

F.No. 42-26/1/2022- RCM (Part 1)

Government of India
Ministry of Power
NRE Section

**Shram Shakti Bhawan, Rafi Marg
New Delhi, dated the 15th March, 2024**

Sanction Order

To,
Pay and Accounts Officer,
Ministry of Power,
Sewa Bhawan, R.K. Puram,
New Delhi – 110066.

Subject: Scheme for Viability Gap Funding for development of Battery Energy Storage Systems-reg.

Sanction of the President is hereby conveyed for the implementation of “**Scheme for Viability Gap Funding (VGF) for development of Battery Energy Storage Systems (BESS)**” for development of 4,000 MWh of BESS capacity.

2. The **salient features** of the scheme are as under: -

- i. The scheme period shall be three years from 2023-24 to 2025-26. Projects falling under the scheme will receive approval during this period, and the funds will be disbursed up to 2030-31.
- ii. VGF of up to 40% of capital cost for BESS shall be provided by the Central Government. The VGF shall be a non-recurring expenditure and shall be fully funded from central grant.
- iii. The projects are required to be commissioned within a period of 24 months from the date of signing of the agreement.

3. The Scheme, with a total outlay of ₹9,400 crores, includes a budgetary support of ₹3,760 crores. It will be administered as a Central Sector Scheme by the Government of India. Adequate budgetary provisions will be made in the annual budget each year.

4. **Disbursement of funds under the Scheme**

- i. The VGF amount to the eligible projects shall be disbursed in five tranches as given below.

Disbursement of VGF for BESS	%
On financial closure subject to bank guarantee and possession of 90 % of the total land required for the project by the developer	10

On Commercial Operation Date (COD)	45
Completion of 1 st year from COD	15
Completion of 2nd year from COD	15
Completion of 3rd year from COD	15
Total	100

- ii. The funds for provision of VGF support will be made available by the Ministry of Power according to the schedule in para 4 (i).
5. The Projects shall be awarded based on Tariff-Based Competitive Bidding (TBCB) guidelines issued by the Ministry of Power.
6. The detailed Operational Guidelines for the implementation of the Scheme are attached.
7. The expenditure under the Scheme shall be debited to the budget head **2801.80.800.41.01.31** of the Ministry of Power for the year 2023-24 and relevant budget head for subsequent years.
8. This Scheme shall come into force with immediate effect.
9. This issues with the concurrence of Finance Branch of the Ministry of Power vide their Dy. No. 84/Fin./2024 dated 13.03.2024.

Encl: A/a

A. Suresh
15/3/24

(Suresh Annepu)
Director
Tel: 011-2371 7737

To:

1. The CEO, NITI Aayog, Sansad Marg, New Delhi
2. The Secretary, Department of Expenditure, Ministry of Finance, North Block, New Delhi.
3. The Secretary, Department of Economic Affairs, Ministry of Finance, North Block, New Delhi.
4. Secretary, Ministry of New & Renewable Energy, Atal Akshay Urja Bhawan, New Delhi
5. Secretary, Ministry of Heavy Industries, Udyog Bhawan, New Delhi.
6. Prime Minister's Office (Shri Rohit Yadav, Joint Secretary), South Block, New Delhi
7. Cabinet Secretariat (Shri Ashutosh Jindal, Joint Secretary), Rashtrapati Bhawan, New Delhi
8. Chairperson, CEA, Sewa Bhawan, New Delhi.

9. IFD, Ministry of Power, Shram Shakti Bhawan, New Delhi
10. Chairman, Central Transmission Utility of India Limited
11. MD, SECI/ CEO, PFCCL/ CEO, RECPDCL
12. Principal Director of Audit, Infrastructure, New Delhi
13. Technical Director, NIC for uploading this OM on the website of the Ministry of Power.

Copy for information to

1. PS to Hon'ble Minister of Power
2. APS to Hon'ble Minister of State for Power
3. Sr.PPS to Secretary (Power)
4. PPS to SS&FA/ AS (Power), Ministry of Power
5. PPS to all Joint Secretaries/ EA/CE, Ministry of Power
6. PPS to Director (RCM), Ministry of Power

F. No. 42-26/1/2022-RCM-Part (1)
Government of India
Ministry of Power
RCM Division

15th March 2024

Operational Guidelines
for
Scheme for Viability Gap Funding for development of Battery
Energy Storage Systems

1. Introduction

- 1.1.** India has been expanding its installed RE capacity with the aim of reaching 500 GW by 2030. RE from sources like solar and wind is variable and not available round the clock like thermal power to meet the demand. Energy Storage Systems (ESS) are necessary to address this challenge by storing excess energy when not needed and supplying it during peak demand periods. As reliance on RE increases, the grid experiences stress during evening and morning peaks when sufficient RE is not available, necessitating additional power dispatch. ESS plays a vital role in successfully integrating RE into the grid and assisting grid operators in managing these fluctuations in demand and RE supply. ESS connected to solar pooling stations also help in maximizing the capacity utilization of RE transmission systems.
- 1.2.** States are responsible for ensuring adequate resources to minimize the stress on the Intra-State Transmission System (InSTS), while the Centre is required to manage the remaining stress on the Inter-State Transmission System (ISTS). Centralized procurement of BESS is necessary to address this requirement. The energy stored in BESS is discharged through power and ancillary services markets during periods of high stress or demand. This will improve grid reliability, enhance RE integration and provide flexibility to the national grid.
- 1.3.** The Central Government has been actively promoting the development of ESS such as Pump Storage Plants and Battery Energy Storage Systems. It has undertaken several initiatives such as preparing the National Framework for ESS, inclusion of ESS in the master list of infrastructure and streamlining of project

approvals.

2. Scheme Overview

- 2.1.** The Central Government has sanctioned the Central Sector Scheme 'Viability Gap Funding (VGF) for Development of Battery Energy Storage Systems (BESS)', hereinafter referred to as 'the scheme' to develop 4,000 MWh of BESS capacity.
- 2.2. Duration:** The scheme shall be for a period of three years from 2023-24 to 2025-26. Projects under the scheme will be approved during this period and the funds will be disbursed up to 2030-31.
- 2.3. Commissioning Period.** The projects are required to be commissioned within a period of 24 months from the date of signing of the Battery Energy Storage Purchase Agreement (BESPA).
- 2.4. Proposed outlay:** The Scheme has an outlay of ₹ 9,400 crores including a budgetary support of ₹ 3,760 crores.
- 2.5. Disbursement schedule:** The VGF amount to the eligible projects shall be disbursed in five tranches as detailed below.

Milestone	% VGF disbursed
On financial closure subject to submission of bank guarantee and possession of 90% of the total land required for the project by the developer	10
On Commercial Operation Date (COD)	45
Completion of 1 st year from COD	15
Completion of 2 nd year from COD	15
Completion of 3 rd year from COD	15
Total	100

- 2.6. VGF:** VGF of upto 40% of capital cost for BESS shall be provided by the Central Government in the first tranche. The VGF shall be a non-recurring expenditure and shall be fully funded from central grant.

3. Definitions

- 3.1.** “BESS Balancing Pool (BBP)” refers to the balancing fund established for operating the scheme, covering surplus/deficit revenues from BESS projects across all tranches. Revenues include proceeds from sale of energy discharged from the BESS, while expenditure includes fixed costs to BESS developers, expenses related to input energy costs, and BIA trading margins.
- 3.2.** “BESS Implementing Agency (BIA)” refers to agencies designated by the Ministry of Power for the implementation of one or more tranches of the scheme. The cumulative BESS capacities across all tranches shall total 4,000 MWh.
- 3.3.** “BESS Nodal Agency (BNA)” means an agency designated by the Ministry of Power to oversee the BESS balancing pool, which comprises the accounts of all BIAs.
- 3.4.** “Request for Selection (RfS) document” refers to the document prepared by the BIA based on the scheme Guidelines and “Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services” (hereinafter referred to as BESS TBCB guidelines) as notified in Gazette Notification CG-DL-E-11032022-234077 dated 10th March 2022 as amended from time to time, issued by the Ministry of Power (MoP). Further, the provisions of BESS TBCB guidelines shall be supplemented with the provisions of the scheme Guidelines or any other relevant guidelines issued by the MoP.

4. Implementation Model

- 4.1.** The BESS projects under the scheme will fulfill the system requirement by addressing the grid needs during periods of high-demand and high stress. The system requirement has been assessed to be 572 cycles per year which may be increased by National Load Dispatch Center (NLDC), if required. However, BESS will be available with the BIA for the entire duration of the year.
- 4.2.** The NLDC shall pre-declare stress hours of the grid, involving typically the evening and morning peak hours on a quarter-ahead

basis, and update on week-ahead basis.

- 4.3.** The BIA shall be responsible for securing discharge of power from BESS during the pre-declared high-demand and stress hours. During these pre-declared hours, the BIA shall ensure discharge of BESS power by the BESS developer within the specified time blocks, determined based on its assessment of market dynamics. Failure to discharge during the specified hours by the BESS developer shall be liable for penalty in line with the provisions of the BESS TBCB guidelines. If the failure to discharge is due to the inability of the BIA to provide for BESS charging during the predetermined hours, the BIA shall be liable for a penalty of 10% of its trading margin on the lost energy during the corresponding duration.
- 4.4.** The BIA shall secure the charging power for the BESS project through fixed term contracts with solar, wind, or hybrid energy sources, and meet the remaining requirement through market purchases.
- 4.5. BESS Discharge Management by the BIA.** The BIA shall arrange discharge of the BESS through various avenues to optimize grid stability and revenue generation. These avenues include:
- a. Power Exchange Sales: BIA will participate in the power exchange market, to sell the electricity discharged by BESS, during the pre-declared high demand/stress hours.
 - b. Bilateral Tie-Ups: The BIA may enter into bilateral contracts with specific entities to provide targeted energy support.
 - c. Ancillary Services: BIA may participate in ancillary services markets to provide BESS discharge under different types of grid stability services.
- 4.6.** The trading margin payments to BIAs are calculated based on the energy sold from BESS. The rate of trading margin shall be four paise per kWh of energy sold. Should the BIA generate more than 10% surplus revenue annually, it shall be entitled to an additional trading margin of three paise per kWh of energy sold during the year, subject to the condition that the total expenditure on this account does not exceed the revenue surplus generated in that year. Conversely, if there is a revenue deficit of more than 10% annually, a penalty of one paise per kWh of the energy sold annually shall be levied.

- 4.7. Balancing Fund Management.** The BBP will address revenue shortfalls and surpluses arising from BESS operations.
- a. Surplus Recovery: If the revenue generated from the energy sales exceeds the expenditure covering BESS developer's annualized fixed costs and the BIA's trading margin, the BIA shall deposit the surplus revenue into the balancing fund.
 - b. Revenue Shortfalls: Conversely, if there is a shortfall in revenue generated, the balancing fund shall be used to bridge the gap.
 - c. The payments to/from the BBP shall be on a monthly basis.
- 4.8. BBP Fund Administration.** The BNA shall be responsible for maintaining and operating the BBP. It shall be responsible for overseeing and reconciling the monthly BBP accounts submitted by BIAs. The BNA shall maintain books of accounts related to BBP for its operations under the scheme and also be responsible for making payments for revenue shortfall. The BNA shall issue a procedure for administration of the BBP within 45 days of the issue of these guidelines.
- 4.9. BBP Fund Regulation and Payment Security Mechanism.** BBP shall act as the Payment Security to all the BESS developers under the scheme. To ensure long-term sustainability, the BBP Fund may be supplemented, if necessary, by way of regulatory charge as per regulations of Central Commission.

5. Selection of BESS Developers

- 5.1. Bidding Process.** The Scheme's earmarked capacity will be offered in multiple tranches through a competitive bidding process. Any shortfall in the annual awarded capacity compared to the planned annual capacity will be carried forward to the subsequent year.
- 5.2. Project Developer Capacity Limits.** To ensure wider participation, a single project developer shall be awarded a maximum of 50% of the total capacity offered in a particular tranche. Additionally, a project developer shall not be awarded a cumulative capacity exceeding 1,000 MWh across all the tranches. Only projects with a minimum capacity of 100 MWh shall be eligible for award. The projects shall be on a stand-alone basis.

- 5.3. Project Developer Eligibility.** It shall be ensured that both public and private sectors participate in the bid and that there is at least one bid from a private sector participant in every tranche, failing which the bid shall be cancelled and tender will be floated afresh.
- 5.4. Contract Period.** The project contract period, ranging from 10 to 12 years, shall be pre-specified in the RfS document. The contract shall be awarded on Build Own Operate (BOO) basis.
- 5.5. Developer Selection.** Projects shall be awarded using the Tariff-Based Competitive Bidding (TBCB) process conducted by the BIAs in accordance with the RfS document.
- 5.6. Contract.** The BIA initiates the bidding process and signs a Battery Energy Storage Purchase Agreement (BESPA) with the successful bidder for the specified contract period.
- 5.7. Committee.** A committee shall be designated by Ministry of Power for undertaking the activities mentioned below following the scheme guidelines.
- a. VGF determination. The committee shall pre-determine the VGF based on a realistic assessment of the capital cost of BESS. The VGF so determined shall be stated in the RfS document and shall not exceed ₹96 lakhs per MWh. The Committee shall ascertain the VGF amount for each bidding tranche, guided by the tariffs discovered in previous BESS bids.
 - b. Tariff Cap. The Committee shall specify the upper cap on tariffs to be quoted by the bidders to ensure competitive and reasonable storage tariffs.
 - c. Location. The committee shall indicate the locations of ISTS solar pooling stations for connecting the BESS projects under each tranche.
- 5.8. Bidding Parameter.** Developers shall compete based on the annualized fixed cost they offer, expressed in rupees per Megawatt (MW) per month subject to the tariff cap after factoring in the VGF specified in the RfS.

6. Disbursement of VGF

- 6.1.** The BIA shall be required to obtain a Bank Guarantee of value

equal to the sanctioned VGF, prior to its release to the BESS developer, as specified in the RfS. This Bank Guarantee shall be liable for encashment to recover the VGF amount in the event of non-fulfillment of the scheme conditions specified in the Bidding Documents. The Bank Guarantee for the VGF sanctioned up to COD may be released within five years of COD.

- 6.2. The VGF for each project shall be disbursed to the BIA once the BIA certifies the achievement of the disbursement schedule milestone and submission of the required Bank Guarantee.

7. BIA Responsibilities

- 7.1. The BIA shall be responsible for issuing the RfS, inviting bids, and selecting BESS developers for the allocated quantum (in MWh) across various tranches. The BIA shall then enter into contracts with the selected BESS developers.
- 7.2. The BIA shall be responsible for ensuring and certifying that the bidding process complies with the Scheme guidelines and that all specified conditions are met.
- 7.3. The BIA shall act as the purchaser of energy storage services and shall enter into a BESPA with the developer for the contract period. Additionally, the BIA shall provide charging power to the BESS developer and discharge BESS according to the methodology outlined in the scheme guidelines.
- 7.4. The BIA shall maintain books of accounts related to BBP for its operations under the scheme and submit monthly accounts for reconciliation to BNA.
- 7.5. The BIA shall deposit monthly payments of surplus revenues into the BBP and withdraw revenue deficit as approved by the BNA.
- 7.6. The BIA shall submit to MoP and CTUIL, the audited Statement of Expenditure (SoE) and Utilization Certificate (UC) in the prescribed format of GFR 19 (A) as amended from time to time.
- 7.7. The BIA shall comply with the provisions of General Financial Rules, 2017, as amended from time to time.
- 7.8. 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.

- 7.9.** Assets acquired wholly or substantially out of 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).
- 7.10.** The accounts of BIA 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.
- 7.11.** The accounts of BIA 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.

8. Scheme Monitoring

- 8.1.** CTUIL shall monitor the awarded projects under the scheme through a Management Information System (MIS) portal and submit quarterly reports to the Ministry of Power.
- 8.2.** Upon commissioning of the Project, CTUIL shall submit a report containing details of the major assets created along with cost incurred for the Project. The performance levels may also be verified by the CTUIL on a periodic basis.

9. Public Financial Management System (PFMS)

- 9.1.** The Scheme being a Central Sector Scheme, the release of capital subsidy from the Ministry to the BIA shall be done through PFMS and the BIA shall use PFMS for fund flows under the scheme.
- 9.2.** The BIA shall mandatorily enter details like receipts, expenditures, etc. in PFMS portal.

- 9.3. The Project Developers receiving funds under the Scheme shall be registered/ mapped under PFMS. The BIA shall ensure that all Project Developers to whom funds are to be released are properly registered/mapped under PFMS.
- 9.4. The BIA shall submit status of unspent grant lying with it to MoP on an annual basis.
- 9.5. The BIA shall maintain books of accounts both for receipt of funds from the Ministry and release to Project Developers for each project.
- 9.6. The BIA shall ensure that funds are kept in the interest-bearing account and the interest accrued shall be credited to the Government. However, it shall not be invested in any other bank/branch, whether for short term or medium term, including fixed deposits.

10. Amendment to Guidelines

- 10.1. These guidelines may be amended with the approval of the Secretary, Ministry of Power, to address implementation challenges without materially altering the scheme.
- 10.2. The implementation model in these guidelines may be modified for future tranches by the Ministry of Power, if required.

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