

**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

PETITION NO. /GT/2026

IN THE MATTER OF : Petition under Section-62 & 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 COD(ess) on account of installation of Integrated Battery Energy Storage Systems of 50MW /100 MWh capacity under the VGF scheme, GOI at Feroze Gandhi Unchahar Thermal Power Station Stage IV (FGUTPS-IV) (500 MW) for the period from 29.09.2027(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

Versus

Respondents: Uttar Pradesh Power Corp. Ltd. (UPPCL)
Shakti Bhawan
14, Ashok Marg,
Lucknow – 226 001.

Rajasthan Urja Vika Nigam Limited
(RUVNL)
(on behalf of DISCOMs of Rajasthan),
Vidyut Bhawan, Janpath,
Jaipur 302 005

Haryana Power Purchase Centre (HPPC)
Shakti Bhawan, Sector – VI,
Panchkula,
Haryana – 134 109
Power Development Department (J&K)
Govt. of J&K, Secretariat
Srinagar

Chandigarh Power Distribution Limited
SCO-33-35, 4th Floor, City Centre, Sector
34-A, Chandigarh -160022, India.

Uttarakhand Power Corporation Ltd.
(UPCL)
Urja Bhawan, Kanwali Road
Dehradun – 248 001
Uttarakhand.

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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 BESS (100 MWh) at

Feroze Gandhi Unchahar Thermal Power Station Stage IV (FGUTPS-IV) (500 MW) and its supplementary tariff for the period from anticipated COD(ess) 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 licensee/ bulk power procuring utilities and are the beneficiaries of the instant generating station i.e. Feroze Gandhi Unchahar Thermal Power Station Stage IV (FGUTPS-IV) (500 MW). The power generated from FGUTPS-IV is being supplied to various discoms as per MoP allocation and respective PPAs including Uttar Pradesh Power Corp. Ltd. (UPPCL), Rajasthan Urja Vika Nigam Limited (RUVNL), Haryana Power Purchase Centre (HPPC), Power Development Department (J&K), Chandigarh Power Distribution Limited, Uttarakhand Power Corporation Ltd. (UPCL)

Background of Generating Station/Unit

iii) The Petitioner is having power stations/ projects at different regions and places in the country. Feroze Gandhi Unchahar Thermal Power Station Stage IV (1x500 MW) (hereinafter referred to as 'FGUTPS-IV') is one such coal-based thermal generating station located in the State of Uttar Pradesh. It comprises one operational unit of 500 MW capacity.

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 (50MW/100 MWh) at FGUTPS-IV. 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 in the instant tariff petition.

ix) Accordingly, the Petition is being filed by the Petitioner for approval of installation of BESS at FGUTPS-IV and supplementary tariff on anticipated COD(ess), 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 implementation of additional capitalization for BESS as Integrated Energy Storage System at FGUTPS-IV.
- b. Approve indicative supplementary tariff from anticipated COD(ess) for Integrated BESS at FGUTPS-IV.

- c. Grant liberty to amend/ file tariff petition for approval of supplementary tariff 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 and facts as may be required.
- e. Pass any other order as it may deem fit in the circumstances mentioned above.

**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

PETITION NO. /GT/2026

IN THE MATTER OF : Petition under Section-62 & Section 79 (1) (a) of the Electricity Act, 2003 read with 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 50MW /100 MWh capacity under the VGF scheme, GOI at Feroze Gandhi Unchahar Thermal Power Station Stage IV (1X500 MW) for the period from 29.09.2027 (CODess) to 31.03.2029.

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Petitioner : NTPC Ltd.
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Srinagar

Chandigarh Power Distribution Limited
SCO-33-35, 4th Floor, City Centre, Sector
34-A, Chandigarh -160022, India.

Uttarakhand Power Corporation Ltd.
(UPCL)
Urja Bhawan, Kanwali Road
Dehradun – 248 001
Uttarakhand.

Detailed Petition

The petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd., hereinafter called 'NTPC', is a Government of India undertaking and a Company incorporated under the Companies Act, 1956. Further, it 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. The present petition pertains to Feroze Gandhi Unchahar Thermal Power Station Stage IV (hereinafter referred as "FGUTPS-IV") is one such station located in the state of Uttar Pradesh with an installed capacity of 500 MW. The station supplies electricity to beneficiaries in the Northern Region in terms of allocation made by the Government of India.
- 3) Under Section 79(1)(a) of Electricity Act, 2003, 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 regulations.

- 4) Government of India is taking all necessary steps to achieve energy transition from fossil fuel to non-fossil fuel. The incorporation of a significant amount of variable and intermittent Renewable Energy (RE) into the energy mix is imposing a challenge for maintaining grid stability and operation of thermal generating stations. The significant RE integration needs the support of thermal generation in India for demand-supply management & grid stability during solar & non-solar hours. This is causing cyclic scheduling/operation of thermal generating station(s). At many instances, thermal generating stations are getting schedule 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.

Therefore, if the coal-based generation resources are to be used as a transition fuel in India, there is a need to keep the coal-based generating units spinning to absorb the variability and intermittency of renewable generation in India. Therefore, the integration of an energy storage system with the coal-based generating stations is required 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 for grid stability and reliability of the power system to minimize 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 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 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 @ Rs. 18 Lakhs per MWh for development of 30 GWh BESS capacity supported through “PSDF”.
- 7) This VGF scheme, inter alia, allocated 5000 MWh Battery Energy Storage System (BESS) capacity to NTPC for deployment of BESS at NTPC thermal power stations, which are 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. Accordingly, out of 5000 MWh, BESS of 100 MWh is being implemented by NTPC at FGUTPS-IV.

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) It is further submitted that on 20.03.2026, Hon'ble Commission has notified the CERC (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2026. This Second Amendment has introduced Regulation 29A in respect of additional capitalization on account of an integrated energy storage system with the generating station which 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 above, the Petitioner is filing the instant petition for seeking approval for additional capitalisation and supplementary tariff from anticipated COD(ess) of Integrated BESS (50 MW/100 MWh) at FGUTPS-IV in accordance with the provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 and its subsequent Second Amendment regulations..

10) The petitioner has accordingly calculated the indicative tariff for BESS installation at FGUTPS-IV on anticipated COD(ess) and same is attached as **Appendix-A.**

11) It is further submitted that the Board of Directors of NTPC Limited, in its 565th Meeting held on 28.03.2026, has accorded investment approval for the Battery Energy Storage System (BESS) comprising of Total Capacity 4.70 GWh including 100 MWh at FGUTPS-IV) 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(ess) 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 FGUTPS Stage-IV forms part of the aforesaid BESS Project and has been allocated a Battery Energy Storage System (BESS) capacity of 100 MWh. The investment approval dated

28.03.2026 corresponding to 4.7 GW includes project cost of **₹121.56 Crore pertaining to BESS at FGUTPS-IV.**

- 13) It is further submitted that EPC package for implementation of BESS at FGUTPS-IV has been awarded through competitive bidding route. Notice of award (NOA) has been issued on 28.03.2026. Further, as per Investment Approval (IA), the schedule completion period for BESS has been envisaged as 18 months from the date of award of the project.
- 14) The BESS capacity/configurations and plant 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 in FGUTPS-IV is provided below in subsequent paragraphs:

1	Total Capacity of BESS	50MW /100 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 interest during construction)	Rs 121.56 Cr
5	Viability gap funding	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	85 %
(iii)	Auxiliary Energy Consumption (AECess)	5 % of the BESS Input energy
(iv)	Annual Degradation factor	2%
(v)	Annual Availability	90 %
(vi)	Return on Equity (post tax)	14.00 %
(vii)	Interest on Working Capital (based on 01.04.2026 reference rate+325 basis point)	11.95 %
(viii)	O&M Cost (as % of original project cost)	2.00 %
(ix)	Annual escalation in O&M Cost up to 2 year	5.25 %

(x)	Working Capital	
	Receivables (no of days)	45.00
	O&M Spares (as % of O&M Cost)	10.00%
	O&M Expenses (no of month)	1.00
(xi)	Debt: Equity	70:30
9	VGF	18.00 Lakh per MWh
10	Indicative of BESS, on the basis of the capital cost and the operating parameters as mentioned above, is as follows:	
(i)	Indicative 1st year Annual Fixed charges of BESS	Rs 22.175 Cr/year*
	Indicative 1st year Normative Supplementary Capacity Charges BESS	Rs 3.38/kWh
	* 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.	
(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 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 through the cost-plus regulatory framework.

16) Upon completion of implementation of the BESS system, 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 and subsequent notification.

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 of BESS as Integrated Energy Storage System in FGUTPS-IV.
- b. Approve the indicative supplementary tariff from the anticipated COD(ess) for the integrated BESS at FGUTPS-IV.
- c. Grant liberty to amend the instant petition for approval of supplementary tariff based on actual cost incurred on COD(ess) 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 and facts as may be required.
- e. Pass any other order as it may deem fit in the circumstances mentioned above.

Sk Aggarwal

(Deponent)

समीर अग्रवाल/SAMEER AGGARWAL
अपर महाप्रबंधक (वाणिज्यिक)
Addl. General Manager (Commercial),
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201 301 (U.P.)

**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

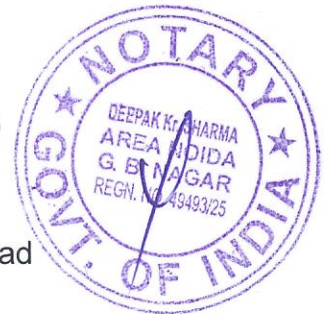
Petition No: _____/GT/2025

IN THE MATTER OF : Petition under Section-62 & Section 79 (1) (a) of the Electricity Act, 2003 read with 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 50MW /100 MWh capacity under the VGF scheme, GOI at Feroze Gandhi Unchahar Thermal Power Station Stage IV (500 MW) for the period from 29.09.2027 (Anticipated CODess) to 31.03.2029.



AND IN THE MATTER OF:

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



Respondents: : Uttar Pradesh Power Corp. Ltd. (UPPCL), and others

AFFIDAVIT

I, Sameer Aggarwal, S/o Late Sh. B.K. Aggarwal, aged 53 years, working as Additional General Manager (Commercial) in NTPC Limited, R/o 65, Karishma Apts , 27 IP Extension, Delhi-110092, do hereby solemnly affirm and state as follows:

Sk Aggarwal

1. That the deponent is the authorized signatory of the Petitioner NTPC Ltd. and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.
2. That the accompanying Tariff Petition has been filed by my authorized 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 additional submission are true and correct based on my the 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.

Verification:

Verified at Noida on this 17th 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.

sk Aggarwal
 समीर अग्रवाल (Deponent)
 अपर महाप्रबंधक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201 301 (U.P.)



ATTESTED
sk Aggarwal
 समीर अग्रवाल / SAMEER AGGARWAL
 अपर महाप्रबंधक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201 301 (U.P.)

17 JUL 2026

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

FOR APPROVAL OF SUPPLEMENTARY TARIFF

FOR

Integrated Battery Energy Storage System (BESS)-50MW/100MWh

At Feroze Gandhi Unchahar Thermal Power Station Stage IV

(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	NA
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	NA
FORM-5A	Abstract of Claimed Capital Cost for the existing Projects	NA
FORM- 6	Financial Package upto COD	NA
FORM- 7	Details of Project Specific Loans	NA
FORM- 8	Details of Allocation of corporate loans to various projects	NA
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	NA
FORM- 11	Calculation of Depreciation on original project cost	NA
FORM- 12	Statement of Depreciation	✓
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	NA
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	NA
FORM- 15	Details of Fuel for Computation of Energy Charges	NA
FORM- 15A	Details of Secondday Fuel for Computation of Energy Charges	NA
FORM- 15B	Computation of Energy Charges	NA
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	NA
FORM- 18	Non-Tariff Income	NA
FORM-19	Details of Water Charges	NA
FORM-20	Details of Statutory Charges	NA
** Shall be provided at the time of True up		PART-I
<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	✓
FORM-F	Details of cost over run	NA
FORM-G	Details of time over run	NA
FORM -H	Statement of Additional Capitalisation during end of the useful life	NA
FORM -I	Details of Assets De-capitalised during the period	NA
FORM -J	Reconciliation of Capitalisation claimed vis-à-vis books of accounts	NA
FORM -K	Statement showing details of items/assets/works claimed under Exclusions	NA
FORM-L	Statement of Capital cost	NA
FORM-M	Statement of Capital Woks in Progress	NA
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	NA
FORM-Q	Expenditure under different packages up to SCOD and up to Actual COD	NA
FORM-R	Actual cash expenditure	NA
FORM-S	Statement of Liability flow	NA
FORM-T	Summary of issues involved in the petition	✓
** Shall be provided at the time of True up		

PART-I FORM- 1					
<u>Summary of Tariff</u>					
Name of the Petitioner:			NTPC Limited		
Name of the Generating Station:			Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)		
Place (Region/District/State):					
Amount in Rs. Lakhs					
S. No.	Particulars	Unit	Existing	2027-28 (29.09.2027 to 31.03.2028)	2028-29
1	2	3	4	8	9
1.1	Depreciation	Rs Lakh	NA	718.20	672.63
1.2	Interest on Loan	Rs Lakh		640.26	555.96
1.3	Return on Equity	Rs Lakh		587.41	550.14
1.4	Interest on Working Capital	Rs Lakh		37.71	35.75
1.5	O&M Expenses	Rs Lakh		233.92	246.20
	Total	Rs Lakh		2217.50	2060.67
1.6	Supplementary Capacity Charges (ESS)	Rs/Unit		3.38	3.20
2	Supplementary Energy Charges & Source of Charging				
2.1	Same Generating Station (Name)	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				
Note-	* 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.” 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. As the Supplementary energy charge would only be known based on actual source of charging of the ESS, the same shall be furnished at the time of filing the petition for tariff determination.				
(Petitioner)					

PART-I FORM- 1(I)			
Name of the Petitioner:		NTPC Limited	
Name of the Generating Station:		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)	
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	6	7
1	Capital Cost	12156	10896
1a	Un-Amortized Finance Charges		
1b	Notional IDC		
1c	Loan ERV Charged to P&L		
1d	Less: 20% of Viability Gap Funding (VGF) on COD-As per VGF Scheme	360	0
1e	Opening Capital Cost	11,796.00	10,896.00
	Less: 50%/30% of Viability Gap Funding (VGF) during the year-As per VGF Scheme	900.00	540.00
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	10,896.00	10,356.00
7	Average Capital Cost	11,346.00	10,626.00
(Petitioner)			

PART-I						
FORM- 1(IIA)						
Name of the Petitioner:		NTPC Limited				
Name of the Generating Station:		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)				
<u>Statement showing Return on Equity at Normal Rate of integrated energy storage system</u>						
Amount in Rs. Lakhs						
S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)				3,538.80	3,268.80
2	Less: Adjustment in Opening Equity					
3	Adjustment during the year					
4	Net Opening Equity (Normal)				3,538.80	3,268.80
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)				3,268.80	3,106.80
11	Average Equity (Normal)				3,403.80	3,187.80
12	Rate of ROE (%) (Grossed up with applicable tax rate)				17.258	17.258
13	Total ROE				587.41	550.14
(Petitioner)						

BESS Characteristics

Name of the Petitioner	NTPC Ltd.
Name of the Generating Station	Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)
Unit(s)/Block(s)/Parameters	Unit-I
Installed Capacity (MW)-Coal based	500
Actual COD of Coal plant	30-Sep-17
Anticipated COD of BESS	29.09.2027
Types of ESS (integrated)	BESS
Technology of ESS (Li-ion, odium-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	50 (Start of Year-1)
Maximum continuous rating of ESS (MW)	50 (Start of Year-1)
Energy Capacity (MWh) of ESS	100 (Start of Year-1)
Voltage output of ESS	
AC	33 KV (Point of Interconnection)
DC	Min: 1123.2 V Nominal: 1331.2 V Max: 1497.6 V (May vary as per OEM Configuration)
Power Factor of ESSS	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	~80%
29	(Petitioner)

Normative parameters considered for computation of supplementary tariff of ESS

Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)					
(Year Ending March)							
Particulars	Unit	Existing	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
Base Rate of Return on Equity	%					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 (considering COD on 29.09.27 and 90% availability)	No.					331	657
Availability of ESS (NAPAF)	%					90	90
Auxiliary Energy Consumption of ESS	%					5	5
Depth of Discharge (DoD)	%					90-100% (may vary as per OEM recommendation)	90-100% (may vary as per OEM recommendation)
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 Limited			
Name of the Power Station :			Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)			
Amount in Rs. Lakhs						
S.No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	O&M expenses under Reg.36(4)					
1a	Normative				233.92	246.20
2	O&M expenses under Reg.36(6)					
2a	Water Charges*					
2b	Security expenses *					
2c	Capital Spares*					
Total O&M Expenses					233.92	246.20
* Details Shall be provided at the time of truing up, if any						
Petitioner						

**PART-I
FORM- 10**

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)
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)

Calculation of Depreciation

Name of the Company :	NTPC Limited
Name of the Power Station :	Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)

(Amount in Rs Lakh)

Sl.No.	Name of the Assets	Gross Block as on 29.09.2027 (on Anticipated CODess)	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation Amount (2027-28)	Gross Block as on 31.03.2028	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation Amount (2028-29)
1	2	3	4	5	6	7	8
1	Integrated Energy Storage System-BESS	11796.00	6.33%	746.69	10896.00	6.33%	689.72
	TOTAL	11796.00		746.69	10896.00		689.72
	Weighted Average Rate of Depreciation (%)			6.33			6.33

(Petitioner)



**PART-I
FORM- 12**

Statement of Depreciation

Name of the Company :		NTPC Limited		
Name of the Power Station :		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)		
(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	11,796.00	10,896.00
2	Closing Capital Cost		10,896.00	10,356.00
3	Average Capital Cost		11,346.00	10,626.00
4	Freehold land			
5	Rate of depreciation		6.330%	6.330%
6	Depreciable value		10,211.40	9,563.40
7.	Balance useful life at the beginning of the period		15.00	14.49
8	Remaining depreciable value		10,211.40	9,200.37
9	Depreciation (for the period)		363.03	672.63
10	Depreciation (annualised)		718.20	672.63
11	Cumulative depreciation at the end of the period		363.03	1,035.65
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		363.03	1,035.65
(Petitioner)				

Abstract of Capital Cost Estimates and Schedule of Commissioning for the New Projects (integrated energy storage system)

Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)	
New Projects	(Amount in Rs lakh)	
Capital Cost Estimates		
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	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)	11696.00	
Capital cost excluding IDC, IEDC, FC, FERV & Hedging Cost (Rs. Lakh)	11696.00	11696.00
IDC, IEDC,FC, FERV & Hedging Cost		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Lakh)	460.00	
Total IDC, IEDC, FC, FERV & Hedging Cost (Rs. Lakh)	460.00	460.00
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)	12156.00	
Capital cost Including IDC, IEDC& FC (Rs. Lakh)	12156.00	
Schedule of Commissioning		
Scheduled COD of integrated BESS	29.09.2027	

Petitioner

Capital Cost for BESS							PART-I FORM- B
Name of the Petitioner				NTPC Ltd			
Name of the Generating Station				Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)			
(Amount in Rs. Lakh)							
Sl. No.	Break Down	As per Investment Approval (IA)	Anticipated Capital Expenditure of Battery Energy Storage (BESS) at Unchahar Stage-IV 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)
2.5A	Specific Equipment of ESS						
2.5A.1	Battery Pack Cost						
2.5A.2	Power Conversion System (PCS)						
2.5A.3	AC-DC/DC-DC Coupling cost						
2.5A.4	Battery Management System (BMS)	11,696.00	11,696.00				11,696.00
2.5A.5	Specific fire protection system						
2.5A.6	All electrical equipment up to Point of Interconnection						
3.0	*Initial Spares						
	Total Capital cost excluding IDC & FC	11,696.00	11,696.00	-	-		11,696.00
8.0	IDC, FC, IEDC, FERV & Hedging Cost						
8.1	Interest During Construction(IDC)	460.00	460.00				460.00
8.2	Financing Charges (FC)						
8.3	Incidental Expenditure During Construction (IEDC)	Included in 2.5A	Included in 2.5A				
8.4	Hedging Cost						
	Total of IDC, FC, IEDC, FERV & Hedging Cost	460.00	460.00		-		460.00
9.0	Capital cost of BESS including IDC, FC, IEDC, FERV & Hedging Cost	12,156.00	12,156.00	-	-		12,156.00

*To be explored if included in package cost or to be considered separately

(Petitioner)

PART 1 FORM- D				
ction/Supply/Service packages				
Name of the Petitioner			NTPC Limited	
Name of the Generating Station			Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MW)	
(Amount in Rs. Lakh)				
S. No.	Name/No. of Construction / Supply / Service Package	Package A		Total Cost of all packages
1	Scope of works1 (in line with head of cost break-ups as applicable)	Shall be provided at the time of true up		
2	Whether awarded through ICB/DCB/ Departmentally/ Deposit Work			
3	No. of bids received			
4	Date of Award			
5	Date of Start of work			
6	Date of Completion of Work/Expected date of completion of work			
7	Value of Award2 in (Rs. Lakh) (Excl. GST)			
8	Firm or With Escalation in prices			
9	Actual capital expenditure till the completion or up to COD whichever is earlier (Rs. Lakh)			
10	Taxes & Duties and IEDC (Rs. Lakh)			
11	IDC, FC, FERV & Hedging cost (Rs. Lakh)			
12	Sub -total (9+10+11) (Rs. Lakh)			
Note: 1. The scope of work in any package should be indicated in conformity of Capital cost break-up for the coal/lignite based plants in the FORM-B to the extent possible. In case of Gas/Liquid fuel based projects, break down in the similar manner in the relevant heads as per FORM-C. 2. If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately along with the currency, the exchange rate and the date e.g. Rs.80 Cr. +US\$50m=Rs.480Cr. at US\$=Rs80 as on say 1.4.2024.				
				(Petitioner)

Details of variables, parameters, optional package etc. for New Project including integrated energy storage system

Name of the Petitioner		NTPC Ltd
Name of the Generating Station		Feroze Gandhi Unchahar Thermal Power Station
BESS Capacity (MWh)		100
S.No	Variables	(Design Operating Range) Values
1	Battery/Module Supply	Shall be as per OEM drawings
2	Power Conversion System (PCS)	Shall be as per OEM drawings
3	Energy Management & Control for ESS	Shall be as per OEM drawings

**PART-I
FORM- N**

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited		
Name of the Power Station :		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)		
(Amount in Rs Lakh)				
S. No.	Particulars	Existing 2025-26	2027-28	2028-29
1	2	3	7	8
1	Gross Normative loan – Opening	NA	8,257.20	7,627.20
2	Cumulative repayment of Normative loan up to previous year		0.00	363.03
3	Net Normative loan – Opening		8,257.20	7,264.17
3a	Viability Gap Funding (VGF)-As per VGF Scheme, during the year/ period		630.00	378.00
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		363.03	672.63
10	Net Normative loan - Closing		7,264.17	6,213.55
11	Average Normative loan		7,760.69	6,738.86
12	Weighted average rate of interest		8.25%	8.25%
13	Interest on Loan	640.26	555.96	
Note	Weighted average rate of interest considered as 8.25% ,actual rate of interest shall be provided during true up submission			
(Petitioner)				

Calculation of Interest on Working Capital

Name of the Company :	NTPC Limited
Name of the Power Station :	Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)

(Amount in Rs Lakh)

S. No.	Particulars		Existing 2026-27	2027-28	2028-29
1	2		3	7	8
1	No of days		NA	185	365
2	O & M Expenses	1 month		19.49	20.52
3	Maintenance Spares	@10% of O&M		23.39	24.62
4	Receivables	45 days		272.64	254.06
5	Total Working Capital	Rs Lakh		315.53	299.19
6	Rate of Interest	%		11.95	11.95
7	Interest on Working Capital	Rs Lakh		37.71	35.75

Petitioner

Name of the Company		NTPC Limited		
Name of the Power Station		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)		
(Amount in Rs Lakh)				
SN	Particulars	Unit	2027-28 (29.09.2027-31.3.2028)	2028-29
1	Installed Capacity BESS	MWh	100	100
2	NAPAFess	%	90	90
3	Additional Auxiliary Power Consumption (BESS) AECess	% of Input Energy	5	5
4	Round Trip Efficiency	%	85	85
5	Cycles per day	No	2	2
6	Annual Degradation	%	2	2
6a	Opening Capacity	MWh	100.00	98.99
6b	Closing Capacity	MWh	98.99	96.99
7	Avg Capacity after degradation	MWh	99.49	97.99
8	Annual Energy - OUT-BESS	MU	33.132	64.379
9	Annual Energy - IN-BESS	MU	41.030	79.726
10	Average ECR for charging BESS *	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	185	365
15	ESO in 1 Day	MU	0.179	0.176
16	Variable Cost for 1 Day	Rs Lakh	0.000	0.000
17	Variable Cost for 45 Day	Rs Lakh	0.000	0.000
	* The Para -1 of Regulation 64B (2) 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 tariff determination.			
Petitioner				

PART 1 FORM-T						
Summary of issue involved in the petition						
Name of the Company :		NTPC Limited				
Name of the Power Station :		Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)				
1	Petitioner:	NTPC Limited				
2	Subject	Approval of additional capitalisation of BESS and supplementary tariff (anticipated COD) for Unchahar STPS-IV for the period from 29.09.2027 to 31.03.2029				
3	It is respectfully prayed that the Hon'ble Commission may be pleased to: a. Grant approval for additional capitalization of BESS as Integrated Energy Storage System in FGUTPS-IV. b. Approve the indicative supplementary tariff from the anticipated COD for the integrated BESS at FGUTPS-IV. c. 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. d. Allow the petitioner for submission of additional information and facts as may be required. e. Pass any other order as it may deem fit in the circumstances mentioned above.					
4	Respondents:	Six (6) no. respondents				
Name of Respondents						
	1. Uttar Pradesh Power Corp. Ltd (UPPCL)		4. Power Development Department (PDD-J&K)			
	2. Rajasthan Urja Vika Nigam Limited (RUVNL)		5. Chandigarh Power Distribution Limited			
	3. Haryana Power Purchase Centre. (HPPC)		6. Uttarakhand Power Corporation Ltd (UPCL)			
5	Project Scope					
		2024-25	2025-26	2026-27	2027-28	2028-29
	Cost					
	Commissioning					
	Claim					
	AFC (in Rs Lakh)				2217.50	2060.67
	Capital cost (in Rs Lakh)				11,346.00	10,626.00
	Initial spare	To be seen				
	NAPAF (Gen)				90%	90%
	Any Specific					
		Petitioner				

PART-I FORM- 9A Additional Form																		
<u>Year wise Statement of Additional Capitalisation after COD</u>																		
Name of the Petitioner					NTPC Limited													
Name of the Generating Station					Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)													
COD					29-09-2027													
For Financial Year					2024-29 (Summary)													
								Amount in Rs Lakh										
Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)					Regulations under which claimed	Justification	Admitted Cost by the Commission, if any									
		2024-25	2025-26	2026-27	2027-28	2028-29												
1	2	3	4	5	6	7		8	9									
A.	For assets eligible for normal RoE																	
1	Shall be provided after CODess																	
2																		
3																		
4																		
5																		
6																		
8																		
9																		
10																		
11																		
12																		
14																		
15																		
16																		
17																		
18																		
19																		
Total (A)																		
B.										For assets eligible for RoE at One year MCLR+350 bps								
1	Shall be provided after CODess																	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
Total (B)																		
Total Add. Cap. Claimed (A+B)																		
(Petitioner)																		

Amount in Rs Lakh

A.	For assets eligible for normal RoE
-----------	---

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner				NTPC Limited				
Name of the Generating Station				Feroze Gandhi Unchahar Thermal Power Station Stage IV BESS (100 MWh)				
COD				29-09-2027				
For Financial Year				2028-29				
								Amount in Rs Lakh
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	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.	Shall be provided after CODess							
1								
2								
3								
	Total (A)	-	-	-	-			
B.	For assets eligible for RoE at One year MCLR+350 bps subject to ceiling of 14.00%							
1								
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed (A+B)		-	-	-	-			
(Petitioner)								

Annexure-A

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,

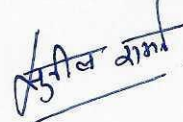
Considering the requirement of Energy Storage in the country, with the approval of Minister of Power, it has been decided to provide VGF to 15 number of States and NTPC (as per enclosed Operational Guidelines) @ Rs. 18 Lakhs per MWh for development of 30 GWh BESS capacity supported through PSDF, which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

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

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Annexure-B



INTER OFFICE MEMO

FROM : COMPANY SECRETARY

TO: Sh. Ajay Sharma
ED (Engg.)

Through
email
only

REF. NO. : 01: SEC: BM: 8

DATED : 30.03.2026

SUBJECT: Battery Energy Storage System (BESS) Lot-1 & Lot-2 Projects (4.70 GWh): Investment Approval

Please find enclosed Part Minutes of 565th Meeting of the Board of Directors held on Saturday, 28th March 2026 on the above subject for your information and necessary action.


(Ritu Arora)

Encl.: As above

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.



Handwritten signature
30/03/2026