(a) Projects which do not attract Forest Clearance (FC) and/or Wildlife Clearance (WC)
(b) Projects wherein no new Reservoir(s) is (are) created.
(c) Projects wherein the existing reservoir (s) is (are) not expanded and/or structurally modified {i.e. no increase in the capacity of reservoir(s) and no increase in submergence area of reservoir(s)}.

In addition, further liberalisation would be taken up for allowing base line data collection for one (1) season for off-stream closed loop PSPs and two (2) seasons for off-stream open loop PSPs (excluding monsoon season) for the purpose of carrying out Environment Impact Assessment (EIA) and preparing Environment Management Plan (EMP) required for EC, and for allowing collection of baseline data for carrying out EIA/EMP studies before issuance of Terms of Reference (ToR).

6. Green Finance

Pumped storage projects are essential for the integration of renewable energy sources in the grid and their utilization, thereby avoiding greenhouse gas emissions. Hence, in order to initiate and accelerate the pace of establishment, PSPs may be supported through concessional climate finance. Sovereign green bonds issued for mobilizing resources for green infrastructure as a part of the Government's overall market borrowings may be deployed in the development of PSPs which utilize renewable energy for charging.

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ANNEXURE - I

No.15-23/3/2021-HYDEL-II(MoP)
Government of India
भारत सरकार
Ministry of Power
विद्युत मंत्रालय
****

Shram Shakti Bhawan, Rafi Marg
New Delhi, dated 08th August, 2022

To
The Chairman – BBMB, DVC
The CMDs – NTPC, NHPC, SJVN, THDCIL, NEEPCO

Subject: Revised indication of Pumped Storage Projects (PSPs) to the Hydro CPSEs / BBMB / DVC – regarding.

Sir,

In supersession of this Ministry's letter of even no. dated 06.04.2022, I am directed to enclose herewith the 'revised indication of identified PSP sites to Hydro CPSEs / DVC / BBMB' and 'revised indication of States to Hydro CPSEs / BBMB / DVC' for development of Pumped Storage Projects (PSPs).

2. The concerned utilities would be responsible to take up the matter with the concerned State Governments, carry out suitable analysis and prepare the evaluation reports expeditiously on the projects indicated. Progress made by the utilities in this regard will be reviewed by this Ministry at regular intervals.

This issues with the approval of Hon'ble Union Minister of Power and New & Renewable Energy.

Encl: as above

Yours faithfully,

(R. P. Pradhan)
Director (Hydro-II)
Email: hydro2-mop@nic.in

Copy to:
(I) The Chief Secretaries of all the State Government / UTs – with request to extend all the necessary support to the Organizations.
(II) The Chairperson, Central Electricity Authority.
(III) The Chairman, Central Water Commission.

Copy for information to:
(I) O/o Hon'ble Minister of Power and New & Renewable Energy.
(II) O/o Hon'ble Minister of State for Power.
(III) Sr. PPS to Secretary (Power) / PPS to Joint Secretary (Hydro) / PS to Director (H-I) / DD (H-II) / DD (NHPC) / DD(BBMB) / US(H-I), MoP.

Annexure-I

Indication of Identified PSP sites to Hydro CPSEs / DVC / BBMB

S. No.	Name of Project	State/UT	Probable IC (MW)	Earlier Indicated Agency	Revised indication / Changes proposed
1	Matlimarg	Jammu & Kashmir	1650	NHPC	NHPC
2	Majra	Himachal Pradesh	1800	BBMB	BBMB
3	Jaspalgarh	Uttarakhand	1935	THDCIL	THDCIL
4	Ulhas	Maharashtra	1000	NHPC	NHPC
5	Pinjal	Maharashtra	700	NHPC	NHPC
6	Kengadi	Maharashtra	1550	NHPC	NHPC
7	Jalond	Maharashtra	2400	NHPC	NHPC
8	Kolmondapada	Maharashtra	800	SJVNL	SJVNL
9	Kalu	Maharashtra	1150	NHPC	NHPC
10	Sidgarh	Maharashtra	1500	SJVNL	SJVNL
11	**Amba**	**Maharashtra**	**2500**	**THDCIL**	**NTPC**
12	Chornai	Maharashtra	2000	SJVNL	SJVNL
13	Savitri	Maharashtra	2250	NHPC	NHPC
14	**Madliwadi**	**Maharashtra**	**900**	**SJVNL**	**NTPC**
15	Baitarni	Maharashtra	1800	SJVNL	SJVNL
16	Morawadi	Maharashtra	2320	THDCIL	THDCIL
17	Gadgadi	Maharashtra	600	THDCIL	THDCIL
18	**Kundi**	**Maharashtra**	**600**	**SJVNL**	**NTPC**
19	Aruna	Maharashtra	1950	THDCIL	THDCIL
20	Kharari	Maharashtra	1050	THDCIL	THDCIL
21	Jalvara	Maharashtra	2000	SJVNL	SJVNL
22	**Tigaleru**	**Andhra Pradesh**	**1650**	**SJVNL**	**NTPC**

23	**Varahi****	**Karnataka**	**700**	**SJVNL**	**Karnataka Power Corporation Ltd. (KPCL)**
24	Nallar	Tamil Nadu	2700	THDCIL	THDCIL
25	Idukki	Kerala	300	THDCIL	THDCIL
26	Pallivasal	Kerala	600	THDCIL	THDCIL
27	Jharlama	Odisha	2500	NHPC	NHPC
28	Kulbera	West Bengal	1110	DVC	DVC
29	Panchet Hill	West Bengal	600	DVC	DVC
30	Lugupahar	Jharkhand	2800	DVC	DVC
31	Boro	Jharkhand	500	DVC	DVC
32	Tuivai	Manipur	2100	NEEPCO	NEEPCO
33	Hengtam	Manipur	2250	NEEPCO	NEEPCO
34	KhuaiLui	Assam	2100	NEEPCO	NEEPCO
35	LeivaLui	Mizoram	2100	NEEPCO	NEEPCO
36	Pakwa	Mizoram	1000	NHPC	NHPC
37	TuithoLui	Mizoram	1050	NEEPCO	NEEPCO
38	Mat	Mizoram	1400	NEEPCO	NEEPCO
39	TuiphaiLui	Mizoram	1650	NEEPCO	NEEPCO
40	Nghasih	Mizoram	1250	NEEPCO	NEEPCO
41	DaizoLui	Mizoram	2000	SJVNL	SJVNL
42	**Sandynalla**	**Tamil Nadu**	**1200**		**NTPC**
43	**Upper Bhavani**	**Tamil Nadu**	**1000**		**NTPC**
44	**Sigur**	**Tamil Nadu**	**1200**		**NTPC**
45	**Sillahalla Stage-II**	**Tamil Nadu**	**1000**		**NTPC**
46	**Netravathy Stage-I**	**Karnataka**	**1500**		**NTPC**
47	**Indira Sagar – Omkareshwar**	**Madhya Pradesh**	**500**		**NHPC**
48	**Panyor**	**Arunachal Pradesh**	**660**		**NEEPCO**

49	**Kopili**	**Assam**	**320**		**NEEPCO**
50	**CheraKhad**	**Himachal Pradesh**	**500**		**SJVNL**
51	**Dhurmu**	**Himachal Pradesh**	**1600**		**SJVNL**
52	**TaalKhad**	**Himachal Pradesh**	**135**		**SJVNL**
53	**Sadda**	**Himachal Pradesh**	**220**		**SJVNL**
54	**Purthi and Sach Khas PSP**	**Himachal Pradesh**	**190**		**SJVNL**
55	**MalshejGhat**	**Maharashtra**	**700**		**THDCIL**
56	**Humbarli**	**Maharashtra**	**400**		**THDCIL**

** Government of Karnataka has allotted the Varahi PSP to Karnataka Power Corporation Limited (KPCL) and KPCL has already prepared that PFR with installed capacity of 1500 MW.

Summary

Agency	Number of Projects		Capacity (in MW)	
	Earlier	Revised	Earlier	Revised
NHPC	9	**10**	14200	**14700**
SJVNL	10	**11**	13950	**12745**
THDCIL	9	**10**	13955	**12555**
NEEPCO	8	**10**	13900	**14880**
DVC	4	**4**	5010	**5010**
BBMB	1	**1**	1800	**1800**
NTPC	-	**9**	-	**11550**
Total	**41**	**55**	**62815**	**73240**

Annexure-II

Indication of States to Hydro CPSEs / BBMB / DVC for development of Pumped Storage Projects (PSPs)

S. No.	State	Earlier Proposed Agency	Revised Proposed Agency
	Northern Region		
1	UT of Jammu & Kashmir and Ladakh	NHPC	-
2	Himachal Pradesh	SJVN	
3	Uttarakhand	THDCIL	
4	Punjab	BBMB	
5	Haryana	BBMB	
6	Rajasthan	BBMB	
7	Uttar Pradesh	THDCIL	
	Western Region		
8	Maharashtra	NHPC, SJVN, THDCIL	NHPC, SJVN, THDCIL, **NTPC**
9	Gujarat	SJVN	-
10	Madhya Pradesh	NHPC	
11	Chhattisgarh	THDCIL	
	Eastern Region		
12	Jharkhand	DVC	-
13	Bihar	SJVN	
14	Odisha	NHPC	
15	West Bengal	DVC	
16	Sikkim	NHPC	
	Southern Region		
17	Andhra Pradesh	SJVN	**NTPC**
18	Telangana	NHPC	-
19	Tamil Nadu	THDCIL	**NTPC**
20	Karnataka	SJVN	**NTPC**
21	Kerala	THDCIL	-
	North Eastern Region		
22	NER	NHPC, SJVN, THDCIL, NEEPCO	-

ANNEXURE-D

F. No. 09/13/2021-RCM
Ministry of Power
Government of India

Shram Shakti Bhawan, New Delhi
Dated 22 July, 2022

ORDER

Subject: Renewable Purchase Obligation (RPO) and Energy Storage Obligation Trajectory till 2029-30 - regarding.

In exercise of the powers conferred under section 3(3) of Electricity Act, 2003, the Central Government had notified the revised Tariff Policy, which was published in Gazette of India, Extraordinary, Part-I, Section-1 dated 28.01.2016.

2. Para 6.4(1) of the Tariff Policy 2016 provides as follows:

> *"Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs.* ***Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.***
>
> *Provided that cogeneration from sources other than renewable sources shall not be excluded from the applicability of RPOs."*

3. Energy from Hydro Power Projects is Renewable Energy (RE) as has been recognized world over. On 8th March 2019, the Government of India had also recognized Large Hydro Power Projects (LHPs) including Pumped Storage Projects (PSPs), having capacity of more than 25 MW, as part of RE. It was further specified that energy from all LHPs, commissioned after 8th March 2019, will be considered as part of Renewable Purchase Obligation (RPO) through a separate obligation, i.e. Hydro power Purchase Obligation (HPO).

4. Accordingly, the Ministry of Power (MoP), after detailed consultation with Ministry of New and Renewable Energy (MNRE), notified the HPO trajectory for the period from 2021-22 to 2029-30 vide order dated 29th January, 2021 and subsequent clarification dated 1st April, 2021. The revised trajectory of RPOs for Solar and Other Non-Solar power was also notified for the period from 2019-20 to 2021-22. The aforesaid order also mentioned that the RPO trajectory beyond 2021-22 will be specified later.

5. To recommend RPO trajectory beyond 2021-22, a Joint-Committee under the Co-chairmanship of Secretary, Ministry of Power and Secretary, Ministry of New and Renewable Energy, was constituted on 17th December, 2020. Based on the recommendations of the Joint Committee and further discussions with MNRE, MoP hereby specifies the following RPO Trajectory beyond 2021-22:

Year	Wind RPO	HPO	Other RPO	Total RPO
2022-23	0.81%	0.35%	23.44%	24.61%
2023-24	1.60%	0.66%	24.81%	27.08%
2024-25	2.46%	1.08%	26.37%	29.91%
2025-26	3.36%	1.48%	28.17%	33.01%
2026-27	4.29%	1.80%	29.86%	35.95%
2027-28	5.23%	2.15%	31.43%	38.81%
2028-29	6.16%	2.51%	32.69%	41.36%
2029-30	6.94%	2.82%	33.57%	43.33%

(a) Wind RPO shall be met only by energy produced from Wind Power Projects (WPPs), commissioned after 31st March 2022.

(b) HPO shall be met only by energy produced from LHPs (including PSPs), commissioned after 8th March 2019.

(c) Other RPO may be met by energy produced from any RE power project not mentioned in (a) and (b) above.

6. From F.Y. 2022-23 onwards, the energy from all Hydro Power Projects (HPPs) will be considered as part of RPO. The HPO trajectory, as has been notified earlier will continue to prevail for LHPs commissioned after 8th March 2019. All other HPPs will be considered as part of 'RPO' under category of 'other RPO'.

7. RPO shall be calculated in energy terms as a percentage of total consumption of electricity.

8. HPO obligations may be met from the power procured from eligible LHPs (including PSPs) commissioned on and after 8th March, 2019 to 31st March, 2030.

9. HPO obligation of the State/Discom may be met out of the free power being provided to the State from LHPs (including PSPs), commissioned after 8th March, 2019 as per agreement at that point of time excluding the contribution towards LADF, if consumed within the State/Discom. Free power (not that contributed for Local Area Development) shall be eligible for HPO benefit.

10. In case, the free power mentioned above is insufficient to meet the HPO obligations, then the State would have to buy the additional hydro power to meet its HPO obligations or may have to buy the corresponding amount of Renewable Energy Certificate corresponding to Hydro Power.

11. The Renewable Energy Certificate mechanism corresponding to Hydro Power to be developed by CERC to facilitate compliance of HPO Obligation would have a capping price of Rs.5.50/Unit of electrical energy w.e.f. 8th March, 2019 to 31st March, 2021 and with an annual escalation @ 5% thereafter for the purposes of ensuring HPO compliance.

12. The above HPO trajectory shall be tried up on an annual basis depending on the revised commissioning schedule of Hydro projects. The HPO trajectory for the period between 2030-31 and 2039-40 shall be notified subsequently.

13. Hydro power imported from outside India shall not be considered for meeting HPO.

14. Any shortfall remaining in achievement of 'Other RPO' category in a particular year can be met with either the excess energy consumed from WPPs, commissioned after 31st March 2022 beyond 'Wind RPO' for that year or with excess energy consumed from eligible LHPs (including PSPs), commissioned after 8th March 2019 beyond 'HPO' for that year or partly from both. Further, any shortfall in achievement of 'Wind RPO' in a particular year can be met with excess energy consumed from Hydro Power Plants, which is in excess of 'HPO' for that year and vice versa.

15. The following percentage of total energy consumed shall be solar/wind energy along with/ through storage.

F.Y.	Storage (on Energy basis)
2023-24	1.0 %
2024-25	1.5 %
2025-26	2.0 %
2026-27	2.5 %
2027-28	3.0 %
2028-29	3.5 %
2029-30	4.0 %

16. The Energy Storage Obligation in para 15 above shall be calculated in energy terms as a percentage of total consumption of electricity and shall be treated as fulfilled only when at least 85% of the total energy stored in the Energy Storage System (ESS), on an annual basis, is procured from renewable energy sources.

17. The Energy Storage Obligation to the extent of energy stored from RE sources shall be considered as a part of fulfilment of the total RPO as mentioned in para 5 above.

18. The Energy Storage Obligation shall be reviewed periodically considering the commissioning/ operation of PSP capacity, to accommodate any new promising commercially viable Energy Storage technologies and also reduction in cost of Battery Energy Storage Systems (BESS).

19. POSOCO will maintain a data related to compliance of RPO Obligations.

20. Further, the State Commissions may consider notifying RPO trajectory including HPO and Energy Storage Obligation trajectory for their respective States, over and above the RPO, HPO and Energy Storage Obligation trajectory given in para 5. Moreover, the Central Commission shall consider devising a suitable mechanism similar to Renewable Energy Certificate (REC) mechanism to facilitate fulfilment of HPO.

21. This issues with the approval of Hon'ble Minister of Power and New & Renewable Energy.

(Piyush Singh)
Joint Secretary to the Government of India
Tele No: 011-23714367

To

1. ACS/Principal Secretary/Secretary (Power/Energy), State Governments/UTs.
2. Secretary (CERC/FOR), New Delhi
3. Secretary, State Electricity Regulatory Commissions/Joint Electricity Regulatory Commissions

Copy to:

1. Secretary, MNRE, New Delhi
2. Chairperson, CEA, New Delhi

Copy also for information to;

1. PS to Hon'ble Minister for Power and NRE
2. Additional PS to Hon'ble Minister of State for Power
3. Sr. PPS to Secretary(P)/PPS to AS&FA, MoP/ PPS to AS(AT), MoP
4. PPS to All Joint Secretaries/ EA/ CE, MoP

ANNEXURE-III

No. 23/12/2016-R&R
Government of India
Ministry of Power
***

Shram Shakti Bhawan, Rafi Marg,

New Delhi, 23rd November, 2021

ORDER

Subject: Waiver of inter-state transmission charges on transmission of the electricity generated from solar and wind sources of energy under Para 6.4(6) of the Tariff Policy, 2016.

1.0 In exercise of the powers conferred under section 3(3) of Electricity Act, 2003, the Central Government notified the revised Tariff Policy on 28.01.2016.

2.0 In accordance with the Para 6.4(6) of the Tariff Policy 2016, Ministry of Power issued Order No. 23/12/2016-R&R dated 30.09.2016 on waiver of inter-state transmission charges on transmission of the electricity generated from solar and wind sources of energy. This order was amended vide orders dated 14.06.2017, 13.02.2018, 06.11.2019, 05.08.2020, 15.01.2021 and 21.06.2021.

3.0 With a view to encourage faster capacity addition based on solar or wind energy sources, in supersession of aforesaid orders and in accordance with para 6.4 (6) of the Tariff Policy, 2016 and sub-rule 12 of rule 5 of the Electricity (Transmission System Planning, Development and Recovery of Inter-State Transmission Charges) Rules, 2021, the following are notified:

3.1 For the solar, wind, Hydro PSP and BESS Projects commissioned upto 30.06.2025, the waiver of inter-state transmission charges shall be applicable for the following:

(i) Solar or wind energy generation set up by any person/entity. The power generated from such sources can be self consumed or sold to any entity either through competitive bidding, Power Exchange or through bilateral agreement.

(ii) Electricity from solar and/or wind sources used by Hydro Pumped Storage Plant (PSP) and Battery Energy Storage System (BESS) projects and subject to the following conditions:

(a) atleast 51% of the annual electricity requirement for pumping of water in the Hydro Pumped Storage Plant is met by use of electricity generated from solar and/or wind power plants.

(b) atleast 51% the annual electricity requirement for charging of the Battery Energy Storage System is met by use of electricity generated from solar and/or wind power plants.