

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO. /GT/2026

IN THE MATTER OF : Petition under Section 62 and Section 79 (1)(a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Regulation-9 & 29A of The Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 **for approval of additional capitalization and supplementary tariff w.e.f., anticipated CODess on account of installation of Integrated Battery Energy Storage Systems of 207MW/414MWh capacity under the VGF scheme, GOI at Solapur Super Thermal Power Station (2x660 MW) for the period from 29.09.2027(anticipated CODess) to 31.03.2029.**

AND

IN THE MATTER OF:

Petitioner : NTPC Ltd.
NTPC Bhawan
Core-7, Scope Complex,
7, Institutional Area, Lodhi Road
New Delhi – 110003

Respondents : 1. Madhya Pradesh Power Management Company Ltd. (MPPMCL), Shakti Bhawan, Vidyut Nagar, Jabalpur 482008

2. Maharashtra State Electricity Distribution Co Ltd. (MSEDCL) Prakashgad, Bandra (East), Mumbai 400051

3. Chhattisgarh State Power Distribution Co. Ltd
(CSPDCL)
P.O. Sundar Nagar,Danganiya, Raipur – 492013
4. Electricity Department, Government of Goa (EDG),
Vidyut Bhawan, Panaji, Goa
5. Dadra And Nagar Haveli and Daman and Diu
Power Distribution Corporation Limited
(DNHDDPDCL), 1st & 2nd Floor, Vidyut Bhavan,
Silvassa-396230

INDEX

S.NO	DESCRIPTION	PAGE NO
1	General Headings	1-2
2	Index	3
3	Executive Summary of the petition	4-6
4	Detailed petition (Petition for Approval of Additional capitalisation and Supplementary Tariff for BESS installation at Solapur Super Thermal Power Station 2x660 MW for the period 2027-29)	7-15
5	Appendix-A (BESS-Tariff Forms)	16-35
6	Annexure-A (Govt of India scheme dated 09.06.2025 for VGF for BESS)	36-42
7	Annexure-B (Investment Approval resolution dated 28.03.2026)	43
8	Proof of payment of fees for filing of the petition (From-I)	44-45
9	Declaration	46
10	Affidavit/Verification	47-48

Petition

Executive Summary of the Petition (Summary of Issues)

The present petition is being filed under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 read with subsequent Second Amendment for approval of additional capitalisation of integrated BESS (414 MWh) at Solapur Super Thermal Power Station (2x660 MW) and its supplementary tariff for the period from anticipated CODess i.e. 29.09.2027 to 31.03.2029.

Brief background of the petitioner

- i) The Petitioner herein NTPC Limited (hereinafter referred to as '**Petitioner**' or '**NTPC**'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003 and is owned and controlled by the Government of India. In terms of Section 79(1)(a) of the Act, this Hon'ble Commission is vested with exclusive jurisdiction to regulate the tariff of NTPC.

Brief background of the Respondent(s)

- ii) The respondents to the instant petition are the distribution license/ bulk power procuring utilities and are the beneficiaries of the instant generating station i.e. Solapur Super Thermal Power Station (2x660 MW). Power generated from the instant station is being supplied as per MoP allocation and respective PPAs to the beneficiaries including MPPMCL (M.P), CSPDCL (Chhattisgarh), MSEDCL (Maharashtra), EDG (Electricity Deptt. of Goa), DNHDDPDCL (UT of DNHDD).

Background of Generating Station/Unit

- iii) The Petitioner is having power stations/ projects at different regions and places in the country. Solapur Super Thermal Power Station (2x660 MW) (hereinafter referred to as '**Solapur STPS**') is one such coal-based thermal generating station located in Solapur District in the State of Maharashtra. It comprises two operational units each of 660 MW capacity. The station achieved its COD on 30.03.2019.

Brief description of important events relevant to the Petition

- iv) Considering the strategic requirement of Energy Storage in India, on 09.06.2025, Ministry of Power, Government of India (“MoP”) has issued Viability Gap Funding Scheme for the development of Battery Energy Storage Systems (BESS) supported through Power System Development Fund (hereinafter referred as “VGF Scheme”). This VGF scheme provides VGF to 15 States and NTPC for development of 30 GWh BESS capacity supported through Power System Development Fund (“PSDF”).
- v) This VGF scheme, inter alia, allocated 5000 MWh (5GWh) of Battery Energy Storage System (BESS) capacity to NTPC for deployment at NTPC thermal power generating stations with Viability Gap Funding @ Rs. 18 Lakhs per MWh.
- vi) BESS capacity has been allocated to NTPC for optimum utilization of thermal generation and transmission infrastructure as well as to facilitate meeting non-solar hour electricity demand in a reliable and economic manner. The VGF Scheme further provides that the BESS capacity allocated to NTPC is to be implemented under Section 62 of the Electricity Act, 2003 as per CERC regulations/orders.
- vii) The CERC (Terms and Condition of Tariff) (Second Amendment) Regulations 2026 has introduced/inserted Regulation 29A in respect of additional capitalization on account of an integrated energy storage system with the generating station.
- viii) The petitioner has awarded the EPC package through competitive bidding route for installation of BESS (207MW/414MWh) at Solapur STPS. The scheduled commissioning of BESS has been considered 18 months from the date of award of the package. The detailed submission regarding BESS and indicative supplementary tariff is being provided with the instant tariff petition.
- ix) Accordingly, the Petition is being filed by the Petitioner for approval of additional capitalization of BESS at Solapur STPS and supplementary tariff on anticipated CODess, as per the provisions of Regulation 9 of Tariff Regulations 2024 read with Second Amendment.

Summary of Claims

In the light of above submission, the petitioner, therefore, prays that the Hon'ble Commission may be pleased to:

- a. Grant approval for additional capitalization for BESS as Integrated Energy Storage System at Solapur STPS.
- b. Approve indicative supplementary tariff from anticipated CODess for Integrated BESS at Solapur STPS.
- c. Grant liberty to amend instant petition for approval of supplementary tariff based on actual cost on CODess after implementation of Integrated Energy Storage System as per Regulations 9 (4)(a) and 29 (A)(4) of CERC Tariff Regulations 2024 and amendments thereof.
- d. Allow the petitioner for submission of additional information, facts and documents as may be required during the course of proceedings.
- e. Pass any other order as it may deem fit in the circumstances mentioned above.

Detailed Petition

The petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as '**Petitioner**' or '**NTPC**'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) The Petitioner is having power stations/projects at different regions and locations in the country. Solapur Super Thermal Power Station (hereinafter referred as "**Solapur STPS**") is one such station located in the state of Maharashtra with an installed capacity of 2x660 MW. The station supplies electricity to beneficiaries in terms of allocation made by the Ministry of Power, Government of India.
- 3) Under Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission is vested with the jurisdiction to regulate the tariff of the Generating Companies owned or controlled by the Central Government. Further, in exercise of powers under Section 178 of the Electricity Act, 2003, the Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2024 (hereinafter called "Tariff Regulations 2024") and its Second Amendment.
- 4) The Government of India (GOI) is taking decisive steps to transition from fossil fuels to non-fossil energy resources. However, incorporating significant amount of variable and intermittent Renewable Energy (VRE) creates significant operational challenge for maintaining grid stability and operation of thermal generating stations. The vast amount of RE integration requires the support of thermal generators in India for demand-supply management & grid stability during solar & non-solar hours. This leads to cyclic scheduling/operation of thermal generating station(s). At many instances, thermal generating stations are being scheduled below technical minimum level during solar hours, whereas full schedule during non-solar hours. Such scheduling below Technical Minimum level is posing problem for keeping thermal generating unit(s) on bar to meet the demand during non-solar hours.

If the coal-based generation resources are to be used as a transition fuel in India, there is a requirement to keep the coal-based generating units spinning (on bar) to absorb

the variability and intermittency of renewable generation in India. Therefore, the integration of an energy storage system (ESS) with the coal-based generating stations is the need of hour to enhance the grid stability and reliability of the power system by quickly responding to fluctuations in demand and supply through an integrated energy storage system.

- 5) Integration of large-scale variable energy resources necessitates additional measures required for grid stability and reliability of the power system for minimizing operational risk of the grid and enable the infusion of other flexible generation resources into the grid to balance the variability of the renewable generation. Increasing share of RE also necessitates flexible operation of thermal generating plants. The variability of renewable generation requires thermal generators to back down during periods of high RE availability, especially during solar hours. However, during non-solar hours, when solar generation is not available, thermal plants are essential to meet the demand.
- 6) Considering the strategic requirement of Energy Storage in India, on 09.06.2025, Ministry of Power, Government of India ("MoP") has issued Viability Gap Funding Scheme for the development of Battery Energy Storage Systems (BESS) supported through Power System Development Fund (hereinafter referred as "VGF Scheme"). This VGF scheme provides VGF to 15 States and NTPC at Rs. 18 Lakhs per MWh for development of 30 GWh BESS capacity supported through Power System Development Fund ("PSDF").
- 7) This VGF scheme, inter alia, allocated 5000 MWh (5GWh) of Battery Energy Storage System (BESS) capacity to NTPC for deployment at NTPC thermal power generating stations. BESS Capacity has been allocated to NTPC for optimum utilization of thermal generation and transmission infrastructure as well as to facilitate meeting non-solar hour electricity demand in a reliable and economic manner. Accordingly, out of 5000 MWh, 414 MWh of BESS is being implemented by NTPC at Solapur STPS.

The VGF Scheme further provides that the BESS capacity allocated to NTPC is to be implemented under Section 62 of the Electricity Act, 2003 as per CERC regulations/orders.

A copy of the VGF scheme dated 09.06.2025 is attached as **Annexure-A**.

- 8) On 20.03.2026, the Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2026 and the same has come into force from 10.04.2026. The Second Amendment has introduced/inserted Regulation 29A in respect of additional capitalization on account of an integrated energy storage system with the generating station. The Regulation 29A provides as below:

Quote

“29A. Additional Capitalization on account of an integrated energy storage system with the generating station:

*(1) A generating company required to incur additional capital expenditure in the existing generating station for an integrated energy storage system shall share its proposal with the beneficiaries for their consideration, and seek response within 30 days. The generating company shall, thereafter, file a petition for in-principle approval of the integrated energy storage system in the planning stage along with the response of the beneficiaries, except those covered under the viability gap funding scheme. **For the integrated energy storage system covered under the viability gap funding scheme, the generating company shall file the petition for approval at the subsequent stage, within six months from the notification of these regulations.***

(2) The proposal under clause (1) above shall contain details of the proposed technology, scope of the work, phasing of expenditure, schedule of completion, estimated completion cost including interest during construction, foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, cost-benefit analysis and any other information considered to be relevant by the generating company.

(3) Where the generating company makes an application for approval of additional capital expenditure for installation of integrated energy storage system, the Commission may grant in-principle approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission..

(4) After completion of the implementation of the integrated energy storage system, the generating company shall file a petition for the determination of a supplementary tariff for the integrated energy storage system. Any expenditure incurred or projected to be incurred and admitted by the Commission after a prudence check based on the reasonableness of the cost shall form the basis of the determination of the tariff.

(5) Un-discharged liability, if any, on account of the integrated energy storage system shall be allowed as additional capital expenditure during the year it is discharged, subject to prudence check.”

Unquote

- 9) In terms of the above, the Petitioner is filing the instant petition for approval of additional capitalization in relation to installation of Integrated BESS (207MW/414MWh) at Solapur STPS under Govt. of India VGF scheme dated 09.06.2025 and supplementary tariff (on anticipated COD) in accordance with the provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 and its subsequent Second Amendment.
- 10) The petitioner has accordingly calculated the indicative supplementary tariff for BESS installation at Solapur STPS on anticipated CODess and same is attached as **Appendix-A.**
- 11) It is submitted that the Board of Directors of NTPC in its 565th meeting held on 28th March 2026 accorded the Investment Approval (IA) for installation of Battery Energy Storage System (BESS) comprising of Total Capacity 4.70 GWh (including 414 MWh at Solapur STPS) at a total project cost of ₹5,821.90 Crore including IDC and Financing Charges of ₹220.45 Crore at Q4 FY 2025-26 price level, with an envisaged COD after 18 months from the date of award of the projects. Copy of the Investment Approval is annexed herewith as **Annexure-B.**
- 12) It is further submitted that Solapur STPS forms part of the aforesaid BESS Project and has been allocated a Battery Energy Storage System (BESS) capacity of 414 MWh. The investment approval dated 28.03.2026 corresponding to 4.7 GW includes project cost of ₹547.87 Crore pertaining to BESS at Solapur STPS.

- 13) It is further submitted that EPC package for implementation of BESS at Solapur STPS has been awarded through competitive bidding route. Notification of award (NOA) has been issued on 30.03.2026. Further, as per IA, the schedule completion i.e. COD of the BESS is envisaged as 18 months from the date of award of the project.
- 14) The BESS capacity/configurations and generating station locations have been identified primarily considering the availability of Un-requisitioned Surplus (URS) power and availability of required land.

The details of BESS to be set up at Solapur STPS are provided below in subsequent paragraphs:

1	Total Capacity of BESS	207MW/414 MWh
2	Cycles per day	2 cycles of 2 hours each day
3	Technology	Lithium Iron Phosphate (LFP) battery technology
4	Capital Cost (Estimated completion cost including IDC & FC)	Rs 547.87 Cr
5	Viability gap funding (VGF)	Rs 18 lakh/MWh at milestones as mentioned in the VGF Scheme
6	Implementation period	18 months from the date of award. Date of award: 30.03.2026
7	Scope of the work	The scope includes BESS Implementation at NTPC thermal stations and interconnection with the existing thermal power plant facilities. The BESS shall comprise of Battery System, Battery Management System (BMS), Energy Management System (EMS) and SCADA, Power Conversion System (PCS), Inverter Duty Transformer (IDT), 33 kV pooling switchgear, Protection

		system, Communication System, HT & LT System, Auxiliary power system, Fire Fighting, remote control and monitoring, and all other associated materials and accessories necessary for trouble free operation and maintenance of the BESS system.
8	Operating/Financial Parameters Considered as provided in CERC (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2026.	
(i)	Useful life	15 years
(ii)	Round Trip efficiency (RTE _{ess})	85 %
(iii)	Auxiliary Energy Consumption (AEC _{ess})	5 % of the BESS Input energy
(iv)	Annual Degradation factor	2%
(v)	Normative Availability Factor (NAPAF _{ess})	90 %
(vi)	Return on Equity (post tax)	14.00 %
(vii)	Interest on Working Capital	11.95 %
(viii)	O&M Cost (as % of original project cost)	2.00 %
(ix)	Annual escalation in O&M Cost up to 2 years	5.25 %
(x)	Working Capital	
	Receivables (no of days)	45
	Maintenance Spares (as % of O&M Cost)	10.00 %
	O&M Expenses (no of month)	1
(xi)	Debt: Equity Ratio	70:30
9	VGF	Rs 18.00 Lakh per MWh
10	Indicative tariff of BESS, on the basis of the capital cost and the operating parameters as mentioned above, is as follows:	
(i)	Indicative 1 st year Annual fixed charges of BESS - Solapur STPS	Rs 100.45 Cr/year*
	Indicative 1 st year Supplementary Capacity Charges BESS- Solapur STPS	Rs 3.70/kWh

	<i>* The total fixed storage charge for BESS shall be borne by its beneficiaries as per their respective percentage share or allocation in the capacity of the generating station where the BESS is installed.</i>
(ii)	Supplementary Energy charge : As per Regulation 8(5a), Supplementary energy charge of the integrated energy storage system shall be computed based on the energy charge rate of the electricity sourced from the associated generating station or the tariff of the electricity procured for charging the integrated energy storage system based on sources other than the associated generating station, as the case may be, adjusted for the round-trip efficiency and auxiliary energy consumption of the integrated energy storage system.

15) It is submitted that installation of BESS at thermal stations will lead to the following benefits:

- i. Assured Peak-Hour Supply at Lower Cost Compared to peak Market Rates:
 - a. Ensures assured availability of power during peak hours, improving system reliability for beneficiaries.
 - b. During non-solar hours, renewable energy (RE) generation drops significantly, resulting in power shortages and sustained high prices in the Power Exchange (PX), often reaching the ceiling rate of ₹10/kWh. In many instances, the required quantum of power is also not available in the market.
 - c. In this context, installing BESS offers a reliable and strategic solution. BESS can store Un-Requisitioned Surplus (URS) from thermal power stations during solar/off-peak hours and discharge this stored energy during morning and evening peak hours, thereby ensuring dependable supply at competitive rates.
- ii. Reduced Cycling of Thermal Units: Minimizing frequent ramping and cycling operations of thermal generating units enhances plant performance, efficiency, and life, ultimately benefiting beneficiaries.

- iii. Optimum utilization of existing transmission infrastructure: Optimum utilisation of existing transmission infrastructure has been envisaged for the evacuation of power for BESS.
 - iv. Transparent and competitive Cost: Capital cost has been discovered through Transparent competitive bidding and tariff determination shall be through the cost-plus regulatory framework.
- 16) Upon completion of implementation of the BESS system at Solapur STPS (i.e. after COD of BESS), the Petitioner shall file a separate petition/amend the instant petition for determination of supplementary tariff, as directed by Hon'ble Commission, in terms of Regulations 9 (4)(a) and Regulations 29 (A) (4) based on actual expenditure incurred as well as projected expenditure to be incurred, as applicable, and normative operating parameters/ norms as specified by the Hon'ble Commission in Tariff Regulations 2024 as amended from time to time.
- 17) It is submitted that the Petitioner has uploaded the copy of the Petition at CERC site (Saudamini), the access of which is available to all the Respondents mentioned herein above and therefore the petition stands served to all the respondents. Further, the petitioner has also posted the Petition on the company website i.e. **www.ntpc.co.in**.

Prayers

It is respectfully prayed that the Hon'ble Commission may be pleased to:

- a. Grant approval for additional capitalization for BESS as Integrated Energy Storage System at Solapur STPS.
- b. Approve the indicative supplementary tariff from the anticipated COD for Integrated BESS at Solapur STPS.
- c. Grant liberty to amend instant petition for approval of supplementary tariff based on actual cost incurred on CODess after implementation of Integrated Energy Storage System as per Regulations 9(4)(a) and 29(A)(4) of CERC Tariff Regulations 2024 and amendments thereof.
- d. Allow the petitioner for submission of additional information, facts and documents as may be required during the course of proceedings.

- e. Pass any other order as it may deem fit in the circumstances mentioned above.

**TARIFF FILING FORMS (BATTERY ENERGY STORAGE-
BESS)**

**FOR DETERMINATION OF SUPPLEMENTARY TARIFF
FOR**

Solapur STPS BESS (207MW/414MWh)

(From anticipated COD- 29.09.2027 to 31.03.2029)

PART-I

Appendix-A

Checklist of Main Tariff Forms and other information for tariff filing for inetgarded energy storage- BESS		
Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A	Statement showing O&M Expenses	✓
FORM-3B	Statement of Special Allowance	NA
FORM- 4	Details of Foreign loans	**
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	**
FORM-5A	Abstract of Claimed Capital Cost for the existing Projects	**
FORM- 6	Financial Package upto COD	NA
FORM- 7	Details of Project Specific Loans	**
FORM- 8	Details of Allocation of corporate loans to various projects	**
FORM-9A	Summary of Statement of Additional Capitalisation claimed during the period	**
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM- 10	Financing of Additional Capitalisation	✓
FORM- 11	Calculation of Depreciation on original project cost	✓
FORM- 12	Statement of Depreciation	✓
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	NA
FORM- 15	Details of Fuel for Computation of Energy Charges	**
FORM- 15A	Details of Seconday Fuel for Computation of Energy Charges	**
FORM- 15B	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	***
FORM- 18	Non-Tariff Income	***
FORM-19	Details of Water Charges	***
FORM-20	Details of Statutory Charges	***
** Shall be provided at the time of COD		PART-I
*** Shall be provided at the time of true up		
<u>List of Supporting Forms / documents for tariff filing for BESS</u>		
Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-A	Abstract of Capital Cost Estimates	✓
FORM-B	Break-up of Capital Cost for Coal/Lignite based projects	✓
FORM-C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	NA
FORM-D	Break-up of Construction/Supply/Service packages	NA
FORM-E	Details of variables , parameters , optional package etc. for New Project	NA
FORM-F	Details of cost over run	**
FORM-G	Details of time over run	**
FORM -H	Statement of Additional Capitalisation during end of the useful life	NA
FORM -I	Details of Assets De-capitalised during the period	***
FORM -J	Reconciliation of Capitalisation claimed vis-à-vis books of accounts	***
FORM -K	Statement showing details of items/assets/works claimed under Exclusions	***
FORM-L	Statement of Capital cost	**
FORM-M	Statement of Capital Woks in Progress	**
FORM-N	Calculation of Interest on Normative Loan	✓
FORM-O	Calculation of Interest on Working Capital	✓
FORM-P	Incidental Expenditure up to SCOD and up to Actual COD	**
FORM-Q	Expenditure under different packages up to SCOD and up to Actual COD	**
FORM-R	Actual cash expenditure	**
FORM-S	Statement of Liability flow	**
FORM-T	Summary of issues involved in the petition	✓
** Shall be provided at the time of COD		
*** Shall be provided at the time of true up		

<u>List of supporting documents for tariff filing for BESS</u>		
S. No.	Information / Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Station setup by a company making tariff application for the first time to CERC)	NA
2	A. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the Station for the new station & for the relevant years. B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	*
3	Copies of relevant loan Agreements	NA
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	✓
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	NA
6	Copies of the BPSA/PPA with the beneficiaries, if any	NA
7	Detailed note giving reasons of cost and time over run, if applicable. List of supporting documents to be submitted: a. Detailed Project Report b. CPM Analysis c. PERT Chart and Bar Chart d. Justification for cost and time Overrun	#
8	Generating Company shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the Generating Unit wise /stage wise/Station wise/ and subsequently consolidated at Company level as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021-22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	*
9	Any other relevant information, (Please specify)	
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	*
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA
#	Shall be given at the time of COD	
*	Information shall be provided at the time of true up	
Note	1: Electronic copy of the petition (in words format) and detailed calculation as per these formats (in excel format) and any other information submitted has to be uploaded in the e-filing website.	

PART 1 FORM- A		
<u>Abstract of Capital Cost Estimates and Schedule of Commissioning for the New Projects (integrated energy storage system)</u>		
Name of the Petitioner	NTPC Ltd	
Name of the Generating Station	Solapur STPS BESS (414MWh)	
<u>New Projects</u>		
<u>Capital Cost Estimates</u>	(Amount in Rs lakh)	
Board of Director/ Agency approving the Capital cost estimates:	Board of Directors	
Date of approval of the Capital cost estimates:	28.03.2026	
	Present Day Cost	Estimated Completed Cost
Price level of approved estimates	4th Qtr of FY2025-26	As on Scheduled COD of the Station
Foreign Exchange rate considered for the Capital cost estimates		
Capital Cost excluding IDC, IEDC & FC (Rs. Lakh)		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Lakh)		
Capital cost excluding IDC, IEDC, FC, FERV & Hedging Cost (Rs. Lakh)	52704.00	
IDC, IEDC,FC, FERV & Hedging Cost		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Lakh)		
Total IDC, IEDC, FC, FERV & Hedging Cost (Rs. Lakh)	2083.00	
Rate of taxes & duties considered		
Capital cost Including IDC, IEDC, FC, FERV & Hedging Cost		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Lakh)		
Capital cost Including IDC, IEDC& FC (Rs. Lakh)	54787.00	
Schedule of Commissioning		
Scheduled COD of integrated BESS	29.09.2027	
Scheduled COD of integrated BESS as per Investment Approval	29.09.2027	
Petitioner		

PART-I							PART-II
FORM- B							
Break-up of Capital Cost for Integrated Energy Storage system							
Name of the Petitioner				NTPC Ltd			
Name of the Generating Station				Solapur STPS BESS (414MWh)			
(Amount in Rs. Lakh)							
Sl. No.	Break Down	As per Investment Approval (IA)	Anticipated Capital Expenditure of Battery Energy Storage (BESS) at Solapur STPS as on anticipated COD 29.09.2027	Liabilities corresponding to Capitalisation shown in Column (4)	Variation With Respect to IA (3-4-5)	Specific Reasons for Variation	Estimated Capital expenditure upto Cut-off date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Specific Equipment of ESS						
1.1	Battery Pack Cost						
1.2	Power Conversion System (PCS)						
1.3	AC-DC/DC-DC Coupling cost	52,704.00	52,704.00				52,704.00
1.4	Battery Management System (BMS)						
1.5	Specific fire protection system						
1.6	Initial spares	Included above					
	Total Capital cost excluding IDC & FC	52,704.00	52,704.00	-	-		52,704.00
2	IDC, FC, IEDC, FERV & Hedging Cost						
2.1	Interest During Construction (IDC)	2,083.00	2,083.00				2,083.00
2.2	Financing Charges (FC)						
2.3	Incidental Expenditure During Construction (IEDC)	Included in S.No1 above	Included in S.No1 above				
	Total of IDC, FC, IEDC, FERV & Hedging Cost	2,083.00	2,083.00		-		2,083.00
	Capital cost of BESS (including IDC, FC, IEDC, FERV & Hedging Cost)	54,787.00	54,787.00	-	-		54,787.00
(Petitioner)							

PART-I FORM- N				
Calculation of Interest on Normative Loan				
Name of the Company :		NTPC Ltd		
Name of the Power Station :		Solapur STPS BESS (414MWh)		
(Amount in Rs Lakh)				
S. No.	Particulars	Existing 2026-27	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	7	8
1	Gross Normative loan – Opening	NA	37,307.62	34,699.42
2	Cumulative repayment of Normative loan up to previous year		0.00	1,645.66
3	Net Normative loan – Opening		37,307.62	33,053.76
3a	Viability Gap Funding (VGF)-As per VGF Scheme, during the year/period		2,608.20	1,564.92
4	Add: Increase due to addition during the year / period		-	-
5	Less: Decrease due to de-capitalisation during the year / period		-	-
6	Less: Decrease due to reversal during the year / period		-	-
7	Add: Increase due to discharges during the year / period		-	-
8	Net addition in loan during the period (4+5+6+7)		0.00	0.00
9	Less: Repayment of Loan		1,645.66	3,067.06
10	Net Normative loan - Closing		33,053.76	28,421.77
11	Average Normative loan		35,180.69	30,737.76
12	Weighted average rate of interest*		8.25%	8.25%
13	Interest on Loan	2902.41	2535.87	
* Provisionally considered and actual applicable rate shall be provided at the time of COD petition (Petitioner)				

PART 1 FORM- O					
<u>Calculation of Interest on Working Capital</u>					
Name of the Company :			NTPC Ltd		
Name of the Power Station :			Solapur STPS BESS (414MWh)		
(Amount in Rs Lakh)					
S. No.	Particulars		Existing 2026-27	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2		3	7	8
1	No of days		NA	185.00	365.00
2	O & M Expenses	1 month		87.84	92.45
3	Maintenance Spares	@10% of O&M		105.41	110.94
4	Receivables	45 days		1235.14	1156.86
5	Total Working Capital	Rs Lakh		1428.38	1360.25
6	Rate of Interest	%		11.95	11.95
7	Interest on Working Capital	Rs Lakh		170.69	162.55
Petitioner					

Form-O(i)				
Calaculation of Supplementary ECR				
ADDITIONAL FORM				
Name of the Company			NTPC Ltd	
Name of the Power Station			Solapur STPS BESS (414MWh)	
(Amount in Rs Lakh)				
SN	Particulars	Unit	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	Installed Capacity BESS	MWh	414	414
2	NAPAFess	%	90	90
3	Additional Auxiliary Power Consumption (BESS) AECess	%	5	5
4	Round Trip Effeciency (RTEess)	%	85	85
5	Cycles	No	2	2
6	Annuual Degradation	%	2	2
6a	Opening Capacity	MWh	414	409.81
6b	Closing Capacity	MWh	409.81	401.53
7	Avg Capacity after degradation	MWh	411.91	405.67
8	Annual Energy - OUT-BESS	MU	271.365	267.259
9	Annual Energy - IN-BESS	MU	336.055	330.970
10	Average ECR of the station-Solapur STPS*	Rs/kWh		
11	Cost of Energy - Input (Charging)	Rs lakh	0.00	0.00
12	Supplementary Energy Charge Rate (BESS)	Rs/kWh	0.00	0.00
13	ECR Contribution of BESS	Rs/kWh	0.00	0.00
14	No of Days in the year	Days	366	365
15	ESO in 1 Day	MU	0.741	0.732
16	Variable Cost for 1 Day	Rs Lakh	0.000	0.000
17	Variable Cost for 45 Day	Rs Lakh	0.00	0.00
Note	* Regulation 64B (2) of the CERC Tariff Regulations 2024 read with Second Amendement provides that "The energy used for charging the integrated energy storage system shall be arranged from the surplus generation from the associated generating station where the integrated energy storage system is installed or the other generating station or from the open market." Further, Regulations 74(2)(a) provide that the procedure for charging, scheduling, and dispatch of electricity and energy account for the integrated ESS shall be prepared by the NLDC in consultation with stakeholders. In view of the above, Average ECR of charging would only be known based on actual source of charging of the ESS, and the same shall be considered for the computation of the supplementary energy charge and Interest on working capital at the time of filing the petition for supplementary tariff determination after actual CODess..			
Petitioner				

PART 1 FORM-T						
Summary of issue involved in the petition						
Name of the Company :		NTPC Ltd				
Name of the Power Station :		Solapur STPS BESS (414MWh)				
1	Petitioner:	NTPC Ltd				
2	Subject	Approval of additional capitalisation of BESS at Solapur STPS and supplementary tariff (on anticipated CODess) for the period from 29.09.2027 to 31.03.2029				
3	Prayer: i) Grant approval for additional capitalization for BESS as Integrated Energy Storage System at Solapur STPS. ii) Approve the indicative supplementary tariff from the anticipated COD for Integrated BESS at Solapur STPS. iii) Grant liberty to amend the instant petition for approval of supplementary tariff based on actual cost incurred on CODess after implementation of Integrated Energy Storage System as per Regulations 9 (4)(a) and 29 (A)(4) of CERC Tariff Regulations 2024 and amendments thereof. iv) Allow the petitioner for submission of additional information, facts and documents as may be required during the proceedings. v) Pass any other order as it may deem fit in the circumstances mentioned above.					
4	Respondents:					
	Name of Respondents					
	MSEDCL	Electricity Deptt, Goa				
	CSPDCL	DNHDDPDCL				
	MPPMCL					
5	Project Scope					
		2024-25	2025-26	2026-27	2027-28	2028-29
	Cost					
	Commissioning					
	Claim					
	AFC (in Rs Lakh)				10045.78	9383.42
	Capital cost (in Rs Lakh)				51,433.60	48,452.80
	Initial spare	to be provided later				
	NAPAF (Gen)	90%				
	Any Specific	-				

PART-I FORM- 1					
Summary of Tariff					
Name of the Petitioner:			NTPC Ltd		
Name of the Generating Station:			Solapur STPS BESS (414MWh)		
Place (Region/District/State):			Western Region/Solapur/ Maharashtra		
Amount in Rs. Lakhs					
S. No.	Particulars	Unit	Existing (2026-27)	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	4	8	9
1.1	Depreciation	Rs Lakh	NA	3,255.75	3,067.06
1.2	Interest on Loan	Rs Lakh		2,902.41	2,535.87
1.3	Return on Equity	Rs Lakh		2,662.85	2,508.53
1.4	Interest on Working Capital	Rs Lakh		170.69	162.55
1.5	O&M Expenses	Rs Lakh		1054.08	1109.42
	Total	Rs Lakh		10045.78	9383.42
1.6	Supplementary Capacity Charges (BESS)	Rs/Unit		3.70	3.51
2	Supplementary Energy Charges & Source of Charging*				
2.1	Same Generating Station (Solapur STPS)	Rs/Unit			-
2.2	Another Generating Station 1 (Name)	Rs/Unit			
2.3	Another Generating Station 2 (Name)	Rs/Unit			
2.4	Renewable Generation 1 (Name)	Rs/Unit			
2.5	Renewable Generation 2 (Name)	Rs/Unit			
2.6	Open Market (Name of Platform/Traders)	Rs/Unit			
	Total	Rs/Unit		-	-
Note:	<i>* As per Regulation 8(5a) of CERC Tariff Regulations, 2024 read with Second Amendment, "Supplementary energy charge of the integrated energy storage system shall be computed based on the energy charge rate of the electricity sourced from the associated generating station or the tariff of the electricity procured for charging the integrated energy storage system based on sources other than the associated generating station, as the case may be, adjusted for the round-trip efficiency and auxiliary energy consumption of the integrated energy storage system."</i> <i>Further, Regulations 74(2)(a) provide that the procedure for charging, scheduling, and dispatch of electricity and energy account for the integrated ESS shall be prepared by the NLDC in consultation with stakeholders.</i> <i>As the Supplementary energy charge would only be known based on actual source of charging of the integrated BESS, the same shall be furnished at the time of filing the petition for supplementary tariff determination after actual CODess.</i>				
(Petitioner)					

PART-I FORM- 1(I)			
Name of the Petitioner:		NTPC Ltd	
Name of the Generating Station:		Solapur STPS BESS (414MWh)	
Amount in Rs. Lakhs			
<u>Statement showing claimed capital cost of the integrated energy storage system</u>			
S. No.	Particulars	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	4
1	Capital Cost	54,787.00	49,570.60
1a	Un-Amortized Finance Charges		
1b	Notional IDC		
1c	Loan ERV Charged to P&L		
1d	Less: 20% of applicable VGF on COD as per VGF scheme of GOI	1,490.40	-
1e	Opening Capital Cost	53,296.60	49,570.60
1f	Less: 50%/30% of applicable VGF during the year as per VGF scheme of GOI	3,726.00	2,235.60
2	Add: Addition during the year/period	-	-
3	Less: De-capitalisation during the year/period	-	-
4	Less: Reversal during the year / period	-	-
5	Add: Discharges during the year/ period	-	-
6	Closing Capital Cost	49,570.60	47,335.00
7	Average Capital Cost	51,433.60	48,452.80
<i>Note: 1. As per VGF scheme 20% of the fund is disbursed during construction upto COD and 50 % is released after COD and rest 30% after 1st year from COD.</i> <i>2. Details of Un amortised finance charges, Notional IDC and Loan ERV Charged to P&L etc. shall be provided at the time of actual CODess petition.</i>			
(Petitioner)			

PART-I FORM- 1(IIA)			
Name of the Petitioner:		NTPC Ltd	
Name of the Generating Station:		Solapur STPS BESS (414MWh)	
<u>Statement showing Return on Equity at Normal Rate of integrated energy storage system</u>			
Amount in Rs. Lakhs			
S. No.	Particulars	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	6	7
	Return on Equity		
1	Gross Opening Equity (Normal)	15,988.98	14,871.18
2	Less: Adjustment in Opening Equity		
3	Adjustment during the year		
4	Net Opening Equity (Normal)	15,988.98	14,871.18
4a	Viability Gap Funding (VGF)-As per VGF Scheme, during the year/period	1,117.80	670.68
5	Add: Increase in equity due to addition during the year / period	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00
10	Net closing Equity (Normal)	14,871.18	14,200.50
11	Average Equity (Normal)	15,430.08	14,535.84
12	Rate of ROE (%) (Grossed up with applicable tax rate)	17.258	17.258
13	Total ROE	2,662.85	2,508.53
(Petitioner)			

PART-I FORM-2		
BESS Characteristics		
Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Solapur STPS BESS (414MWh)	
Unit(s)/Block(s)/Parameters	Unit-I	Unit-II
Installed Capacity (MW)-Solapur STPS (Coal)	660	660
Actual COD of Solapur STPS (Coal)	25.09.2017	30.03.2019
Anticipated COD of Solapur STPS BESS	29.09.2027	
Types of ESS (integrated)	BESS	
Technology of ESS (Li-ion, sodium-Sulfur, or Lead-acid)	Li-Ion (LFP-Lithium Iron Phosphate)	
Number of Battery Racks/Modules of ESS	Typically 12 Battery Racks in one container (May vary as per OEM configuration)	
Number of Battery Cell in ESS	Typically 4992 Cells in one container (May vary as per OEM Configuration)	
Voltage capacity of Battery Cell (DC volt)	Nominal Voltage 3.2 V/Cell (May vary as per OEM Configuration)	
Operation mode (bi-directional or uni-directional at interface point with the grid)	Bi-directional	
Rated Capacity (MW) of ESS	207 (Start of Year-1)	
Maximum continuous rating of ESS (MW)	207 (Start of Year-1)	
Energy Capacity (MWh) of ESS	414 (Start of Year-1)	
Voltage output of ESS		
	AC	132 KV
	DC	Min: 1123.2 V Nominal: 1331.2 V Max: 1497.6 V (May vary as per OEM Configuration)
Power Factor of ESS	0.95 lead to 0.95 lag	
Round-Trip Efficiency of ESS	85%	
Response Time of ESS	Typically <1 sec (Shall be as per OEM configuration. Response time shall meet the grid code requirements)	
State of Charge (SoC)	0-100% (May vary as per OEM Configuration)	
Cycle Life of ESS	~8000 Cycles	
C-Rate of ESS		
i) Charging	0.5 C	
ii) Discharging	0.5 C	
Black Start Capability of ESS	Yes	
Efficiency or Utilization factor (%) of ESS		
Special Features/Site Specific Features⁸		
Any other special features		
Petitioner		

PART-I FORM- 3				
<u>Normative parameters considered for computation of supplementary tariff of ESS</u>				
Name of the Petitioner:		NTPC Ltd		
Name of the Generating Station:		Solapur STPS BESS (414MWh)		
(Year Ending March)				
Particulars	Unit	Existing 2026-27	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	7	8
Base Rate of Return on Equity	%	NA	14.00	14.00
Effective Tax Rate	%		18.8760	18.8760
O&M Expenses	% of Capital Cost		2.00	2.00
Maintenance Spares for WC	% of O&M		10.00	10.00
Receivables for WC	in Days		45	45
O&M Expenses for WC	in month		1	1
Round-Trip Efficiency	%		85	85
Number of Cycles per day	No.		2	2
Total annual cycles	No.		331	657
Availability of ESS (NAPAF)	%		90	90
Auxiliary Energy Consumption of ESS	% of Input Energy		5	5
Depth of Discharge (DoD)	%		90	90
Useful life of ESS	Years		15	15
Petitioner				

Part-I FORM-3A ADDITIONAL FORM			
<u>Calculation of O&M Expenses</u>			
Name of the Company :		NTPC Ltd	
Name of the Power Station :		Solapur STPS BESS (414MWh)	
Amount in Rs. Lakhs			
S.No.	Particulars	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	4
1	O&M expenses under Reg.36(4)		
1a	Normative	1054.08	1109.42
2	O&M expenses under Reg.36(6)		
2a	Water Charges*		
2b	Security expenses *		
2c	Capital Spares*		
	Total O&M Expenses	1054.08	1109.42
* Details Shall be provided at the time of actual CODess/truing up, if any			
Petitioner			

PART-I FORM- 9								
<u>Year wise Statement of Additional Capitalisation after COD</u>								
Name of the Petitioner				NTPC Ltd				
Name of the Generating Station				Solapur STPS BESS (414MWh)				
COD				29.09.2027				
For Financial Year				2027-28 (29.09.2027 to 31.03.2028)				
Amount in Rs Lakh								
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected) Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
1	2	3	4	5= (3-4)	6	7	8	9
A.	For assets eligible for normal RoE for integarted energy system							
	Shall be provided at the time of CODess/ truing up, if any							
	Total (A)	-	-	-	-			
(Petitioner)								

PART-I FORM- 9								
<u>Year wise Statement of Additional Capitalisation after COD</u>								
Name of the Petitioner				NTPC Ltd				
Name of the Generating Station				Solapur STPS BESS (414MWh)				
COD				29.09.2027				
For Financial Year				2028-29				
Amount in Rs Lakh								
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected) Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
1	2	3	4	5= (3-4)	6	7	8	9
A.	For assets eligible for normal RoE for integarted energy system							
	Shall be provided at the time of CODess/ truing up, if any							
	Total (A)	-	-	-	-			
(Petitioner)								

PART-I FORM- 10										
Name of the Petitioner					NTPC Ltd					
Name of the Generating Station					Solapur STPS BESS (414MWh)					
Date of Commercial Operation (Anticipated)					29.09.2027					
Amount in Rs Lakh										
Financial Year (Starting from COD)1	Actual					Admitted				
	2024-25	2025-26	2026-27	2027-28	2028-29	2024-25	2025-26	2026-27	2027-28	2028-29
1		3	4	5	6	7	8	9	10	11
Amount capitalised in Work/ Equipment										
Financing Details	Add cap is proposed to be financed in Debt:Equity ratio of 70:30									
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan2										
Equity										
Internal Resources										
Others (Pl. specify)										
Total										
(Petitioner)										

PART-I FORM- 11							
Calculation of Depreciation							
Name of the Company :		NTPC Limited					
Name of the Power Station :		Solapur STPS BESS (414MWh)					
(Amount in Rs Lakh)							
Sl.No.	Name of the Assets	Gross Block as on 29.09.2027	Depreciation Rates as per CERC's Depreciation	Depreciation Amount (2027-28)	Gross Block as on 01.10.2028	Depreciation Rates as per CERC's Depreciation	Depreciation Amount (2028-29)
1	2	3	4	5	6	7	8
1	Integrated Energy Storage System-BESS	54787.00	6.33%	3468.02	54787.00	6.33%	3468.02
	TOTAL	54787.00		3468.02	54787.00		3468.02
	Weighted Average Rate of Depreciation (%)			6.33			6.33

PART-I FORM- 12 <u>Statement of Depreciation</u>				
Name of the Company :		NTPC Ltd		
Name of the Power Station :		Solapur STPS BESS (414MWh)		
(Amount in Rs Lakh)				
S. No.	Particulars	Existing 2026-27	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	7	8
1	Opening Capital Cost	NA	53,296.60	49,570.60
2	Closing Capital Cost		49,570.60	47,335.00
3	Average Capital Cost		51,433.60	48,452.80
4	Freehold land		-	-
5	Rate of depreciation		6.330%	6.330%
6	Depreciable value		46,290.24	43,607.52
7.	Balance useful life at the beginning of the period		15.00	14.50
8	Remaining depreciable value		46,290.24	41,961.86
9	Depreciation (for the period)		1,645.66	3,067.06
10	Depreciation (annualised)		3,255.75	3,067.06
11	Cumulative depreciation at the end of the period		1,645.66	4,712.73
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009		-	-
14	Less: Cumulative depreciation adjustment on account of de-capitalisation		-	-
15	Net Cumulative depreciation at the end of the period after adjustments		1,645.66	4,712.73
No of days in the period			185	365
No of days in the year			366	365
(Petitioner)				

F.No. 48-15/7/2025-NRE SECTION
Government of India
Ministry of Power
(NRE Section)

Shram Shakti Bhawan,
Rafi Marg, New Delhi
Dated, the 09th June, 2025

To,

1. Chairperson, CEA
2. Principal Secretaries of Energy of the Government of Rajasthan, Gujarat, Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh, Madhya Pradesh, Telangana, Uttar Pradesh, Haryana, Kerala, Punjab, Chhattisgarh, Odisha and Uttarakhand
3. CMD, NTPC
4. CMD, Grid India

Subject - Viability Gap Funding (VGF) Scheme for development of Battery Energy Storage Systems (BESS) supported through Power System Development Fund (PSDF).

Sir/ Madam,

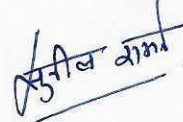
Considering the requirement of Energy Storage in the country, with the approval of Minister of Power, it has been decided to provide VGF to 15 number of States and NTPC (as per enclosed Operational Guidelines) @ Rs. 18 Lakhs per MWh for development of 30 GWh BESS capacity supported through PSDF, which amounts to total financial support of Rs. 5400 Crores from PSDF.

2. This allocation includes 25 GWh of BESS capacity allocated to 15 States to facilitate them in meeting their Energy Storage System requirements. In addition, 5 GWh of BESS capacity is allocated to NTPC, which is to be developed for optimum utilization of existing thermal generation and transmission infrastructure as well as to facilitate meeting non-solar hour electricity demand in a reliable and economic manner .
3. All the concerned States and NTPC are required to submit proposal to NLDC, the nodal agency for PSDF, as per the extant Guidelines / Procedure for funding of the projects under PSDF, within 30 days from the date of issuance of this letter.
4. This issues with the approval of competent authority.

AS/OS

Encl: as above

Yours faithfully,



(Sunil Kumar Sharma)
Director (NRE/ RCM)

Copy for information to:

- i. Technical Director, NIC Cell for uploading on MOP's website under "Current Notices" with the heading of "Viability Gap Funding (VGF) Scheme for development of Battery Energy Storage Systems (BESS) supported through Power System Development Fund (PSDF)."
- ii. PS to Minister of Power
- iii. APS to Minister of State for Power
- iv. Sr.PPS to Secretary (Power)
- v. Sr.PPS to Additional Secretary(SN)
- vi. Controller of Account, MoP
- vii. All JSs/CEs and equivalent Officers of the Ministry of Power.
- viii. Pay and Accounts Officer, MoP

Ministry of Power
NRE Section
Shram Shakti Bhawan, New Delhi

**Guidelines for Viability Gap Funding (VGF) Scheme for
development of Battery Energy Storage Systems
(BESS) supported through Power System Development
Fund (PSDF).**

1. Introduction

1.1 Objective: Development of 30GWh BESS capacity for deployment to ensure grid integration of RE and reliable electricity supply.

1.2 Energy storage systems are essential for integration of variable renewable energy (vRE) sources in the electricity grid. With an installation target of 393 GW (293 GW Solar and 100 GW Wind) by 2030, vRE will constitute approx. 50% of the installed generation capacity by 2030.

1.3 Increasing share of RE also necessitate flexible operation of thermal generation plants. The variability of renewable generation requires thermal generators to back down during periods of high RE availability, especially during solar hours. However, during evening peak hours, when solar generation is not available, thermal plants are essential to meet the evening peak. Therefore, BESS may also be installed with thermal power stations to leverage existing generation and transmission infrastructure efficiently.

1.4 As per CEA, 37GWh BESS capacity is required by 2027 and the requirement will increase to 236 GWh by 2031-32. BESS capacity of 13.2 GWh has been approved under the ongoing VGF scheme for development of BESS.

2 Scheme Overview

2.1 Viability Gap Funding (VGF): VGF of Rs 18 lakh per MWh, shall be provided and is aimed at supporting a BESS capacity of 30 GWh.

2.2 Scheme Budget: This scheme has a budgetary allocation of Rs 5,400 Crore. The VGF shall be a non-recurring expenditure and



shall be fully funded from Power System Development Fund (PSDF). The disbursement of funds shall be as per procedure applicable for PSDF. The VGF for each project shall be disbursed to the Eligible Entity/ REIA, once CEA certifies the achievement of the disbursement schedule milestone and submission of the required BG.

2.3 Commissioning Period: The projects are required to be commissioned within a period of 18 months from the date of signing of Battery Energy Storage Purchase Agreement (BESPA) / Power Purchase Agreement (PPA).

2.4 Eligible Entities: State utilities or agencies authorized by States Governments or Central Government shall be eligible. (refer **Annexure**).

2.5 Disbursement schedule: The VGF amount to the eligible projects shall be disbursed in three tranches as detailed below.

Milestone	% VGF disbursed
On financial closure, subject to submission of bank guarantee.	20
On Commercial Operation Date (COD)	50
Completion of 1st year from COD	30
Total	100

2.5 Storage Duration: The BESS capacity should preferably be with 2-hour discharge duration and average 1.5 cycles in a day i.e within 24 Hour period. However, the Eligible Entity may vary the duration, no of cycles as required.

3. Implementation Model

3.1. Bidding Process: BESS projects shall be awarded using the Tariff Based Competitive Bidding (TBCB) process under section 63 of the Electricity Act, 2003.

3.2 Contract Period: The contract period shall be specified in the RfS document, in accordance with the BESS TBCB Guidelines. The contract shall be awarded on Build Own Operate (BOO)/ Build Own Operate Transfer (BOOT) basis preferably for a contract period of 12 to 15 years.

3.3 Bidding Parameter: Developers shall compete based on the annualized fixed cost they offer, expressed in rupees per Megawatt (MW) per Month or on Rs/kWh after factoring in the VGF specified in the RfS.

3.4. Eligible Entities are required to invite bids, either by themselves or through Renewable Energy Implementing Agencies designated by Central Government, following the bidding guidelines issued under section 63 of the Electricity Act, 2003. The BESPA / PPA shall be signed within 9 months from the date of issue of these guidelines, to be eligible for VGF.

3.5 States / NTPC desirous of availing the VGF are required to submit their proposal to the Central Electricity Authority (CEA) within 60 days from the date of issue of these Guidelines, specifying the implementing agency, location(s) and size of BESS capacity planned for implementation for screening and approval for VGF funding through PSDF.

3.6 The project may be connected at InSTS or ISTS. The land and InSTS grid connectivity shall be provided by the respective Eligible Entities.

3.7 The payment security mechanism shall be as per Electricity (Late Payment Surcharge & Related matters), Rules 2022 as amended from time to time. CEA will monitor the implementation of the scheme as well as the progress of the awarded projects under the Scheme through a Management Information System (MIS) portal and submit monthly reports to the Ministry of Power. The monitoring parameters shall include details of physical and financial progress vis-a-vis the agreed milestones. The performance levels may also be verified by CEA on at least quarterly basis.

3.8. Bank Guarantee: The Eligible Entities/REIAs shall be required to obtain a Bank Guarantee (BG) of value equal to the VGF to be disbursed, prior to its release to the developer, as specified in the RfS. This BG shall be liable for encashment to recover the VGF amount in the event of non-fulfilment of the scheme conditions specified in the Bidding Documents. The BG for the VGF sanctioned up to COD may be released within one year of COD.

4. Eligible Entity/REIA Responsibilities

- 4.1. The Eligible Entity/REIA shall be responsible for:
- (i) inviting bids, and selecting the developer(s) for the allocated

quantum and entering into contracts with the selected developer(s);

(ii) ensuring and certifying that the bidding process complies with the Scheme guidelines and that all specified conditions are met;

(iii) acting as purchaser of energy storage services or output of BESS and entering into a BESPA / PPA with the developer for the contract period and BESSA / PSA with Eligible Entities, as applicable;

(iv) submit to CEA, all the requisite information for monitoring of the project including the audited Statement of Expenditure (SoE) and Utilization Certificate (UC) in the prescribed format of GFR 19 (A) as amended from time to time;

(v) comply with the provisions of General Financial Rules, 2017, as amended from time to time;

4.2. The VGF amount (Grant-in-Aid) is also subject to the Chapter 9 of the General Financial Rules, 2017, as amended from time to time, read with the Government of India's decisions incorporated there-under, and any other guidelines which may be issued in this regard.

4.3. Assets acquired wholly or substantially out of Central Government Grants shall not be disposed of during the contract period without obtaining the prior approval of the sanctioning authority of Grants-in-Aid {Rule 230(9)}. Shareholding of the bidding entity in the SPV/ project company executing the BESS project shall not fall below fifty-one per cent at any time prior to Commercial Operation Date (COD).

4.4. The accounts of Eligible Entity / REIA shall be audited by C&AG or by any person authorized by him on his behalf in accordance with the provisions laid down in Section 14 of the C&AG (DPC, 1971) and as amended from time to time.

4.5. The accounts of Eligible Entity / REIA shall be open for inspection by the sanctioning authority and audit, both by the Comptroller & Auditor General of India under the provision of C&AG (DPC) Act, 1971 and internal audit party by the Principal Accounts Office of the Ministry or Department whenever it is called upon to do so.

5. Notwithstanding the aforementioned provisions at para 3 and 4, NTPC may implement its allocated capacity under section 62 of the Electricity Act 2003, as per CERC Regulations/ Orders.

6. Amendment to the Operational Guidelines

- 6.1. These guidelines may be amended with the approval of Secretary, Ministry of Power, to address implementation challenges.
- 6.2. The implementation model in these guidelines may be modified by the Ministry of Power, if required.

Annexure Allocation of BESS Capacity under the Scheme

S.N.	State / Entity	BESS Capacity Allocation (MWh)
1	Rajasthan	4000
2	Gujarat	4000
3	Maharashtra	4000
4	Tamil Nadu	1500
5	Karnataka	2000
6	Andhra Pradesh	2000
7	Madhya Pradesh	1500
8	Telangana	1500
9	Uttar Pradesh	1500
10	Haryana	500
11	Kerala	500
12	Punjab	500
13	Chhattisgarh	500
14	Odisha	500
15	Uttarakhand	500
16	NTPC	5,000
	TOTAL	30,000

Handwritten signature

PART MINUTES OF 565th MEETING OF THE BOARD OF DIRECTORS OF NTPC LIMITED HELD ON SATURDAY, 28th MARCH 2026.

Item no. 565.2.5 Battery Energy Storage System (BESS) Lot-1 & Lot-2 Projects (4.70 GWh): Investment Approval

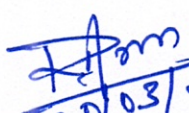
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The Board, after discussion, passed the following resolutions:

Resolved that as recommended by the Projects and Operations Sub-Committee, the investment proposal for Battery Energy Storage System (BESS) Projects, comprising Lot-1: 2.33 GWh and Lot-2: 2.37 GWh, aggregating to total capacity of 4.70 GWh, appraised by Resurgent India Limited, at total project cost of Rs.5,821.90 Crore including Interest During Construction (IDC) and Financing Charges (FC) of Rs.220.45 Crore as of Q4FY2025-26 price level, with an envisaged Commercial Operation Date (COD) of 18 months from the date of award of the projects, as detailed in the Memorandum submitted before the Board of Directors, be and is hereby approved.

Further resolved that Chairman and Managing Director, be and is hereby authorized to approve any subsequent modification, updates & reappropriation within the approved works cost forming part of approved total project cost as well as such changes as may be required in compliance with stipulations of statutory and regulatory authorities.

***** 


30/03/2026

Proof of Payment of fee

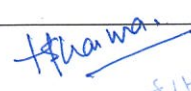
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Form-I

Particulars	
1. Name of the Petitioner/Applicant	NTPC Limited
2. Address of the Petitioner/Applicant	SCOPE Complex, Core -7, Institutional Area, Lodhi Road, New Delhi – 110 003
3. Subject Matter	Tariff Filing fees Payable to CERC in respect of NTPC Generation Stations under commercial operation as on 01.04.2026 for the period 2026-27 as per CERC (Payment of Fees) (Third Amendment) Regulations, 2022
4. Petition No., if any	As per Enclosed Sheet (Annexure A)
5. Details of generation assets a) Generating station/units b) Capacity in MW c) Date of commercial operation d) Period for which fee paid e) Amount of fee paid f) Surcharge, if any	As per Enclosed Sheet (Annexure A)
6. Details of transmission assets a) Transmission line and sub- stations b) Date of commercial operation c) Period for which fee paid d) Amount of fee paid e) Surcharge, if any	N.A.
7. Fee paid for Adoption of tariff for a) Generation asset b) Transmission asset	N.A.
8. Application fee for licence a) Trading licence b) Transmission licence c) Period for which paid d) Amount of fee paid	N.A.
9. Fees paid for Miscellaneous Application	N.A.
10. Fees paid for Interlocutory	N.A.

हर्षित शर्मा / HARSHIT SHARMA
वरिष्ठ प्रबंधक (सांकेतिक)
Sr. Manager (Commercial)
एन टी सी लि. दिल्ली / NTPC Limited
EOC A&A Section NOIDA-201301 (UP)

[Signature]

Application	
11. Fee paid for Regulatory Compliance petition	N.A.
12. Fee paid for Review Application	N.A.
13. License fee for inter-State Trading	
a) Category b) Period c) Amount of fee paid d) Surcharge, if any	N.A
14. License fee for inter-State Transmission	N.A.
a) Expected/Actual transmission charge b) Period c) Amount of fee calculated as a percentage of transmission charge. d) Surcharge, if any	
15. Annual Registration Charge for Power Exchange	N.A.
a) Period b) Amount of turnover c) Fee paid d) Surcharge, if any	
16. Details of fee remitted	
a) Transaction id/ Reference No./ Payment id b) Date of remittance c) Amount remitted	Transaction id- 20ba8a7eb66ff46e1594 27.04.2027 Rs. 25,85,26,700.00/-
Note: While Sl. Nos. 1 to 3 and 16 are compulsory, the rest may be filled up as applicable	
Signature of the authorized signatory with date	
 Dt. 27.04.2026	

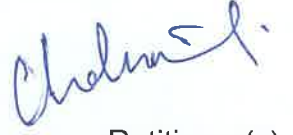
Note: Amount paid above include fee for Solapur STPS as per regulations


Sr. Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC Limited
EOG, A-8A, Sector-24, NOIDA-201301 (U.P.)

DECLARATION

The Petitioner(s) above named hereby solemnly declare(s) that the nothing material has been concealed or suppressed and further declare(s) that the enclosures and typed set of material papers relied upon and filed herewith are true copies of the original(s)/fair representation of the originals/true translation thereof.

Verified at Noida on the 31st day of July 2026.



Petitioner(s)
NTPC Ltd.

प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. _____

IN THE MATTER OF: -



Petition under Section 62 and Section 79 (1)(a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Regulation-9 & 29A of The Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of additional capitalization and supplementary tariff w.e.f., anticipated CODess on account of installation of Integrated Battery Energy Storage Systems of 207MW/414MWh capacity under the VGF scheme, GOI at Solapur Super Thermal Power Station (2x660 MW) for the period from 29.09.2027 (anticipated CODess) to 31.03.2029.

AND

IN THE MATTER OF

Petitioner : NTPC Ltd,
NTPC Bhavan, Core-7, Scope Complex,
Institutional Area, Lodhi Road, New Delhi-110003

Respondent : Madhya Pradesh Power Management Company Limited
(MPPMCL), and others

Affidavit

I, Prashant Chaturvedi, S/o Dr S C Chaturvedi, aged about 50 years, working as Additional General Manager (Commercial) in the office of NTPC Limited, having registered office at NTPC Bhawan, Scope Complex, Core-7, Lodhi Road, New Delhi-110003, do hereby solemnly affirm and state as follows: -

1. That the deponent is the authorised signatory of petitioner NTPC Ltd. and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.



प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED

2. That the accompanying Petition under Section 62 of the Electricity Act, 2003, has been filed by my authorised representative under my instruction and the contents of the same are true and correct to the best of my knowledge and belief.
3. That the contents of Para 1 to 17 of the facts as mentioned in the Petition are true and correct based on my personal knowledge, belief and records maintained in the office.
4. That the annexures annexed to the Petition are correct and true copies of the respective originals.
5. That the Deponent has not filed any other Petition or Appeal before any other forum or court of law with respect to the subject matter of the dispute.


DEPONENT

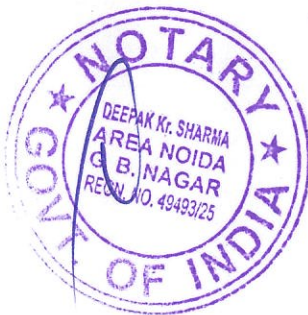
प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED

VERIFICATION

Verified at New Delhi on this 31st day of July 2026, that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.


DEPONENT

प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED



ATTESTED

DEEPAK Kr. SHARMA
NOTARY NOIDA
G.B. NAGAR (U.P.) INDIA

31 JUL 2026