest of vulnerable electricity consumers of the State e.g. the ceiling tariff, option to exit upon discovery of tariff.

4. NHPC filed its reply under affidavit dated 05.06.2025, submitting as under:-

4.1. That the project-wise information is as under:

Information sought/Project	**Dibang (12x240 = 2880 MW) Arunachal Pradesh**	**Teesta-VI HE Project (4x125 = 500 MW) Sikkim**	**Rangit-IV HE Project (3x40 = 120 MW) Sikkim**	**Ratle HE Project (4x205 + 1x30 = 850 MW) UT of J&K**	**Pakal Dul HE Project (4x250 = 1000 MW) UT of J&K**	**Kwar HE Project (4x135 = 540 MW) UT of J&K**	**Kiru HE Project (4x156 = 624 MW) UT of J&K**
Date of approval of the project from competent authority **CCEA**	27.02.2023	08.03.2019	03.03.2021	11.02.2021	28.10.2014	11.05.2022	08.03.2019
Date of award of major civil works	Major Civil Works are divided in Three Packages. 1. Civil Works, Lot-II : 27.02.2023 , 2. Civil Works, Lot- III: Under Tendering 3. Civil Works, Lot-IV: 25.08.2023	Civil Works are divided in two Packages. 1. Civil Works, Pkg-I: 31.03.2020 2. Civil Works, Pkg-II: 22.09.2021	27.08.2021	18.01.2022	Major Civil Works are divided in Three Packages. 1. Civil Works, Pkg-I: 21.02.2018 2. Civil Works, Pkg-II: 21.06.2018 2. Civil Works, Pkg-III: 03.07.2020	11.05.2022	24.02.2020
Date of beginning of construction	05.03.2023	07.10.2020	03.10.2021	18.01.2022	21.02.2018	11.05.2022	24.02.2020
Period during which the construction was proposed to be completed	108 months from CCEA date	60 months from CCEA date	38 months from CCEA date	60 months from CCEA date	66 months from CCEA date	54 months from CCEA date	54 months from CCEA date
Physical as well financial progress (in absolute as well percentage terms) made till date	Physical Progress: 15.74 % Financial Progress: 10.37 %	Physical Progress: 67.67 % Financial Progress: 51.38 %	Physical Progress: 88.51 % Financial Progress: 81.31 %	Physical Progress: 23.01 % Financial Progress: 17.92 %	Physical Progress: 69.00 % Financial Progress: 52.99 %	Physical Progress: 21.45 % Financial Progress: 25.30 %	Physical Progress: 61.38 % Financial Progress: 48.84 %
Current Status of the project	Under construction	Under construction	Under construction	Under construction	Under construction	Under construction	Under construction
Scheduled date as well as Expected date of commissioning of project. Further, the	**Feb-32**	**Dec'2027** Reasons for Delay: 1. Delay in award of Major	**Dec'2025** Reasons for Delay: 1. Delay in award of Major works	**Aug'2028** Reasons for Delay: 1. Delay in design optimizatio	**July'2026** Reasons for Delay: 1. Delay on account of Tendering and award of	**Sep'2027** Reasons for delay: 1. Delay in award of HM and E&M work	**July'2026** Reasons for delay: 1. Delay in award of works (due

Information sought/Project	Dibang (12x240 = 2880 MW) Arunachal Pradesh	Teesta-VI HE Project (4x125 = 500 MW) Sikkim	Rangit-IV HE Project (3x40 = 120 MW) Sikkim	Ratle HE Project (4x205 + 1x30 = 850 MW) UT of J&K	Pakal Dul HE Project (4x250 = 1000 MW) UT of J&K	Kwar HE Project (4x135 = 540 MW) UT of J&K	Kiru HE Project (4x156 = 624 MW) UT of J&K
reasons for delay, if any, may also be explained.		works package 2. Impact of COVID-19 pandemic. 3. Poor Geological conditions being encountered in excavation of Head Race Tunnel and SFT. 4. Flash flood occurred on 3rd/ 4th Night in October 2023. 5. Increase in scope of work of slope stabilization at Intake area.	package. 2. Impact of Covid-19 Pandemic. 3. Poor Geology in HRT. 4. Damage of NH-10 connecting Siliguri to Project Area.	n due to interface issues among sub-contractors. 2. High monsoon discharge (June–July 2023) breached dykes, flooding diversion tunnels. 3. Slow dam excavation due to restricted blasting near inhabited areas. 4. Skilled manpower deployment issues and low productivity. 5. Due to misc factors like labour strike, disturbance by locals due to land issues & agitation etc.	major contract packages. 2. Impact of Covid-19 pandemic. 3.Major Slope Failure at Adit Tunnel site of TBM. 4. Other delays such as Strike by labour Union, frequent tool downs, productivity loss due to 80% deployment of local labors as per order of District Administration, delay in providing encumbrance free land from the administration, agitations by locals and PAFs, etc.	packages of the project.	to issue regarding sanction of Subordinate debt for the project between GoI and GoJK). 2. Impact of Covid-19 pandemic 3. Road Damages due to flood and interface activities, road blockages/ local issues etc. 4. Delay in supply and commissioning of Tower Crane for Dam concreting on account of delayed supply of various parts from different countries thereby delaying the dam concreting. 5. Delay due to requirement of alternate approach to dam.
Expected levelized tariff as well as 1st year tariff.	Tariff: 1st Year – Rs.4.51 /kwh Levelized – Rs.4.46/ kwh	Tariff: (At Revised cost) 1st year - Rs. 7.24 /kwh Levelized - Rs. 6.58 /kwh	Tariff: (At Revised cost) 1st year - Rs.8.59 /kwh Levelized - Rs.9.03 /kwh	Tariff: 1st Year – Rs. 3.62 /kwh Levelized – Rs. 3.92 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 7.19 /kwh Levelized – Rs. 7.93 / kwh	Tariff: 1st Year – Rs. 4.07 /kwh Levelized – Rs. 4.44 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 5.54 /kwh Levelized – Rs. 5.68 / kwh

4.2. That in respect of the relevant RoP para, the following is submitted:

i. Hydro Power Projects are high capital intensive, which incur huge investment and NHPC sign Long Term PPAs for the period of 40 years and extendable for further periods to recover the capital invested thereon.

ii. During initial years, the tariff of HEPs is on higher side & it decreases with recovery of loan component and tariff becomes competitive after 15 years and accordingly HEPs are very competitive proposition for DISCOMs on long term basis.

iii. Most of the HEPs under the petition are under construction stage & located in remote and far-flung areas in Himalayan region and tariffs are on higher compared to previously commissioned projects located nearby to the rail heads. It is established that HEPs are available in the range of above tariffs as submitted by NHPC in previous para 2.0 only.

iv. Due to conspicuous increase of RE power in electricity basket, hydro power is essentially required for grid balancing to cater the integration of large-scale RE in the Electricity Grid to align with the 500 GW RE target of GOI by 2030.

v. Also, HEPs provide peaking power support, high ramping up/down, black start, flexibility in operation, spinning reserve, quick start / stop which has not been taken in tariff and also for development of HEPs, DISCOMs may help by signing long term PPAs only.

vi. As per Ministry of Power, Government of India notification/order dated 8th March'2019, 29th January'2021 & 22ndJuly'2022 on "Measures to promote Hydro power sector", and further notified on 20th October 2023 vide S.O.4617(E), the projects commissioned after 31rst March,2024 shall be eligible for HPO. This project is eligible for HPO & it will provide additional benefit to DISCOMs to comply with HPO obligation.

vii. In line with the recent regulatory developments, projects under the petition are eligible for benefit from the waiver of ISTS transmission charges, as notified by the CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations of 2023. 100% ISTS waiver is applicable up to 18 years, if DISCOM sign PPAs before 30.06.2025, adding another layer of financial benefit to DISCOMs.

viii. Further, NHPC submitted that they had not signed PPA with any DISCOMs/States with a clause to include like ceiling tariff, option to exit upon discovery of tariff.

5. The case was next heard on 10.06.2025. The Commission, vide its Interim Order dated 12.06.2025, directed HPPC to file a report of the necessary commercial and financial prudence exercised in selecting the proposed sources over the exploring the option of competitive bidding with regard to the expected tariff from the projects considering escalation in project cost and uncertainties/ geological surprises associated with the hydro projects including exploring the options to incorporate suitable provisions regarding ceiling tariff/ceiling capital cost and to exit from the project in case of inordinate delay in commissioning or determination of high tariff etc. Further, NHPC was directed to file its reply including the progress in the projects made till date, in accordance with HERC (Conduct of Business) Regulations, 2019, as amended from time to time.

6. HPPC filed its reply under affidavit dated 25.06.2025, in response to the interim order of the Commission dated 12.06.2025, submitting as under:-

RE: Exercise of Commercial and Financial Prudence in selection of Offer -

6.1. That hydropower is beneficial for state procurement due to its renewable nature, domestic energy production, flexibility, and cost-effectiveness. It provides a clean, reliable, and affordable energy source, reducing reliance on external fuel sources and supporting local economies. HPPC is making constant endeavor to include a reasonable share of hydropower in its portfolio.

6.2. That HPPC initiated the bidding process for procurement of 400 MW hydro power for a period of 35 years through e-tender and e-reverse auction and initial tender schedule was communicated to M/s PFC Consulting Ltd. through letter dated 29.03.2022. The Commission approved the EoI in order dated 28.02.2023 passed in Petition No. 26 of 2022 and directed HPPC to invite *offers/bids from the hydro power plants already commissioned or in an advanced stage of commissioning with SCoD on or before 31st March, 2026.*

6.3. That in compliance, HPPC revised EOI and multiple corrigenda were issued revising and extending the bidding timeline: 10.03.2023, 04.05.2023, 18.05.2023, 24.05.2023, 26.06.2023, 28.07.2023, 31.08.2023, 11.09.2023, 25.09.2023, 09.10.2023, 06.11.2023, 08.02.2024, 22.02.2024, and 28.03.2024. No response was

received to the said EOI, indicating limited market interest from qualifying hydro power developers.

6.4. That pursuant thereto, it was decided to consider the offers available for procurement of hydro power. Accordingly, the offer of NHPC was accepted subject to the approval of this Hon'ble Commission.

6.5. That HPPC while considering the offer was conscious of the nature and structure of hydroelectric projects. It is worthwhile here to note that in accordance with the MoP Power Allocation Orders dated 25.02.2025 and 15.04.2025, PPAs have already been executed by State of Uttar Pradesh, Rajasthan, Gujarat, Chhattisgarh, Tripura, West Bengal, UT of Jammu & Kashmir, Damodar Valley Corporation (DVC), and Odisha (GRIDCO) with NHPC.

6.6. That Delhi DISCOMs (TPDDL, BRPL & BYPL), State of Maharashtra, Bihar, and Karnataka have also obtained approval from their respective State Electricity Regulatory Commissions, and the PPAs are expected to be signed shortly before 30.06.2025. Further, Madhya Pradesh is scheduled to sign the PPA for the Dibang Multi-Purpose Project before 30.06.2025. Punjab and Andhra Pradesh have also indicated that they will execute the respective PPAs only after obtaining approval from their SERC.

6.7. That the hydro power procurement, though have possibly vulnerability to be affected by the unprecedented events and long construction period, thereby making it capital intensive yet hydropower plants have various other benefits that make them a preferred choice. The procurement of hydropower is critical for improving the reliability of the power supply in the State, especially during peak demand and monsoon seasons. Hydro generation is best suited to meet peak loads and reduce the incidence of thermal plant backing down, which leads to higher energy charges and penalties for under-utilization. They also have low operational and maintenance costs, making them a cost-effective long-term energy solution in the long run.

RE: Regarding Incorporation of Ceiling Tariff / Capital Cost and Exit Clause in the Proposed PPAs-

6.8. That HPPC vide an email dated 19.06.2025 asked NHPC to provide comments on the queries asked by the Hon'ble Commission. In response thereto, NHPC vide email dated 20.06.2025, as regards the issue of incorporation of ceiling tariff and exit clause under PPA, has mentioned as under –

"Hydro Power Projects are high capital intensive, which incur huge investment and NHPC sign Long Term PPAs for the period of 40 years and extendable for further

periods to recover the capital invested thereon. Therefore, NHPC is not in a position to incorporate a clause in PPAs related to incorporation of provision for ceiling tariff/ Ceiling Capital Cost and exit clause under the PPA."

Further, NHPC mentioned that the construction report, in compliance with the Order of the Hon'ble Commission, shall be submitted separately.

6.9. That since ISTS charges shall be applicable for transmission of power from hydropower projects where construction work is awarded, and PPA is signed after 30.06.2025 as per the trajectory given in order of MoP dated 01.12.2022. The waiver shall be applicable for a period of 18 years from the date of commissioning of the hydropower plants. As such, it would be beneficial for the Petitioner in case the PPA is approved and subsequently signed prior to 30.06.2025.

6.10. That HPPC has prayed to take on record submissions and adjudicate the instant petition as prayed for before 30.06.2025.

7. NHPC filed the progress of the projects under affidavit dated 25.07.2025, in response to the interim order of the Commission dated 12.06.2025, briefed as under:-

Project	**Dibang (12x240 = 2880 MW) Arunachal Pradesh**	**Teesta-VI HE Project (4x125 = 500 MW) Sikkim**	**Rangit-IV HE Project (3x40 = 120 MW) Sikkim**	**Ratle HE Project (4x205 + 1x30 = 850 MW) UT of J&K**	**Pakal Dul HE Project (4x250 = 1000 MW) UT of J&K**	**Kwar HE Project (4x135 = 540 MW) UT of J&K**	**Kiru HE Project (4x156 = 624 MW) UT of J&K**
Date of approval of the project from competent authority CCEA	27.02.2023	08.03.2019	03.03.2021	11.02.2021	28.10.2014	11.05.2022	08.03.2019
Date of award of major civil works	Major Civil Works are divided in Three Packages. 1. Civil Works, Lot-II : 27.02.2023, 2. Civil Works, Lot- III: Under Tendering 3. Civil Works, Lot-IV: 25.08.2023	Civil Works are divided in two Packages. 1. Civil Works, Pkg-I: 31.03.2020 2. Civil Works, Pkg-II: 22.09.2021	27.08.2021	18.01.2022	Major Civil Works are divided in Three Packages. 1. Civil Works, Pkg-I: 21.02.2018 2. Civil Works, Pkg-II: 21.06.2018 2. Civil Works, Pkg-III: 03.07.2020	11.05.2022	24.02.2020

Project	Dibang (12x240 = 2880 MW) Arunachal Pradesh	Teesta-VI HE Project (4x125 = 500 MW) Sikkim	Rangit-IV HE Project (3x40 = 120 MW) Sikkim	Ratle HE Project (4x205 + 1x30 = 850 MW) UT of J&K	Pakal Dul HE Project (4x250 = 1000 MW) UT of J&K	Kwar HE Project (4x135 = 540 MW) UT of J&K	Kiru HE Project (4x156 = 624 MW) UT of J&K
Date of beginning of construction	05.03.2023	07.10.2020	03.10.2021	18.01.2022	21.02.2018	11.05.2022	24.02.2020
CCEA date of completion	**Feb-2032**	**Mar-2024**	**May-2024**	**Feb-2026**	**Apr-2020**	**Nov-2026**	**Sep-2023**
Physical as well financial progress (in absolute as well percentage terms) made as on 30.06.2025	Physical Progress: 15.81 % Financial Progress: 10.49 %	Physical Progress: 68.17% Financial Progress: 52.65 %	Physical Progress: 89.45% Financial Progress: 83.74%	Physical Progress: 23.57 % Financial Progress: 18.74 %	Physical Progress: 70.00 % Financial Progress: 54.93 %	Physical Progress: 22.15 % Financial Progress: 25.10 %	Physical Progress: 63.87% Financial Progress: 49.83 %
Current Status of the project	Under construction	Under construction	Under construction	Under construction	Under construction	Under construction	Under construction
Expected date of completion of project.	**Feb-32**	**Dec'2027**	**Dec'2025**	**Aug'2029**	**Dec'2026**.	**Mar-2028**	**Dec'2026**
Expected levelized tariff as well as 1st year tariff.	Tariff: 1st Year – Rs.4.51 /kwh Levelized – Rs.4.46/ kwh	Tariff: (At Revised cost) 1st year - Rs. 7.24 /kwh Levelized - Rs. 6.58 /kwh	Tariff: (At Revised cost) 1st year - Rs.8.59 /kwh Levelized - Rs.9.03 /kwh	Tariff: 1st Year – Rs. 3.62 /kwh Levelized – Rs. 3.92 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 7.19 /kwh Levelized – Rs. 7.93 / kwh	Tariff: 1st Year – Rs. 4.07 /kwh Levelized – Rs. 4.44 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 5.54 /kwh Levelized – Rs. 5.68 / kwh

8. The case was next heard on 30.07.2025. The Commission, in its Interim Order dated 05.08.2025, observed that there are uncertainties attached with the proposed projects both in terms of the tariff as well as the date of commissioning and are prone to time as well as cost overrun. It may jeopardize the resource adequacy plant of the Discoms. Accordingly, HPPC was directed to re-examine the proposal and explore the other options available with them to fill the gap in the projected demand-supply, in case NHPC does not agree with the conditional approval w.r.t. ceiling tariff with an exit option. Further, HPPC was also directed to file copy of PPAs entered into in respect of the proposed projects with other States.

9. HPPC filed its reply under affidavit dated 10.10.2025, in response to the interim order of the Commission dated 05.08.2025, submitting as under:-

9.1. That HPPC, vide email dated 08.08.2025 & 02.09.2025, requested NHPC to incorporate a ceiling tariff with an exit option in the proposed PPAs and to share copies of PPAs entered into with other States.

9.2. That in response, NHPC, referring to its letter dated 08.08.2025, has stated that the tariff for its hydro projects is determined by the Hon'ble CERC under Section 62 of the Electricity Act, 2003, post- COD, and that such projects involve high capital costs, geological risks, and cost variations, necessitating long-term PPAs for the life of the project.

9.3. That NHPC further clarified that it has executed PPAs with other States without inclusion of any ceiling tariff or exit option and has expressed its inability to accept the said conditional clause, requesting HPPC to confirm approval of PPAs without such stipulation.

9.4. That a detailed list of States with whom PPAs have been signed by NHPC is appended. For the ready reference of the Hon'ble Commission, a tabular summary of the Power Purchase Agreements (PPAs) executed with various States is provided below, and copies of the respective PPAs are appended herewith:

Description	**PPA signed with**	**Date of PPAs signed**
Teesta VI	Bihar	25.06.2025
	Sikkim	13.06.2025
	West Bengal	28.03.2025
	BRPL, Delhi	28.06.2025
	BYPL, Delhi	28.06.2025
Ratle	Bihar	25.06.2025
Dibang	Bihar	25.06.2025
	Maharastra	24.06.2025
	Tripura	20.06.2025
	Odisha	13.06.2025
	MPPCL, Madhya Pradesh	27.06.2025
Rangit IV	BRPL, Delhi	30.06.2025

10. The case was next heard on 15.10.2025. The Commission, in its Interim Order dated 16.10.2025, observed that directions given to HPPC in the interim order dated 05.08.2025, to re-examine the proposal and explore the other options available with them to fill the gap in the projected demand-supply, has not been complied with. Accordingly, HPPC was once again directed to submit the compliance report of the order dated 05.08.2025, particularly considering its average power purchase cost (APPC), Battery Energy Storage System (BESS) etc. available to meet its peak demand.

11. HPPC filed its reply under affidavit dated 02.12.2025, in response to the interim order of the Commission dated 16.10.2025, submitting as under:-

11.1. That HPPC, has issued the Request for Selection (RfS) No. 123/HPPC/Solar/LTP-III/500MW dated 11.09.2025 on the e-tendering portal for procurement of 500 MW Solar Power, with a minimum project capacity of 5 MW from a single solar power developer, on a long-term basis within the State of Haryana, in accordance with the Guidelines for Procurement of Power from Grid-Connected Solar PV Power Projects through Tariff-Based Competitive Bidding issued by the Ministry of Power, Government of India. The last date for submission of bids was 10.10.2025. In response, a total of 15 bidders participated and the technical bids were opened on 15.10.2025. HPPC is presently in the process of opening the financial bids.

11.2. That the Battery Energy Storage System (BESS) projects being undertaken under the Viability Gap Funding (VGF) Scheme of the Ministry of Power, Government of India.

11.3. That BESS technology enables multiple system benefits, including but not limited to:

a. Renewable Energy Integration – facilitating smooth absorption of variable RE generation by storing surplus energy and discharging during peak periods;

b. Grid Stability Support – providing fast-response services for frequency stabilization and voltage control;

c. Operational Efficiency – optimizing generation dispatch, reducing curtailment, lowering system losses, and minimizing reliance on expensive peak power purchase;

d. Emergency Backup – offering dependable backup support during outages, equipment failures, or contingencies.

11.4. That the Petitioner respectfully submits that under Phase-I of the Battery Energy Storage System (BESS) initiative, the Ministry of Power (MoP), Government of India, vide approval dated 09.04.2025, has sanctioned a total storage capacity of 20 MWh for the State of Haryana. This comprises 10 MWh each for UHBVN and DHBVN. The said allocation has been approved with Viability Gap Funding (VGF) support of ₹27 lakh/MWh or 30% of the capital cost, whichever is lower. The objective of this centrally supported initiative is to accelerate the deployment of BESS at the distribution level, thereby enhancing grid flexibility, improving peak load management, and facilitating greater integration of renewable energy resources.

11.5. That it is submitted that the project locations identified for Phase-I include four 33 kV substations, two each under UHBVN and DHBVN. These substations have been selected based on load behaviour, renewable energy penetration, distribution system

constraints, and their potential to derive maximum operational benefit from storage deployment. The implementation of the project is proposed under the Design, Build, Own and Operate (DBOO) model, wherein the selected developer shall design, construct, install, own and operate the BESS facility for the contractual period, ensuring that performance and availability parameters are maintained as per the bidding documents and technical specifications.

11.6. That the Petitioner further submits that the procurement process for Phase-I is already underway. The Request for Proposal (RFP) was floated on 16.08.2025, initiating the competitive bidding process for selection of a suitable developer. A pre-bid meeting was held on 26.08.2025 with prospective bidders, wherein technical clarifications, operational requirements and commercial queries were addressed. The bidding structure has been designed to promote competitiveness, ensure quality standards, and attract technologically proficient participants in the storage sector.

11.7. That it is also submitted that the bid opening for Phase-I is scheduled for 28.11.2025, after which the technical and financial evaluation shall be undertaken in accordance with the bidding guidelines. Thereafter, the Letter of Award (LOA) shall be issued to the successful bidder, followed by signing of the agreement and commencement of project implementation. The Petitioner submits that Phase-I is progressing as per the approved schedule and, upon completion, will provide valuable real-time experience in BESS operations at the distribution level and contribute meaningfully towards peak demand management and system reliability in the State.

11.8. That the Ministry of Power, Government of India, vide its communication dated 09.06.2025, has allocated a total Battery Energy Storage System (BESS) capacity of 500 MWh to the State of Haryana under the Power System Development Fund (PSDF). The sanctioned VGF support for this capacity is ₹18 lakh/MWh, which amounts to a total VGF support of ₹90 crore for the 500 MWh system.

11.9. That the proposed 500 MWh BESS facility is planned to be established at the Panipat Thermal Power Station (PTPS), Panipat, which provides adequate land, connectivity to the transmission system, and operational flexibility for optimal utilization of storage assets. SJVNL has been designated as the Implementing Agency for this project, responsible for the preparation of technical specifications, bid documents, coordination with central agencies, and facilitation of the execution process in accordance with the guidelines of the Ministry of Power.

11.10. That It is submitted that Detailed Project Report (DPR) & Proposal for implementation of 500 MWh BESS has been prepared in consultation with SJVNL and submitted to

NLDC, the nodal agency for PSDF. As per the DPR, the total capital cost of the 500 MWh BESS project is estimated at ₹600 crore. The cost estimates, technical design, and implementation framework have been developed based on national standards, international benchmarks for BESS technology, and site-specific requirements of PTPS.

11.11. That the preparation of the bid documents is presently underway under the supervision of SJVNL, and the bidding process is expected to commence after the appraisal and approval stages are completed. As per the Ministry of Power guidelines, the total project duration is 27 months from 09.06.2025. Accordingly, the bidding is likely to start in November 2025 and conclude by March 2026.

11.12. That the Petitioner further submits that the overall duration prescribed for completion of the Phase-II BESS project is 27 months, reckoned from the date of issuance of the Ministry of Power Guidelines i.e., 09.06.2025. The project is scheduled to be fully completed and commissioned by September 2027, within the stipulated 27-month implementation period.

12. The case was next heard on 04.12.2025. The Commission, in its Interim Order dated 08.12.2025, directed HPPC to re-examine the proposal in the present petition and, in case it intends to go ahead with the proposal, submit a comprehensive report justifying the proposal considering Average Power Purchase Cost (APPC), Battery Energy Storage System (BESS), existing transmission constraints and the requisite Hydro-mix within the overall energy availability profile as well as demand-side management interventions necessary for meeting peak demand and ensuring flattening of the load curve.

13. HPPC filed its reply under affidavit dated 04.04.2026, in response to the interim order of the Commission dated 08.12.2025, submitting as under:-

Energy Mix of the State and Demand-Side Interventions for Meeting Peak Demand and Flattening the Load Curve

13.1. That the State of Haryana presently meets its energy requirement through a diversified portfolio comprising:

a) Central Generating Stations (Coal and Hydro)
b) State Thermal Stations
c) Long-term PPAs (Thermal & Hydro)
d) Renewable Energy (Solar, Wind, Biomass)
e) Short-term/ Medium-term Purchase (as required)

13.2. That the load profile of the State of Haryana exhibits a distinct and seasonally varying demand pattern, which may broadly be categorized into: (i) the Summer/Paddy season (May to October), and (ii) the Non-Paddy/Winter season (November to April). During the paddy months, particularly from June to September, the demand curve is significantly impacted by a substantial increase in cooling load coupled with Agricultural Pumping (AP) requirements. Similarly, during the winter period (December to mid-February), the load profile is influenced by heating demand. These seasonal variations necessitate calibrated operational and regulatory interventions to ensure system stability and cost optimization.

13.3. That in discharge of their statutory obligation to provide 24x7 power supply to all consumer categories except Agricultural Pumping (AP) and RDS (non-MGJG), the Discoms regularly prepare and implement Power Regulatory Measures (PRMs) based on continuous and dynamic assessment of the demand–supply scenario. In particular, PRMs relating to AP feeders are structured so as to align system peak demand with solar generation hours. This strategy enables maximum utilization of tied-up solar generation capacity and facilitates procurement optimization by leveraging comparatively lower exchange rates during the summer and winter seasons.

13.4. That the effectiveness of this operational strategy is borne out by historical peak demand data. For instance, a peak demand of 14,084 MW was recorded on 05.07.2025 at 15:00 hours, and 14,662 MW was recorded on 31.07.2024 at 14:45 hours, both during solar hours. This demonstrates the conscious and sustained effort of the Discoms to shift peak load to daytime periods to the extent feasible.

13.5. That over the past few years, the share of Renewable Energy (particularly solar power) in the State's overall energy mix has increased substantially. However, the generation profile of solar power is inherently intermittent and restricted to daylight hours, typically between 8:00 AM and 5:30 PM, with peak generation around noon. The State's peak demand, however, predominantly occurs during:

a) Late evening hours in summer months (7:00 PM – 11:00 PM); and

b) Early morning and evening hours during winter months.

Thus, there exists a clear temporal mismatch between solar generation availability and system peak demand.

13.6. That analysis of historical data from the paddy/summer seasons (June to September) of the years 2024 and 2025 reveals that AP load during solar hours was typically in the range of 3,500–3,800 MW, whereas only about 1,000–1,500 MW was operated

during night hours. This calibrated scheduling was undertaken to avoid exacerbation of night peak demand, which is already elevated due to high cooling load during night-time. The Discoms are consistently undertaking measures to shift maximum AP load to daytime or other off-peak hours through appropriate PRMs, so as to optimally utilize available solar capacity. All Operation Circles have been specifically directed to ensure minimal operation of AP load during night peak hours during the paddy/summer season, in order to maintain grid stability and contain power procurement costs.

13.7. That a Time of Day (ToD) / Time of Use (ToU) tariff framework, including concessional night-time tariff for HT consumers, has been introduced to incentivize increased consumption during off-peak periods.

13.8. That the evening peak, typically occurring between 7:00 PM and 11:00 PM, is primarily driven by residential consumption, including air-conditioning load, lighting demand, and household appliance usage. In addition, agricultural pumping load, commercial establishments, and industrial shift operations contribute to sharp ramping requirements during these hours. The commencement and changeover of industrial shifts further accentuate short-duration spikes in demand, thereby placing additional stress on the system. Seasonal variation in demand is equally significant, with summer peak demand reaching substantially higher levels due to cooling requirements, whereas winter peaks are driven by heating and lighting demand. Accordingly, the State requires adequate firm and flexible generation resources to flatten the load curve, manage ramping needs, and ensure grid reliability during critical peak hours.

Reliable Power During Solar Peak Hours vs Evening Peak

13.9. That it is respectfully submitted that while solar energy contributes substantially to the State's energy availability during daytime hours, its generation profile is inherently confined to sunlight hours and declines sharply post-sunset. However, the State's system peak predominantly occurs during evening hours, particularly in summer months, when demand rises steeply on account of increased residential air-conditioning load, agricultural pumping requirements, industrial shift changeovers and commercial lighting demand. Consequently, there exists a temporal mismatch between peak solar generation and peak system demand.

13.10. That during the evening peak period, typically between 7:00 PM and 11:00 PM, the reduction in solar output coincides with a sharp ramp-up in demand, thereby creating a supply gap that cannot be met through solar generation alone. The load curve

analysis of the State demonstrates that while daytime demand remains relatively moderated due to availability of solar power, the post-sunset demand surge places significant stress on available firm generation resources and transmission corridors.

13.11. That HPPC had floated RfS No. 123/HPPC/Solar/LTP-III/500 MW dated 11.09.2025 for the procurement of 500 MW solar power. In response thereto, 15 bids were received. Upon scrutiny, two bidders were found non-compliant with the financial eligibility criteria stipulated in the RfS document. Consequently, the financial bids of the remaining 13 bidders were opened on 23.12.2025, and the e-reverse auction (e-RA) was conducted through the online portal. The lowest discovered tariff was Rs.2.86/kWh, quoted by M/s Waaree Foreever Energy Pvt. Ltd., who emerged as the L-1 bidder. In terms of Clause 4.4 of the RfS, allocation was made to those bidders whose discovered tariff fell within 5% of the L-1 tariff (Rs.2.86/kWh). Accordingly, a total quantum of 495 MW was allocated amongst seven developers, namely:

Sr. No.	Name of company	Project capacity in MW	Quoted tariff (Rs/kWh)	Tariff discovered after E-RA (Rs/kWh)
1	Waaree Foreever Energy Pvt. Ltd.	140	3.51	2.86
2	SPS Solarmax Pvt. Ltd.	10	4.21	2.87
3	SAEL Industries Ltd.	200	3.15	2.88
4	Sindhu Farms Pvt. Ltd.	100	3.20	2.89
5	Galo Energy Pvt. Ltd.	20	3.97	2.93
6	ADM Solar Infra Pvt. Ltd.	10	4.50	2.95
7	Ultravibrant Solar Energy Pvt. Ltd.	15	2.97	2.97
	Total	**495**		

13.12. That notwithstanding the competitive solar tariffs discovered, the inherent limitation of solar generation to daylight hours necessitates reliance on alternate sources during evening peak periods. In the absence of adequate firm and dispatchable capacity such as hydro power, or sufficient support from BESS, the State is compelled to procure power from short-term markets at significantly higher tariffs. This leads to upward pressure on the Average Power Purchase Cost (APPC) and ultimately impacts consumer tariffs. It is, therefore, essential to augment the State's portfolio with reliable hydro capacity, complemented by storage solutions, to ensure grid stability and efficient peak demand management.

Role of Hydro Power in the Energy Mix

13.13. That the source-wise installed capacity tied up by Haryana reflects the following position. The total contracted/allocated capacity stands at 16,609.66 MW, out of which 9,929.92 MW (59.78%) pertains to non-renewable (Thermal, Nuclear and Gas) sources, while 6,679.74 MW (40.22%) pertains to renewable sources, including Hydro, Solar, Wind, Biomass, Bagasse and Hybrid-BESS. Within the non-renewable segment, Thermal power constitutes 9,669.78 MW (58.22% of total capacity), Nuclear power 123.04 MW (0.74%), and Gas-based power 137.10 MW (0.83%). The detailed source wise breakup is given hereunder:-

Sr. No	Source	Within Haryana (in MW)	Outside Haryana (in MW)	Capacity (in MW)	%age of Total Capacity
1	Thermal	4391.00	5278.78	9669.78	58.22%
2	Nuclear	0.00	123.04	123.04	0.74%
3	Gas	0.00	137.10	137.10	0.83%
	Subtotal of NRE Sources (A)	**4391.00**	**5538.92**	**9929.92**	**59.78%**
4	Hydro	73.20	3745.61	3818.81	22.99%
5	Solar	205.13	1423.00	1628.13	9.80%
6	Wind	0.00	895.43	895.43	5.39%
7	Biomass	92.17	0.00	92.17	0.55%
8	Bagasse	95.20	0.00	95.20	0.57%
9	Hybrid-BESS	0.00	150.00	150.00	0.90%
	Sub Total of RE Sources (B)	**465.70**	**6214.04**	**6679.74**	**40.22%**
Grand Total (A+B)		**4856.70**	**11752.96**	**16609.66**	**100%**

13.14. That from the above, it is evident that the Hydro–Thermal mix in Haryana remains significantly skewed in favour of thermal generation. While Thermal capacity alone constitutes 58.22% of the total portfolio, Hydro accounts for only 22.99%. The Ministry of Power (MoP), Government of India, has set a national target of adding 30,000 MW of new hydro capacity by 2030 with the objective of moving towards an ideal Hydro–Thermal mix of 40:60 to enhance grid stability and provide flexible peaking support. In comparison to this benchmark, the existing hydro share in Haryana is considerably lower, underscoring the need to strengthen the hydro component in the State's overall energy mix.

13.15. That hydro projects play a critical and indispensable role in meeting peak demand in Haryana. Hydro generation closely aligns with the State's load curve across seasons.

During the summer months when Haryana's demand reaches its annual peak generation from hydro projects correspondingly increases, as inflows and reservoir levels are typically higher. Indeed, the maximum generation from hydro projects occurs during the summer season, thereby enabling effective matching of the demand curve with available supply.

13.16. That hydro power offers operational flexibility and can be scheduled during peak hours, when procurement from power exchanges is comparatively costly. This peaking capability renders hydro generation a valuable and cost-effective balancing resource.

13.17. That in contrast, solar generation is inherently limited to daytime hours and is subject to variability. While Battery Energy Storage Systems (BESS) can provide limited-duration support typically two hours during morning peak and two hours during evening peak they do not offer round-the-clock generation capability. Hydro power, on the other hand, remains available throughout the day and can be dispatched in accordance with system requirements, thereby providing a more reliable, flexible, and continuous source of energy for meeting the State's peak and off-peak demand.

13.18. That strengthening the hydro component in the State's portfolio is not only aligned with the policy objectives of the Ministry of Power but is also operationally essential for ensuring grid stability, peak demand management, and long-term resource adequacy for the State of Haryana.

Battery Energy Storage System (BESS) – Supporting but Not Substituting Hydro

13.19. That BESS plays a critical role in enabling greater integration of renewable energy into the grid by addressing intermittency concerns, enhancing frequency and voltage regulation, optimizing energy utilization, and ensuring overall grid stability. The Battery Energy Storage System (BESS) initiatives undertaken by the State under Phase-I (20 MWh) and Phase-II (500 MWh) represent a significant step towards modernization of the grid and strengthening peak demand management capabilities. BESS technology facilitates storage of surplus energy during off-peak hours or periods of high renewable generation and enables discharge during peak demand hours, thereby assisting in load shifting, frequency control, voltage support, peak shaving, and seamless renewable energy integration.

13.20. That it is respectfully submitted that UHBVN has already filed the petition on 18.03.2026 before the Hon'ble Commission seeking approval of the Power Sale Agreement for procurement of power from a 250 MW/500 MWh Standalone Battery

Energy Storage System (BESS). It is submitted that SJVN Limited has been designated as the Intermediary Procurer/Renewable Energy Implementing Agency for the said project. UHBVNL had planned installation of 250 MW/500 MWh Standalone BESS capacity at PTPS, Panipat, with the objective of meeting peak demand requirements and supporting renewable energy integration in the State of Haryana, and accordingly submitted its interest to SJVN for facilitation of installation and utilization of the ESS capacity. The e-Reverse Auction under the RfS was conducted on 13.02.2026, wherein a tariff of Rs. 1.97 lakh/MW/Month was discovered, and the L-1 bidder emerged as M/s Hardi Hydro Energy Private Limited.

13.21. That notwithstanding the operational advantages of BESS, storage systems are inherently limited by their discharge duration, energy capacity and economic considerations. Typically, BESS installations provide limited-duration support (generally 2–4 hours depending on configuration), and their effectiveness is contingent upon adequate charging energy availability. Further, large-scale deployment involves substantial capital expenditure and phased implementation timelines, as reflected in the ongoing projects scheduled for completion by 2027.

13.22. That therefore, while BESS plays a vital and complementary role in peak shaving, grid balancing and renewable integration, it cannot serve as a substitute for firm and dispatchable hydro capacity. Hydro generation provides sustained and controllable output over extended peak periods and across seasons, thereby ensuring reliability beyond the limited discharge window of storage systems. Accordingly, a coordinated approach combining hydro power procurement and BESS deployment is essential for ensuring grid reliability, peak demand management and long-term system stability in the State.

Present Transfer Capability and Demand Scenario

13.23. That the existing transfers capability and demand parameters of the State of Haryana clearly demonstrate the present operational constraints as well as the projected demand–supply position. As per the prevailing system data, the Actual Transfer Capability (ATC) of the State stands at 10,400 MW, whereas the Total Transfer Capability (TTC) is assessed at 10,700 MW. The internal generation capacity available within the State is approximately 3,500 MW. On the basis of the aforesaid figures, the maximum demand that can presently be met by the State is approximately 14,200 MW, computed as the aggregate of 10,700 MW import capability through the Inter-State Transmission System (ISTS) and 3,500 MW of internal generation.

13.24. In this regard, HVPNL has prepared a detailed technical assessment report examining the transfer capability trajectory of the State. As per the said report, the ATC/TTC limits of Haryana are expected to progressively improve and are likely to become adequate to meet the projected demand from FY 2027–28 onwards, subject to the timely completion of identified ISTS strengthening works, conductor augmentation, removal of critical system constraints, and commissioning of planned transmission network augmentations. Most of the plants are expected to be commissioned during 2027–28 or thereafter.

Average Power Purchase Cost (APPC) Considerations

13.25. That the evaluation of Average Power Purchase Cost (APPC) must be undertaken from a holistic system perspective rather than by comparing the per-unit tariff of individual sources in isolation. While solar power tariffs discovered through competitive bidding may appear lower on a standalone energy basis, such tariffs do not account for the cost of balancing, ramping support, backup power procurement and system flexibility required to manage intermittency and peak demand variations.

13.26. That in the absence of adequate firm and dispatchable capacity such as hydro power, the State is compelled to procure short-term or real-time market power during evening peak hours on day to day basis, often at significantly elevated rates. The rates for peak hours hovers around Rs 10/- per unit (maximum capped by CERC). Such peak-hour purchases, along with associated balancing and ancillary service costs, contribute to volatility and upward pressure on APPC. This deficit of power cannot be merely met with by purchasing power from power exchange(s) on day to day basis as the rates in power exchange(s) are volatile and there is no assured clearance of power. Even after quoting quantum more than the requisite quantum at this maximum rate, partial bid quantum is cleared, which consequently leads to large scale power cuts for the consumers of Haryana. The inclusion of hydro power, with its peaking capability and operational flexibility, reduces reliance on high-cost market procurement, optimizes scheduling of thermal generation, and enhances grid efficiency. Therefore, when assessed on a lifecycle and portfolio basis, the proposed hydro procurement is expected to contribute to long-term APPC stability and tariff prudence in the larger consumer interest.

13.27. That the proposal has been re-examined from technical, financial and system planning perspectives, and it is reiterated that the proposed hydro procurement, in conjunction with solar and BESS initiatives, constitutes a prudent and balanced resource strategy in the larger consumer interest.

13.28. That the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) (Fourth Amendment) Regulations, 2025, notified on 26.06.2025, the waiver of ISTS charges for hydro generating stations is linked to the date of signing of the PPA or award of construction work, whichever is later, and is applicable for a period of 18 years from COD. The regulations provide for a graded waiver structure, namely 100% waiver for projects with qualifying dates up to 30.06.2025, 75% for those between 01.07.2025 and 30.06.2026, 50% for those between 01.07.2026 and 30.06.2027, 25% for those between 01.07.2027 and 30.06.2028, and no waiver thereafter.

13.29. That, in the event the Commission is pleased to allow the Petition or issue any directions as it may deem fit, the PPA may be executed on or before 30.06.2026, so as to enable the grant of a 75% waiver on transmission charges.

14. The case was next heard on 07.04.2026. The Commission, in its Interim Order dated 08.04.2026, directed HPPC as well as the respondent to file the current status of the proposed projects till 31.03.2026 containing the expected date of commissioning, tentative 1st year tariff as well as levelized tariff for the project life.

15. In response, NHPC filed its reply dated 18.04.2026, submitting the current status of the projects, summarized as under:-

Project	**Dibang (12x240 = 2880 MW) Arunachal Pradesh**	**Teesta-VI HE Project (4x125 = 500 MW) Sikkim**	**Rangit-IV HE Project (3x40 = 120 MW) Sikkim**	**Ratle HE Project (4x205 + 1x30 = 850 MW) UT of J&K**	**Pakal Dul HE Project (4x250 = 1000 MW) UT of J&K**	**Kwar HE Project (4x135 = 540 MW) UT of J&K**	**Kiru HE Project (4x156 = 624 MW) UT of J&K**
Power tied up (340 MW)	167	30	11	21	39	35	37
Expected date of CoD	Feb-2032	Sept.-2029	Nov- 2026	Nov-2028	Dec-2026	March-2028	Dec-2026
Date of CoD, as per reply dated 25.7.25	Feb-2032	Mar-2024	May-2024	Feb-2026	Apr-2020	Nov-2026	Sep-2023
Physical as well financial progress (in absolute as well percentage terms) made as on 30.06.2026	• Physical Progress:17.25% • Financial Progress: 14.13% • Expenditure till date RS.4504.4 Crs (Prov.)	• Physical Progress: 72.08% • Financial Progress: 61.91% • Tentative revised cost of Rs.8448.74 Cr.	• Physical Progress: 96.32% • Financial Progress: 94.89% Latest anticipated cost of Rs.1888.67 Cr.	• Physical Progress: 29%% • Financial Progress: 29%	• Physical Progress: 80% • Financial Progress: 72%	• Physical Progress: 33% • Financial Progress: 38%	• Physical Progress: 82% • Financial Progress: 67%

Expected levelized tariff as well as 1st year tariff.	Tariff: 1st Year – Rs.4.51 /kwh Levelized – Rs.4.46/ kwh	Tariff: (At Revised cost) 1st year - Rs. 6.95 /kwh Levelized - Rs. 6.05 /kwh	Tariff: (At Revised cost) 1st year - Rs.8.44 /kwh Levelized - Rs.8.34 /kwh	Tariff: 1st Year – Rs. 3.62 /kwh Levelized – Rs. 3.92 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 7.19 /kwh Levelized – Rs. 7.93 / kwh	Tariff: 1st Year – Rs. 4.07 /kwh Levelized – Rs. 4.44 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 5.54 /kwh Levelized – Rs. 5.68 / kwh
Previous expected tariff dt 25.7.25	Tariff: 1st Year – Rs.4.51 /kwh Levelized – Rs.4.46/ kwh	Tariff: (At Revised cost) 1st year - Rs. 7.24 /kwh Levelized - Rs. 6.58 /kwh	Tariff: (At Revised cost) 1st year - Rs.8.59 /kwh Levelized - Rs.9.03 /kwh	Tariff: 1st Year – Rs. 3.62 /kwh Levelized – Rs. 3.92 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 7.19 /kwh Levelized – Rs. 7.93 / kwh	Tariff: 1st Year – Rs. 4.07 /kwh Levelized – Rs. 4.44 / kwh	Tariff: (At Revised cost) 1st Year – Rs. 5.54 /kwh Levelized – Rs. 5.68 / kwh

Commission's Analysis and Order

16. The case was finally heard on 19.05.2026, wherein the counsel present on behalf of the petitioner, i.e. Mr. Raghujeet Singh Madan, briefed the contents of the petition and placed all the documents on record and sought approval of source as well as approval of the Power Purchase Agreement (PPA) for the procurement of power from seven hydroelectric projects owned by subsidiaries of NHPC Ltd., as allocated by the Ministry of Power vide its letters dated 25.02.2025 and 15.04.2025, at the tariff to be determined under Section 62 of the Electricity Act, 2003 by the Hon'ble Central Electricity Regulatory Commission (CERC). Mr. Singh, emphasized that the State is not facing any issues with any of the Hydro projects currently supplying power to Haryana. He further handed over the sheet with details of the proposed projects, prayed for source approval, in the present petition mentioning the current status with stipulated date of commissioning, applicability of ISTS transmission charges as well as mentioning the scheme and features of the projects under approval.

17. The respondent (NHPC) maintained that its standard PPAs do not allow for conditional clauses, such as price caps or exit options. However, they noted that the Central Electricity Regulatory Commission (CERC) typically prevents generators from passing on additional costs to consumers if project delays are the generator's fault. Despite the Commission's earlier advice to include financial safeguards to protect the public from cost overruns, HPPC did not incorporate any such protections into the proposed agreements. The respondent further submitted the indicative tariff and the final tariff will be determined by Hon'ble CERC. The Commission was further informed that taking into consideration of the past trends of such large-scale hydro projects, the actual CoD is likely to be delayed.

18. The Commission, during the course of proceedings, has expressed significant concern regarding the high level of uncertainty inherent in large-scale hydro projects. These projects are frequently subject to "geological surprises," which lead to substantial scheduling delays and cost overrun, potentially making the power unaffordable. Accordingly, the petitioner (HPPC) was advised to exercise necessary commercial and financial prudence with regard to the expected tariff from the projects considering escalation in project cost and uncertainties/ geological surprises associated with the hydro projects including exploring options to incorporate suitable provisions regarding ceiling tariff/ceiling capital cost and exit clauses in case of inordinate delay in commissioning or determination of excessively high tariff, so as to safeguard the interests of the consumers of the State. However, Haryana Power Purchase Centre has failed to pay due heed to the same.

19. Accordingly, upon examination of the facts placed on record and deliberations made by the petitioner as well as respondent, the Commission observe that the proposal of HPPC has failed in the assessment of project viability and cost, given the uncertainties that exists in hydro projects on account of geological surprises. All source of hydro power proposed by HPPC (Dibang, Teesta-VI, Rangit IV, Ratle, Pakal Dul, Kwar and Kiru) are either marred by the uncertainty or characterized by high expected tariff which shall be determined by Hon'ble CERC taking into consideration of time overrun. The Commission is of the considered view that with the proliferation of better energy storage techniques, more offers are likely to come up at cheaper rates, which will enable Haryana Discoms to supply affordable electricity to its consumers. Further, the tariff in power exchange (s) is also expected to come down in long term with the proliferation of cheaper sources of power. The Commission has also taken note of the fact that the Discoms are already burdened with deferred 'Fuel and Power Purchase Adjustment Surcharge' amounting to Rs. 6790 crore as on 31.03.2026. The higher power purchase cost will increase this bucket of 'deferred Fuel and Power Purchase Adjustment Surcharge' to a level which will be difficult to realize from the consumers without giving them a tariff shock. The Commission has considered the submissions and agrees with the respondent (NHPC) that given the long gestation period in setting-up a hydro power plant, the Discoms ought to plan ahead. However, the power sector is undergoing a structural shift with various rules notified by the Ministry of Power, GOI, including Green Open Access, mandatory setting-up of 40% of solar power corresponding to the setting-up of any new thermal capacity, solarization of AP feeders, saving in energy consumption by energy efficient

equipment, likely shift in demand of C&I consumers away from the Grid to RE Captive and Open Access mechanism etc.

20. Consequently, this Commission, in exercise of the powers vested in it under Section 86(1)(b) of the Electricity Act, 2003, namely to regulate the electricity purchase and procurement process of the distribution licensee, including the price at which electricity shall be procured from generating companies, licensees, or other sources through agreements for purchase of power for distribution and supply within the State, is of the considered view that the proposal under consideration fails to satisfy the essential parameters of providing affordable power and ensuring certainty regarding the Commercial Operation Date (CoD) of the project. In these circumstances, grant of unconditional consent for procurement of power would not be justified at this stage. Accordingly, the present petition stands disallowed. However, Haryana Power Purchase Centre, if it considers appropriate after conducting a thorough cost-benefit analysis, may approach this Commission seeking necessary approvals as soon as certainty regarding the tariff is established.

21. Having held as above and considering the advantages associated with hydro power projects, as deliberated by HPPC in its reply, the possibility of procuring readily available hydro power through offers/bids, may be explored.

22. In terms of the above order, the present petition along with the IA (s) filed in the matter, if any, are disposed of.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 26.05.2026.

	-Sd/-	-Sd/-	-Sd/-
Date: 26.05.2026 **Place: Panchkula**	**(Shiv Kumar)** **Member**	**(Mukesh Garg)** **Member**	**(Nand Lal Sharma)** **Chairman**