



नई दिल्ली  
NEW DELHI

याचिका संख्या./ Petition No. 249/MP/2023

कोरम/ Coram:

श्री जिष्णु बरुआ, अध्यक्ष/Shri Jishnu Barua, Chairperson  
श्री अरुण गोयल, सदस्य/ Shri Arun Goyal, Member  
श्री पी. के. सिंह, सदस्य / Shri P. K. Singh, Member

आदेश दिनांक/ Date of Order: 16<sup>th</sup> May, 2024

**IN THE MATTER OF:**

Petition under Regulations 24 and 25 of the CERC Ancillary Service Regulations, 2022 seeking directions for advance procurement and despatch of 150 MW / 300 MWh Battery Energy Storage Systems out of the 500 MW / 1000 MWh (2 hours storage) standalone ISTS connected BESS pilot project at 400/220 kV Fatehgarh-III (Rajasthan) substation of Northern Region.

**AND IN THE MATTER OF:**

National Load Despatch Centre (NLDC),  
C/o Grid Controller of India  
(Formerly Power System Operation Corporation Ltd.)  
B-9 (1st Floor),

Qutab Institutional Area,  
Katwaria Sarai,  
New Delhi -110016.

**...Petitioner**

**Versus**

- (1) Solar Energy Corporation of India Limited (SECI),  
6th Floor, Plate-B, NBCC Office Block Tower 2,  
East Kidwai Nagar, Kidwai Nagar,  
New Delhi, Delhi 110023
  
- (2) JSW Renew Energy Five Limited (BESS Developer) (JREFL),  
JSW CENTRE, Bandra Kurla Complex Bandra-(East)  
Mumbai City  
Maharashtra- 400051
  
- (3) Central Transmission Utility of India Limited (CTUIL),  
First Floor, Saudamini, Plot No.– 2,  
Sector– 29,  
Gurgaon – 122 001 Haryana
  
- (4) Member Secretary, Northern Regional Power Committee (NRPC),  
18-A, Qutab Institutional Area,  
Shaheed Jeet Singh Marg,  
Katwaria Sarai, New Delhi-110 016

**...Respondents**

**Parties Present:** Shri Gajendra Singh, NLDC  
Shri Shubhendu Mukherjee, NLDC  
Shri Debajyoti Majumder, NLDC

Shri Ashok Rajan, NLDC  
Shri Alok Mishra, NLDC  
Shri Aman Anand, Advocate, JREFL  
Shri Aman Dixit, Advocate, JREFL  
Ms. Natasha Debroy, Advocate, JREFL  
Shri Rakesh Rathore, JREFL Renew  
Ms. Anusha Nagarajan, Advocate, SECI  
Ms. Mandakini Ghosh, Advocate, SECI  
Ms. Aakanksha Bhola, Advocate, SECI  
Shri Rahul Ranjan, Advocate, SECI  
Shri Mudit Jain, SECI  
Shri Amit Kumar, SECI  
Shri Anil Yadav, SECI  
Shri Siddharth Sharma, CTUIL  
Shri Akshayvat Kislay, CTUIL  
Shri Lashit Sharma, CTUIL  
Shri Swapnil Verma, CTUIL  
Shri Ranjeet Rajput, CTUIL  
Ms. Priyansi Jadiya, CTUIL  
Ms. Anzum Parwej,  
Shri Praveen Jangra  
Ms. Kavya Sharma, CTUIL

### **आदेश/ ORDER**

The Petitioner, National Load Despatch Centre (NLDC) is the System Operator at national level to ensure integrated operation of the national power system and has filed this Petition under Regulations 24 and 25 of the CERC Ancillary Service Regulations, 2022 to seek directions for advance procurement and despatch of 150 MW / 300 MWh Battery Energy Storage Systems (BESS) out of the 500 MW / 1000 MWh (2 hours storage) standalone ISTS connected BESS pilot project at 400/220 kV Fatehgarh-III (Rajasthan) substation of Northern Region. The said pilot projects of 500 MW/ 1000 MWh Standalone BESS are being set up in India under Tariff-Based Global Competitive Bidding (ESS-I) awarded by

Solar Energy Corporation of India Limited (SECI) (“Respondent No 1”) to JSW Renew Energy Five Limited (“Respondent No 2”).

2. The said BESS is proposed to be utilized for Primary Reserve Ancillary Services, Secondary Reserve Ancillary Services, and Tertiary Reserve Ancillary Services as per the Commission’s Ancillary Services Regulations, 2022, and the Grid Code. The Petitioner has also proposed draft procedure for Scheduling, Metering, Accounting & Settlement for the Grid Ancillary portion (150 MW/ 300 MWh) for the BESS (Pilot) Project and charges for implementation of the said earmarked ancillary portion of the Pilot standalone BESS Project.
3. The Ministry of Power (MoP), vide Order dated 16th July 2021, constituted a Steering Committee to monitor and implement a Pilot Project on Battery Energy Storage System (BESS) and other activities. Based on the suggestions and reports submitted by the Steering Committee, the MoP under section 63 of the Electricity Act, 2003 (EA, 2003), issued the “Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services” vide notification dated 10th March, 2022.
4. Solar Energy Corporation of India Limited (SECI) (Respondent No.1) conducted competitive bidding as per the MoP guidelines to select a BESS developer for two BESS projects of 250 MW/ 500 MWh each, with a total bidding capacity of 500 MW/ 1000 MWh. JSW Renew Energy Five Ltd. (Respondent No. 2 herein) emerged as the successful bidder/BESS Developer for both the BESS pilot project units of capacity 250 MW/500 MWh (2 hours storage) each, to be connected at the separate bays of 400/220 kV Fatehgarh-III (Rajasthan) Sub-Station. The monthly capacity charges at the delivery point were discovered as Rs. 10,83,500/MW/ month for the entire BESS capacity of 500 MW / 1000 MWh through a competitive bidding route.
5. As per the contract, SECI was the de-facto trading agency for the complete quantum of BESS Pilot Project, and 150 MW/300 MWh storage capacity is earmarked for Ancillary Services as per the requirement of NLDC/Grid-India based on the decision taken by the MoP. A minimum round-trip efficiency of 85% and a maximum of two discharge cycles per day has been envisaged. For the portion earmarked for Ancillary Services (150 MW/300

MWh), the annual fixed cost comes out to approximately 195 crores (excluding taxes) and the annual energy discharge is 219 MU.

6. The actions required to implement the Pilot BESS Project by MoP envisaged that SECI and Grid-India may sign a Memorandum of Understanding (MoU) for the Grid-India earmarked portion of 150 MW / 300 MWh Battery Energy Storage Systems out of the 500 MW / 1000 MWh (2 hours storage) standalone ISTS connected BESS.
7. The Central Electricity Regulatory Commission (Ancillary Services) Regulations, 2022, was notified by the Commission on 31<sup>st</sup> January 2022. The said regulations have introduced energy storage in the regulatory ambit of India for the first time. It brought energy storage into the scope of ancillary services in India. The said pilot project is proposed to be utilized for Primary Reserve Ancillary Services, Secondary Reserve Ancillary Services, and Tertiary Reserve Ancillary Services as per the Commission's Ancillary Services Regulations, 2022, and the Grid Code.
8. Accordingly, the present petition is filed by the Petitioner under Regulations 24 and 25 of the CERC Ancillary Service Regulations, 2022 to seek directions for advance procurement and despatch of 150 MW / 300 MWh Battery Energy Storage Systems out of the 500 MW / 1000 MWh (2 hours storage) standalone ISTS connected BESS pilot project at 400/220 kV Fatehgarh-III (Rajasthan) substation of Northern Region.
9. The Petitioner has made the following prayers:
  - (a) *Admit the present Petition.*
  - (b) *Approve the procedure proposed by NLDC for the implementation of the BESS Pilot Project annexed and marked as Annexure 37.*
  - (c) *Approve the payment of fixed charges and charges for charging of BESS from Northern Region (NR) Ancillary & DSM Pool Account as per the methodology outlined in the Procedure annexed and marked as Annexure - 37.*
  - (d) *After the end of 12 years of useful life of the BESS portion earmarked to NLDC for grid-ancillary service, if there is possibility of further use of the BESS System, the first right to use may be provided to NLDC.*
  - (e) *Pass such order (s) or direction (s) as the Hon'ble Commission may deem fit & proper.*

10. The Petitioner has also made additional prayers in view of the revision in the original Procedure for Scheduling, Metering, Accounting and Settlement for Grid Ancillary portion (150 MW/300MWh) of BESS (Pilot) Project.

- (a) *Allow SECI to raise payment invoice in the name of GRID-INDIA after the issuance of weekly Ancillary Services Accounts by NRPC.*
- (b) *Allow GRID-INDIA to deduct and deposit the TDS applicable, as per the prevailing rates on the amount payable to SECI (Weekly fixed/capacity charge plus SECI's trading margin of 0.5% on capacity charges and additional trading margin as applicable). For this, the TDS amount will be drawn from the NR DSM pool by NRLDC (on behalf of GRID-INDIA). NRLDC will utilise this amount for payment of TDS towards payment of relevant BESS charges.*
- (c) *Allow entire yearly fixed charge (approximately 195 Crore) including SECI's trading margin of 0.5% on the fixed charges and applicable GST amount as per the prevailing rates may be settled from DSM Pool.*
- (d) *Allow priority payment of weekly charges payable to SECI over all other payments from the DSM Pool.*
- (e) *Allow annual truing up of availability incentives/penalties, rebate, surcharge etc. for the Ancillary portion of the BESS.*

### **Submission by the Petitioner**

11. The Petitioner submitted the following:

- (a) SECI published the Request for Selection (RfS) Document for setting up Pilot Projects of 500 MW/1000MWh Standalone Battery Energy Storage Systems in India under the Tariff Based Global Competitive Bidding and allocated 150 MW / 300 MWh BESS capacity to NLDC for use under ancillary services. SECI requested Grid-India to execute a Battery Energy Storage Sale Agreement (BESSA).
- (b) The monthly capacity charges at the delivery point for the entire BESS capacity of 500 MW/1000MWh through the competitive bidding route were discovered as Rs. 10,83,500/MW/month.
- (c) For the portion earmarked for Ancillary Services (150 MW/300 MWh), the annual fixed cost is approximately 195 crores (excluding taxes), and the annual energy discharge is 219 MU.

- (d) A minimum round-trip efficiency of 85% and a maximum of two discharge cycles per day is envisaged for this portion of the BESS.
- (e) For setting up Pilot Projects of 500 MW/1000 MWh Standalone BESS, the yearly degradation rate is 2.5% per year for the life of 12 years of the BESS.
- (f) After the end of 12 years of the useful life of the BESS System, if there is a possibility of further use of the BESS System, the first right to use should be provided to Grid-India.
- (g) Further, MoP approved PSDF sanction for BESS (DISCOM & Ancillary portion) – Rs. 80 Cr for DISCOM portion & up to Rs. 30 Cr for Ancillary portion.
- (h) The BESS Portion earmarked with the Petitioner to be utilized for Primary Reserve Ancillary Services (PRAS), Secondary Reserve Ancillary Services (SRAS), and Tertiary Reserve Ancillary Services (TRAS) as per the extant CERC Ancillary Services Regulations 2022 (AS Regulations) and Indian Electricity Grid Code (IEGC).
- (i) The Commission may approve the draft procedure submitted for Scheduling, Metering, Accounting & Settlement for Grid Ancillary portion (150MW/300MWh) of BESS (Pilot) Project. The procedure encompasses sections outlining the aspects related to roles of the Nodal Agency, Registration procedure, Utilization of BESS including Despatch Profile, Charging of BESS, Declaration of Availability by BESS and State of Charge (SOC), Scheduling and Despatch Metering, Voice and Data requirements, Deviation Settlement, Compensation Charge, Transmission Charges and Losses and Accounting and Settlement for despatch under Ancillary Services.

12. The draft Procedure submitted by the Petitioner, along with the original Petition for Scheduling, Metering, Accounting & Settlement for the Grid Ancillary portion of the Pilot BESS Project, proposed the following provisions:

- (a) The Project is proposed to be utilized for PRAS, SRAS and TRAS. BESS under TRAS provision would be despatched before despatch of market-procured ancillary service.
- (b) SECI (Respondent No.1) has been designated as the Nodal Agency for scheduling of power under the Ancillary Service Regulations, 2022, for the earmarked portion. It will coordinate the procurement and scheduling of power for charging and discharging and will also coordinate deviation settlement payments.
- (c) The BESS Developer (Respondent No.2) will get registered at NRLDC and will register as BESS in the National Open Access Registry separately for the DISCOM portion (150

MW), capacity earmarked for Grid Ancillary Services (150 MW) and for merchant quantum (200 MW).

- (d) NLDC will inform about the periods when 150 MW/300 MWh will be required to be available for discharge for the next day depending on the anticipated system conditions on a day ahead basis. This may be revised considering the real time system conditions. BESS will also be enabled to accept AGC signals under SRAS.
- (e) The BESS Developer, through SECI, will arrange for charging power on behalf of NLDC. The charging will be done in the designated hours as per the likely despatch profile notified by NLDC, and the charging power will be procured through IDAM/RTM in a manner so as to minimise the charging power procurement costs.
- (f) The BESS developer will declare the availability of BESS on a day-ahead basis to NLDC for use under Ancillary Services. The State of Charge (SOC) will be part of the declaration, and to begin with, the SOC for the GRID-INDIA portion will be maintained at a 50% level of 150 MW/300 Mwh at 0000 hours. This would enable providing reserves in both directions (up and down).
- (g) NLDC will despatch the BESS portion earmarked to it under SRAS /TRAS and schedule will be provided accordingly to SECI. Discharging of BESS will be done as per the schedule provided by NLDC under Ancillary Services.
- (h) Different parts of the BESS project would have separate metering arrangements. BESS developer will take weekly meter readings and transmit them to the NRLDC as per IEGC provisions. 5-minute metering would be appropriate to capture the flexibility features of BESS as part of the pilot project. SRAS settlement will continue to be done with the SCADA data on 5 minute average value, and TRAS settlement will be done on 15 minute metered average value.
- (i) Separate DSM accounts will be prepared for Grid Ancillary Services Capacity. RPC will issue the relevant DSM accounts. The reference charge rate for DSM computation will be equal to the declared compensation charge. RPC will issue the relevant DSM accounts. SECI will pay/receive charges for deviation in line with CERC Deviation Settlement Mechanism Regulations, 2022 and its subsequent amendment.
- (j) The average Unconstrained DAM price of the Power Exchange having more than or equal to 80% share in the DAM segment for the day of operation will be used as the notional compensation charge for despatch under ancillary services for that day.



- (k) For despatch under Ancillary Services, no interstate transmission charges and losses will be applicable in accordance with the AS Regulations.
- (l) The concerned RPC will issue weekly Ancillary Services Accounts, including BESS. The Annual fixed charge for an earmarked portion for Grid Ancillary service comes to around Rs. 195.03Cr. Out of Rs. 195.03Cr per year, an annual grant of up to Rs. 30 Cr has been approved from PSDF. The balance fixed charge of around Rs. 165.03Cr per year will be recovered through Ancillary and Deviation Pool Accounts. SECI will directly claim an approved annual grant up to Rs. 30 Cr from PSDF.
- (m) A payment of Weekly charges Payable from DSM Pool for Rs 3,16,49,590 would be made for BESS, based on RPC account statements, from the Northern Region Ancillary and Deviation Pool Accounts.
- (n) In addition to the charges payable for Ancillary portion (150MW/300MWh) of BESS (Pilot) Project, a trading margin at the rate of 0.5% of fixed charges is payable to SECI. This trading margin, any taxes, incidental charges (e.g., Power Exchange charges, etc.) as per actual may be funded through PSDF.
- (o) NLDC also submitted that after the end of 12 years of useful life of the BESS System, if there is a possibility of further use of the BESS System, the first right to use should be provided to Grid-India.

**Hearing dated 16.08.2023**

13. The Petition was admitted on 16.08.2023, and the Respondents were directed to file their reply while the Petitioner was directed to furnish the following details:
- (i) Tentative per unit rate from the tied-up capacity of 150 MW/300 MWh from the BESS Project.
- (ii) Status of the BESS Sale Agreement between the Petitioner and the SECI.
- (iii) Details clarifying the mechanism of using BESS for Primary, Secondary and Tertiary Ancillary Services.
- (iv) Details regarding the accounting and deployment of BESS under different routes, viz. Discoms (150MW), Grid Ancillary Services (150MW) and Merchant (200MW).
- (v) Details on scheduling and deviation settlement with respect to BESS injection and Drawal.

**Reply on behalf of the Petitioner NLDC on 11.09.2023**

14. The Petitioner submitted the following additional information.

- (i) The Petitioner computed tentative per unit rate from the tied-up capacity of 150 MW/300 MWh from the BESS Project as Rs.4.84/kWh subject to certain assumptions for rate of charges and discharge of BESS project for Ancillary Portion and PSDF grant of Rs 30 Crore per year.
- (ii) In context of the status of the BESS Sale Agreement between the Petitioner and SECI, the Petitioner submitted that it is not the off-taker of the power under ancillary services. Accordingly, the BESS sale agreement cannot be signed by NLDC and the despatch of BESS is required to be done under the Ancillary Service Regulation as per directions of the Commission.
- (iii) BESS may provide primary response with a droop setting as low as 1%. BESS will be required to accept AGC signals under SRAS continuously to provide secondary frequency regulation. BESS will be able to operate in AGC and will be able to comply with the requirements of the system operator. BESS under the TRAS provision would be despatched first as the earmarked portion of BESS is akin to advance procurement of reserves, and the fixed costs are fully paid for this resource.
- (iv) NLDC also submitted the details regarding the accounting and deployment of BESS under different routes, viz. Discoms (150MW), Grid Ancillary Services (150MW) and Merchant (200MW) and the details on scheduling and deviation settlement with respect to BESS injection and drawal.

**Reply on behalf of the BESS Developer i.e. JSW Renew Energy Five Limited (Respondent No 2) dated 19.09.2023**

15. Respondent No. 2 submitted that some of the provisions of “Procedure for Scheduling, Metering, Accounting & Settlement for Grid Ancillary portion (150MW/300MWh) of BESS (Pilot) Project” and prayer 4 in the main petition are contrary to the bidding conditions, and thus, the same, cannot be implemented/granted, after the bidding in terms of the guidelines under section 63, has concluded.

16. The objections raised by Respondent-2 (JREFL) in response to the submission of the Petitioner (NLDC) are as follows:

- (i) The condition of registration as BESS in NOAR separately would be difficult to implement.
- (ii) Use of BESS as PRAS may attract some augmentation or revisions in the design of the project, and thus, any impact will need to be considered under the change in law event.
- (iii) Assigning SECI the responsibility for scheduling of power, including procurement and scheduling of power for charging and discharging through market mechanisms, contradicts the MoP bidding guidelines.
- (iv) The responsibility of charging and discharging will be with the buying entity, i.e., NLDC the responsibility of maintaining the appropriate SOC level of the NLDC capacity will also be with the NLDC or the entity responsible for arranging charging and discharging on behalf of NLDC.
- (v) The cycle life calculation should be an arithmetic sum of all the charge and discharge signals irrespective of the metering/settlement time interval as recorded in the BESS SCADA / NLDC signal list.
- (vi) As per the MoP bidding guidelines, DSM will be applicable aggregately at the project level at the main meter at 220 KV level (250 MW) and not separately for Discoms, NLDC, and merchant power. Separate DSM accounts lead to the actual operation of feeders with individual schedules rather than an aggregate schedule, which in turn leads to an increase in degradation and auxiliary consumption.
- (vii) As per the MoP bidding guidelines, the BESS Developer is entitled to receive payment as per the tariff quoted in INR per MW per month. Hence, in any case, the BESS developer will be entitled to receive such an amount without any adjustments. Any such adjustment may be made at the buying entity level which is arranging power for such charging and discharging for NLDC and the BESS developer will be insulated against any such adjustments.

17. For accounting and settlement methodology for BESS despatch under Ancillary Service, Respondent No.2 suggested that a notional compensation charge of Rs 0.50 / kWh may be considered by the NLDC by creating a separate account under DSM Pool Account for utilisation of the pilot BESS projects. As per the real-time operations, the separate account created for this BESS project may be adjusted accordingly and if necessary,

support of the main DSM pool account can be taken for any shortfall or excess adjustments if required.

18. Respondent No. 2 reiterated that the Petitioner has completely disregarded the payment of the round-trip efficiency (performance-based) incentive, as specifically outlined in the bid documents of the Request for Selection (RfS). *For  $RtE > 85\%$ , there will be incentive @Rs. 0.50 per unit of excess discharge of energy considering system  $RtE = 85\%$ .*

**Hearing dated 22.09.2023**

19. During the course of the hearing on 22.09.2023, the learned counsel for the Respondents, SECI, and JSW Renew Energy Five Limited sought an extension of time to further consider the implications arising from the Petitioner's proposal. The Commission directed SECI to complete the discussion as above and to file its response.

**Reply on behalf of Respondent No. 1, SECI, dated 24.11.2023**

20. Respondent No.1 SECI also raised some concerns over certain provisions in the “proposed procedure” by NLDC, stating that it deviates from SECI's Request for Selection (RfS) and MoP's guidelines. The following are the main submissions of SECI:
- (a) The BESS Guidelines contemplate that an intermediary agency may be required to aggregate the power purchased from different developers and sell it to the end procurers. The BESS Guidelines further provide that the intermediary agency shall execute a Battery Energy Storage Purchase Agreement (“BESPA”) with the BESS Developer identified through the bidding process as per the Guidelines and a Battery Energy Storage Sale Agreement (“BESSA”) with the end procurer, on a back-to-back basis. The intermediary agency has been made entitled to 0.5% of the capacity charge discovered through the bid process from the end procurer. Standard BESPA and BESSA were made part of the RfS documents. The said RfS documents clearly specified that SECI's role was only that of an intermediary for the procurement of BESS capacity and that the buying entities were responsible for charging and discharging of the BESS capacity allocated to them.
- (b) SECI's role under the BESS Pilot Project was that of an aggregator, responsible for shortlisting a BESS Developer and procuring aggregate capacity on a back-to-back basis for sale to buying entity(ies). Management of BESS reserved for ancillary

services was to be undertaken by the grid operator, such as the Petitioner. The scope of work of SECI as an aggregator and that of the Buying Entities, including the Petitioner to the extent of capacity allotted for ancillary services, was also clearly earmarked in the RfS

- (c) Maintaining power up to the allotted capacity in the BESS project, which included charging of storage capacity and supplementary functions, was the responsibility of the Buying Entities.
- (d) The procedure submitted by the Petitioner proposes to entrust SECI with the responsibility of charging and discharging the BESS capacity allotted to the Petitioner, of scheduling and dispatch of this power, and of paying and receiving deviation charges for settlement of DSM accounts. The proposed procedure, while entrusting SECI with additional functions that were originally the domain of the Petitioner, does not contemplate payment of any additional trading margin or any other compensation to SECI.
- (e) SECI is not agreeable to all deviations from the RfS in the proposed procedure, but in the interest of implementation of the BESS Pilot Project at the earliest, it can agree to undertake some additional functions as set out in the proposed procedure, subject to certain conditions, including payment of additional trading margin. It is submitted that unless the proposed procedure is implemented with SECI's conditions, it will become commercially unviable for SECI to undertake additional responsibilities of an intermediary under the BESS Pilot Project, which in turn will be prejudicial to the timely implementation of the Project.
- (f) SECI is agreeable to undertake charging/ discharging functions subject to payment of an additional trading margin of Rs 0.07/kWh in addition to 0.5% of applicable capacity charges.
- (g) Agreed to coordinate scheduling and commercial aspects of the BESS project but should not be made liable for DSM penalties, as SECI is not a grid entity.
- (h) From the relevant provisions of the RfS, it appears that BESS shall have provisions to provide primary frequency control; the activation of primary frequency response shall be as per the extant CEA/CERC regulations. In case BESS is being used for PRAS operations also, the compensation charge/ energy charge (as may be applicable) should be paid by the Petitioner.

- (i) Charging/discharging instructions needed to be clear, and in case power availability is insufficient, SECI would not bear liability for any penalties incurred. The cost of procuring power through the market/ power exchange shall be borne by the Petitioner completely, along with transaction fees charged by exchanges, open access charges, etc.
- (j) The condition of 50% SOC at 00:00 hrs may be removed as the charging and discharging will be as per instructions from GRID-INDIA, and it may not be possible to maintain at 50% SOC every day at 00:00 hrs.
- (k) Since the grant from PSDF is not on an advance basis, it is necessary that SECI should be paid applicable Capacity Charges upfront fully on a weekly basis, and the same may be adjusted once the grant from PSDF is received. The Petitioner should keep an accounting of fixed capacity charges separate from Variable Charges /SRAS/TRAS/market procurement cost, etc.
- (l) Weekly upfront payments are requested due to PSDF grant limitations, and the Petitioner must pay variable charges, GST, and indemnify SECI. SECI urges timely payments to cover its limited earnings from Trading Margin, emphasizing PSDF grant of Rs. 30 crores are not sufficient to cover all the costs. Grid-India is required to pay the necessary charges to SECI irrespective of whether it is covered under PSDF Fund or not.
- (m) The proposal of the Petitioner seeking the use of the BESS system after 12 years, is directly contradictory to the scheme of the BESS Pilot Project (Clause 3.4 of the RfS) which specifically provides that the BESS Project will be transferred to SECI in working condition at the end of the term of the BESPAs and BESSAs, which is 12 years.
- (n) The Petitioner has proposed that it would procure power and use the BESS Project through regulatory directions of this Hon'ble Commission and not execute the BESSAs with SECI as per the RfS. However, it is necessary to appreciate that the RfS was floated on the basis that Grid-India will first execute the BESSAs with SECI, and then SECI will execute the BESPAs with the BESS Developer/ Respondent No. 2. Further, there are various provisions such as *Force Majeure*, Change in Law, Event of Default etc. which form necessary part of the BESSAs and BESPAs, and which can only be enforced on a back-to-back basis. Therefore, it is necessary for the

implementation of the BESS Pilot Project that Grid-India execute the BESSA with SECI

**Hearing dated 28.11.2023**

21. During the course of the hearing, the representative of the Petitioner requested permission to file rejoinders to the replies submitted by SECI and JREFL. The Petitioner's representative mentioned that consensus was reached on the majority of the issues regarding the proposal to implement the grid ancillary portion of the BESS in relation to the RfS documents. However, SECI and JREFL's counsels urged for an oral hearing rather than reserving the matter for order. After considering the arguments from both sides, the Commission granted the Petitioner to file its rejoinders.

**Rejoinder by the Petitioner, NLDC dated 19.12.2023**

22. The Petitioner submitted the rejoinder on the comments of the Respondents as follows:
- (a) With regard to the metering arrangement, in view of the technical limitations pointed out by Respondent No.2, metering at the project level was agreed instead of separate metering of all portions of the project. However, for monitoring of SoC, performance and computation of SRAS/TRAS performance incentives, segment-wise (all portions of the project), SCADA and/or PMU and/or any other soft signals as desired by NLDC will be provided by the BESS developer, Respondent No.2.
  - (b) Being grid connected entity and a developer, the Respondent-2 (JREFL) is responsible for DSM, Reactive Energy, Congestion settlement.
  - (c) SECI is entrusted as the Nodal Agency for scheduling, procurement, charging and discharging, deviation settlements on behalf of NLDC (Petitioner). However, SECI has requested for an additional trading Margin of Rs 0.07/ kWh for the purpose of charging and discharging in addition to 0.5% of applicable capacity charges. The Commission may decide the trading margin for SECI for the purpose of charging and discharging.
  - (d) For accounting and settlement methodology for BESS despatch under the Ancillary Service, it is proposed that the simple average of Unconstrained Day Ahead Market (DAM) price of the Power Exchange having more than or equal to 80% share in the DAM segment for the day of operation may be used as the notional compensation charge for despatch under ancillary services for that day.
  - (e) The Commission may provide suitable direction on the proposal of Respondent No.1,

SECI requesting trading margin and any other charges including taxes, etc. be paid by Grid-India through DSM pool account.

- (f) The provision of maintaining the State of Charge (SoC) for the Ancillary Portion at 50% level at 0000 hours every day has been modified so that on the day of project COD 50% SOC will be required. Then onwards, SoC will be maintained based on charging and discharging cycles on a day-to-day basis. However, a declaration of availability will be furnished by Respondent No.2 JREFL.

**Hearing dated 20.12.2023**

23. During the course of the hearing, the Petitioner and Respondent No. 2 submitted that there are no outstanding issues among the parties for the Grid-India Portion of the Pilot Project. However, the Respondent No.1 SECI requested directions on certain aspects. It was proposed that if SECI is to undertake the responsibility of charging and discharging the BESS it ought to be allowed the additional trading margin of Rs. 0.07 /kWh. Further, the grant from the PSDF is not on an advance basis, and hence, SECI will be paid the applicable capacity charge upfront fully on a weekly basis, which may be adjusted once a grant from PSDF is received. Considering the submission made by the parties, the Petitioner and the Respondents were directed to file their comments on the following aspects in an affidavit:

- (a) Consensus among the parties on various issues, including the trading margin and the BESS Sale Agreement;
- (b) Revised procedure for scheduling, metering, accounting, and settlement for grid Ancillary Portion of (150 MW/ 300 MWh) of the BESS Pilot Project as per the consensus among the parties;
- (c) Details along with illustrative examples regarding the accounting and deployment of the BESS under different routes;
- (d) Details regarding the methodology proposed for the treatment of DSM for BESS at the aggregate level with separate accounting of different contracts under the Pilot Project
- (e) Status of the PSDF grant payment on the advance basis for the Pilot Project;



**Hearing dated 12.02.2024**

24. During the course of the hearing, the representative of the Petitioner and the learned counsel for the Respondents, SECI and JREFL, submitted that a consensus had been reached among the parties on various aspects/issues in relation to the Petitioner's proposal to implement the grid ancillary portion of BESS. The representative of the Petitioner, accordingly, sought liberty to place on record such consensus/settlement by way of an affidavit in the matter. Considering the above, the Commission permitted the Petitioner to file an additional affidavit to place on record the consensus/settlement arrived at among the parties.

**Hearing dated 21.02.2024**

25. During the course of the hearing, the representative of the Petitioner and the learned counsel for Respondents, SECI and JREFL, jointly confirmed that a consensus was reached among the parties on various aspects/issues in relation to the Petitioner's proposal to implement the grid ancillary portion of BESS and the parties may be permitted to file a joint statement to the above effect. Accordingly, the Commission permitted the parties to file a joint statement to the above effect on an affidavit. Subject to the above, the Commission reserved the matter for order.

**Submission of the Petitioner in compliance with directions**

26. As per the directions of the commission, the Petitioner submitted the information on (i) consensus on various issues, including trading margin and the BESS Sale Agreement, (ii) revised procedure for scheduling, metering, accounting, and settlement for the Ancillary Portion of the BESS Pilot Project (150 MW/ 300 MWh), reflecting the agreed consensus, (iii) illustrative examples regarding the accounting and deployment of the BESS across different routes (iv) details regarding methodology proposed for treatment of DSM for BESS at an aggregate level, emphasizing separate accounting for various contracts under the Pilot Project and (v) the status of the PSDF grant payment on the advance basis for the Pilot project.

27. As per the directions of the Commission, the Petitioner submitted the statement of consensus among the parties on various issues, including the trading margin and the BESS Sale Agreement as follows:

- (a) The Petitioner agreed to the payment of an additional trading margin of Rs 0.07/kWh to Respondent No.1, being a pilot project. It was requested that the Commission provide suitable directions(s) for payment of an additional trading margin to SECI from the DSM pool along with other payments.
- (b) Metering, Deviation Settlement Mechanism are to be done at an aggregated level. However, for monitoring of SoC, performance and computation of SRAS/TRAS performance incentives, segment-wise (DISCOM portion, Ancillary and Merchant portion of the BESS) SCADA and/or PMU and/or any other soft signals as specified by NLDC will be provided by BESS developer.
- (c) Responsibility for Pool settlement of DSM, Reactive Energy, Congestion charges, Payment of NRLDC fees, and Charges to be done by the BESS developer, i.e. Respondent No.2.
- (d) Charging power must be procured from IDAM/RTM/TAM. In case power is not available in any of these segments, the BESS may be operated as per available SoC. In case of charging power is arranged through SRAS and/ or TRAS Ancillary Services, no additional trading margin of Rs 0.07/kWh shall be payable to SECI.
- (e) Primary Response to be provided by the battery developer, subject to the condition as and when regulatory framework is placed under CEA Technical Standard and /or extant CERC Regulations, with proper compensation methodology.
- (f) On signing of the Sale Agreement with SECI for the 150 MW Ancillary part, it was submitted that the BESS portion under consideration may be treated at par with the other Ancillary Service Provider covered under the Ancillary Service Regulations 2022. All payments to BESS would be from the DSM and Ancillary Service pool Account, which is operated by Grid-India as a Custodian. Further, NLDC, being a statutory body, dispatches reserves under the Ancillary Service Regulations, and NLDC is not the off taker of the power under Ancillary Service Regulations. Accordingly, the despatch of BESS is required to be done under the Ancillary Service Regulation as per the direction of the Commission. It is submitted that the Regulations and orders of the Commission offer a much more robust payment security mechanism than the agreement.
- (g) In view of the project life of 12 years for the pilot projects, the consequential liabilities, if any, arising out of SECI-JSW BESPAs may be settled from the DSM Pool with liberty to the parties to approach the Commission in case of any future issues that

may arise. It is submitted that periodic reports would be submitted by NLDC to facilitate monitoring the performance of the pilot project.

- (h) Appropriate directions may be provided for payment, including GST, as applicable, from the DSM pool along with other payments. Weekly charges payable to SECI may be given priority over other payments from the DSM pool.
- (i) SECI will raise payment invoices in the name of Grid-India. Grid-India will pay GST over the amount payable to SECI. The TDS amount for the payment to SECI will be drawn from the NR DSM pool by NRLDC. NRLDC will utilise this amount for payment of TDS towards the relevant BESS charges.
- (j) Charges on account of Ancillary Services shall be settled by SECI as per the RPC accounts.
- (k) The rate of rebate, surcharge, etc., on the fixed charges payable from the DSM pool of SECI vis-a-vis the rate of rebate, surcharge, etc., on the amount of fixed charges payable by SECI to BESS developer is different. Hence, it is proposed that the Commission may provide suitable direction for annual truing up of rebate, surcharge, etc., for the Ancillary Portion of BESS.
- (l) All payments received from the DSM pool account shall be adjusted in the following order of priority:
  - i. Statutory Taxes
  - ii. Energy charges, including incidental charges
  - iii. Trading margin and additional trading margin payable to SECI
  - iv. Fixed charges

The Petitioner submitted the revised procedure for scheduling, metering, accounting and settlement for the grid Ancillary Portion of (150MW/300MWh) of the BESS pilot project as per the consensus among the parties. The Petitioner has also submitted the details along with illustrative examples regarding accounting for the deployment of BESS under different routes.

28. On the issue of treatment of DSM for BESS at the aggregate level with separate accounting of different contracts under the Pilot Project, it is submitted that in view of the technical limitation and the MoP guidelines, the metering to be done at the aggregated level at the project. Accordingly, computation for project performance and deviation settlement may be

done at an aggregated level in a combined manner for all three portions (DISCOM, Ancillary, and Merchant). The same has been incorporated in the detailed procedure.

29. On the issue of PSDF grant of Rs 30 crores per year, it was submitted that for the purpose of utilization of PSDF scheme, funds are allocated to PSDF through budget requisition by MoP and transfer of payment of Rs 30 crores per year to BESS developer is circuitous in nature. To avoid delay in the processing of funds from PSDF, it is suggested that the entire amount of charges payable to SECI on account of the Ancillary portion of the BESS may be settled from DSM Pool directly. Weekly charges payable to SECI may be given priority over all other payments from DSM Pool. Therefore, in such cases, support from PSDF fund for the BESS Pilot project may not be required.
30. Additionally, the Petitioner also submitted that as per the agreement between the BESS developer and SECI, the fixed charges payable by SECI to the BESS developer are on a monthly basis. Further, the rate of rebate, surcharge, etc., on the amount of fixed charges payable from the DSM Pool to SECI vis a vis the rate of rebate, surcharge, etc. on the amount of fixed charges payable by SECI to BESS developer are different. Hence, it is proposed that the Commission may provide suitable direction for annual truing up of rebate, surcharge, etc., for the Ancillary Portion of BESS.

### **Analysis and Decision**

31. We have heard the learned counsels for the Petitioner and the Respondents and have carefully perused the records.
32. To recapitulate facts of the case: Solar Energy Corporation of India Limited (SECI) conducted a competitive bidding to select a Battery Energy Storage System (BESS) developer for a pilot project in India. The project was finalized to be a 500 MW/1000 MWh capacity BESS at the Fatehgarh-III Sub-Station in Rajasthan. JSW Renew Energy Five Limited (JSREFL) emerged as the bid winner. SECI was designated as the Nodal Agency for the BESS. The bidding process determined monthly capacity charges of Rs. 10,83,500/MW/month at the delivery point for the entire BESS capacity. A portion of the BESS capacity (150 MW/300 MWh) was earmarked for Ancillary Services as per the Ministry of Power's decision. This portion was subject to specific requirements such as 85% minimum round-trip

efficiency, a maximum of two discharge cycles per day, and a yearly degradation rate of 2.5% per year for the life of 12 years of the BESS. NLDC submitted a procedure for scheduling, metering, accounting, and settlement for this portion of the BESS project. The procedure outlined various aspects, including roles of the Nodal Agency, registration procedure, utilization of BESS, scheduling, and dispatch, metering, deviation settlement, compensation charges, and accounting and settlement. This procedure was revised based on consensus among the parties to delineate the roles and responsibilities of the Petitioner and the Respondents. Accordingly, NLDC filed this petition seeking direction for advance procurement and despatch of the 150MW/ 300MWh BESS system along with the procedure for scheduling, metering, accounting & settlement for the implementation of the BESS pilot project.

33. The Commission observes that the growth of renewable energy in India has been one of the key success stories of the nation's energy sector. Energy Storage System like, BESS plays a crucial role in enhancing the reliability, resilience, and efficiency of India's electric grid. It enables the integration of renewable energy sources, reduces peak demand challenges, and contributes to India's sustainability goals while creating economic opportunities in the energy sector. As India continues to modernize its grid infrastructure, the importance of energy storage systems, including BESS is expected to grow further. Thus, a forward-looking measure for encouraging energy storage resources would help harness ancillary services from the new and innovative technologies like BESS and provide the desired flexible support to grid management in the wake of the high penetration of RE.
34. The Commission has taken note that the Ministry of Power (MoP), for the implementation of a standalone Battery Energy Storage Systems (BESS) pilot project, constituted a Steering Committee vide its office order dated 16.07.2021. Based on the suggestions and reports submitted by the Steering Committee, the MoP under section 63 of the Electricity Act, 2003 (EA, 2003), on 16.03.2022, notified the "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 "MoP bidding guidelines").
35. Subsequently, Respondent No.1 (SECI), being the Nodal Agency, conducted and finalized competitive bidding on 26.08.2022 for two BESS projects of 250 MW/ 500 MWh each, with

a total bidding capacity of 500 MW/ 1000 MWh, the bidders had an option to either bid for a single unit or both the units together, as per the MoP bidding guidelines. JSW Renew Energy Five Ltd. (Respondent No. 2) emerged as the successful bidder/BESS Developer for both BESS pilot project units of capacity 250 MW/500 MWh (2 hours storage) each, to be connected at the separate bays of 400/220 kV Fatehgarh-III (Rajasthan) Sub-Station.

36. The final capacity charge was discovered at Rs. 10,83,500/MW/Month, through this competitive bidding in both projects. The letters of award were issued in favour of the Respondent No.2 by SECI on 18.01.2023. Out of the total bidding capacity of 500MW/ 1000MWh, 30% capacity, i.e., 150 MW/300MWh, was earmarked for Grid-Ancillary service (NLDC portion).

37. The Commission notified the Central Electricity Regulatory Commission (Ancillary Services) Regulations, 2022 on 31<sup>st</sup> January 2022. Provisions regarding Secondary Reserve Ancillary Service (SRAS) have been implemented since 5<sup>th</sup> December 2022, and that of Tertiary Reserve Ancillary Reserve (TRAS) has been implemented from 1<sup>st</sup> June 2023 by the Petitioner being the Nodal Agency for implementation of procurement and despatch of Ancillary Services. The said regulation has also introduced energy storage in the regulatory ambit of India for the first time. It brought energy storage into the scope of ancillary service in India.

38. The Petitioner has proposed that the ancillary portion of the BESS pilot project would be utilised for secondary and tertiary frequency control service in line with the CERC Ancillary Services Regulations, 2022. The said BESS pilot projects earmarked for ancillary service are in the nature of advance procurement of ancillary service by the Nodal Agency under the CERC (Ancillary Services) Regulations, 2022.

39. Now, we deal with the issue of advance procurement of Ancillary Services within the ambit of the Ancillary Service Regulations, 2022. We observe that Regulations 9 of AS Regulations 2022 provides for the procurement of SRAS, the relevant extract of which is quoted below:

*9. Procurement of SRAS*

*(1) SRAS shall be procured on regional basis by the Nodal Agency through the mechanism as specified in this Regulation:*

*Provided that the Commission based on review of the operation of SRAS, may direct procurement of SRAS **through market-based bidding mechanism** to be specified separately. (emphasis added)*

.....

*(7) The Nodal Agency, based on the estimate of the SRAS requirement as per Regulation 6 of these regulations, shall ascertain availability of adequate SRAS capacity by factoring in the declarations made by the SRAS Providers under this Regulation, on **day-ahead basis and on real time basis** before the gate closure of the Real Time Market:*

*Provided that the capacity so ascertained shall be considered for SRAS based on actual availability of such capacity after the declaration of the RTM results. (emphasis added)*

.....

*(9) There shall not be any commitment charge for the SRAS providers for the capacity ascertained under clause (7) or identified under clause (8) of this Regulation, but not signalled for SRAS:*

*Provided that the Commission based on review of the availability and performance of SRAS, may provide for a mechanism for the SRAS Providers to commit SRAS capacity in advance, and also for **appropriate compensation for such committed SRAS capacity**. (emphasis added)*

40. Further, Regulation 16 provides for the procurement of TRAS, the relevant extract of which is quoted below:

*16. Procurement of TRAS*

*(1) Procurement of TRAS through Day Ahead AS Market and Real Time AS Market shall be undertaken in accordance with the bidding timelines specified in the Grid Code:*

*Provided that until specific provisions in this regard are specified in the Grid Code, the bidding timelines for Day Ahead AS Market and Real Time AS Market shall be the same as those of the Day Ahead Market for energy and Real Time Market for energy respectively.*

41. Regulation 19(2) provides for payment of TRAS, the relevant extract of which is quoted below:

*19. Payment for TRAS*

*(2) TRAS-Up Provider shall receive **commitment charges** at the rate of ten percent of the MCP Energy- Up-AS-DAM or the MCP-Energy-Up-AS-RTM, as the case may be, subject to the ceiling of 20 paise/kWh for the quantum of TRAS-Up cleared in the Day Ahead AS Market or the Real Time AS Market as the case may be, but not instructed to be despatched by the Nodal Agency.*



42. From the above provisions of the Ancillary Services Regulations, it is evident that the Ancillary Services Regulations, at present, provide for ascertaining the availability of SRAS and procurement of TRAS on a day ahead and real time basis. Further, the regulations provide for no commitment charge for SRAS but only provide for commitment charge for TRAS. However, in the instant case, the proposal is to procure energy storage as ancillary services (SRAS and TRAS) in advance, which is much before Day ahead or real time. Further the proposal is to provide for a fixed cost to the BESS, which is in the nature of the commitment charge. These aspects of advance procurement of ancillary services and payment of commitment charges in the nature as proposed in the petition are not provided for in the existing AS Regulations 2022. In addition, the proposal in the petition is also to reimburse several other costs such as charging of BESS, trading margin, applicable GST amount, incentives/penalties, rebate, surcharge, etc., for the Ancillary portion of the BESS, which is not envisaged in the AS regulations 2022.
43. However, the Commission appreciates the need for encouraging flexible resources for the seamless integration of intermittent RE sources, for which the Government of India has set a target of installing 500 GW of non-fossil fuel capacity by 2030. The Commission also notes that it is with this objective in mind that the Ministry of Power under section 63 of the Electricity Act, 2003, issued the “Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution Assets, along with Ancillary Services” vide notification dated 10th March 2022, and Solar Energy Corporation of India Limited (SECI) (Respondent No.1) conducted competitive bidding as per the MoP guidelines. The very objective of Ancillary Services Regulations 2022 is to encourage such flexible resources. In fact, the Ancillary Services Regulations recognise the importance of and make specific provisions for energy storage systems and demand response to provide ancillary service support to the power system operation.
44. In view of the above, the Commission is inclined to facilitate the procurement and deployment of BESS as envisaged in the guidelines issued by the MoP/ Government of India.
45. Regulation 24 of the CERC (Ancillary Services) Regulations, 2022 provides as under:

***“24 Power to Relax***

*The Commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected, may*



*relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.”*

46. Regulations 25 of the CERC (Ancillary Services) Regulations, 2022 provides as under

***“25 Power to issue directions and Removal of Difficulties***

*If any difficulty arises in giving effect to these regulations, the Commission may on its own motion or on an application filed by any affected party, issue any general or specific directions as may be considered necessary in furtherance of the objective and purpose of these regulations.”*

47. The Commission feels it expedient to invoke its power under Regulations 24 and 25 of the Ancillary Services Regulations to relax and t remove difficulties in the implementation of the BESS pilot project for providing enabling regulatory framework and seamless participation of BESS in ancillary services. In view of the requirement of flexible resources, the Commission believes that it is important to enable a regulatory framework for such a pilot project – the first of its kind - in the Indian grid system.

48. The draft procedure for scheduling, accounting, and settlement of the BESS pilot Projects has been submitted by the Petitioner for approval of the Commission along with approval for payment of fixed charges and other associated charges. Accordingly, the Commission has examined the issues associated with scheduling, accounting and settlement of BESS highlighted in the Petition and provides the regulatory framework for BESS Pilot BESS portion for Ancillary services. In the following paras, the Commission has examined the issues raised by the parties on the above aspects of Standalone BESS Projects.

49. **Metering and Deviation Mechanism:** The Petitioner had proposed separate metering arrangements for different parts of BESS pilot projects, i.e., a) the Discom portion, b) the Ancillary portion, and c) the Merchant portion. However, it was pointed out by Respondent No. 2 that the bidding guidelines issued by the MoP allow for a single bay where the entire 250 MW project will be connected to the Substation. Consequently, there will be only one final power transformer for the entire 250 MW project. The proposed request for a separate metering arrangement would then require power transfer from one LV to the other LV side of the same power transformer, which is technically not possible. The Respondent also referred

to Clause 45.28 of RfS referring to a single metering point at 220 kV level for the entire 250 MW/500 MWh project as follows:

*“Metering Point shall mean a single point at the 400/220 kV Fatehgarh-III Substation of the ISTS network, at the voltage level of 220kV...”*

50. The Petitioner, in its rejoinder, seconded the technical limitation and the provisions regarding the metering arrangement specified in RfS and MoP guidelines and accordingly agreed to have single metering point at 220 kV level for the entire 250 MW/500MWh Project.
51. The Commission, during the course of the hearing, emphasised separate accounting of different contracts under the pilot projects. The Commission is of the opinion that a separate metering arrangement would have been ideal, considering the possibility of different rates of contracts under each portion. **In view of the technical limitation and the provisions in the RfS and the MoP guidelines, the Commission agrees with the consensus view among the parties to allow metering at the Project level as per the DSM regulations. However, the Commission also directs Respondent No. 2, being the BESS developer that to monitor of State of Charge (SoC), performance and computation of SRAS/TRAS performance incentives, segment-wise (DISCOM portion, Ancillary, and Merchant portion of the BESS Pilot Project) SCADA and/or PMU and/or any other soft signals as desired by the Petitioner (NLDC through NRLDC) shall be provided by the BESS developer.** The Commission will specify the deviation charges for the Standalone Battery Energy Storage System (BESS) separately through the appropriate re-enactment of the DSM Regulations.
52. The procedure submitted by the Petitioner proposed that Respondent No.1 (SECI) shall pay or receive DSM charges. However, SECI, in its reply, objected and submitted that SECI, not being a grid-connected entity, cannot independently undertake the responsibility for deviations or be liable for deviation settlement charges. Accordingly, SECI also referred to the relevant provision of the RfS where the role of SECI as an intermediary for aggregating the BESS capacity has been mentioned clearly. It has been submitted that SECI's role under the BESS Pilot Project was that of an intermediary/ aggregator responsible for aggregating the BESS capacity from different projects and/ or firming the same with large-scale energy storage capacity and selling it to the Buying Entities, such as the Petitioner. However, maintaining power up to the allotted capacity in the BESS project, which included charging

of storage capacity and supplementary functions, was the responsibility of the Buying Entities. The Petitioner has agreed with the observation of SECI, and all the parties have agreed that the responsibility of DSM, Reactive Energy, and Congestion settlement may be entrusted to Respondent No. 2 (JSW), which is the developer and the grid-connected entity. **The Commission approves the consensus and direct that for the BESS pilot Project, Respondent No. 2 shall be responsible for DSM, Reactive Energy, and Congestion settlement being the BESS developer.**

53. **Additional Trading Margin:** The Commission observes that one of the decisions taken during the review meeting held on 14.06.2023 by MoP was to nominate NVVN as a trader for facilitating sale/purchase, scheduling, accounting and settlement for 150MW/300MWh BESS earmarked for ancillary services. NVVN was mandated to receive a trading margin for energy charges, and SECI was mandated to receive a trading margin for fixed charges. However, according to the Petitioner, the above arrangement would lead to double payment of trading margin for the same quantum of power. It was suggested that having a single trading agency would be a more economical option without having a significant impact on BESS' operations. This would also reduce the financial burden on account of BESS operation. Accordingly, the Petitioner, in its procedure, proposed SECI as the only trading agency. However, SECI, in its reply, has submitted that for the first time by way of this present Petition, the Petitioner has proposed to entrust SECI with the responsibility of charging and discharging the BESS capacity allotted to the Petitioner, of scheduling and dispatch of this power as additional functions without contemplating payment of any additional trading margin. SECI objected to any deviation from the RfS in the proposed procedure by the Petitioner; however, agreed to undertake some additional functions as set out in the proposed procedure, subject to certain conditions, including payment of additional trading margin. It was submitted by SECI that unless the proposed procedure is implemented with SECI's conditions, it will become commercially unviable for SECI to undertake additional responsibilities of an intermediary under the BESS Pilot Project, which in turn will be prejudicial to the timely implementation of the Project.

54. All the parties, in compliance with the Commission's directions, have made a joint submission and agreed that the additional trading margin of Rs 0.07/kWh should be payable to SECI for charging and discharging the BESS from the market operations. In case the

charging of power is arranged through ancillary services by the Petitioner, no additional trading margin shall be payable to SECI. It was also suggested that the Commission may provide suitable direction(s) for payment of additional trading margin to SECI from the DSM pool along with other payments.

55. The Commission, during the course of the hearing, enquired about providing only one trading margin either at Rs 0.07/kWh or 0.5% of the capacity charge envisaged in the BESS guidelines issued by the MoP. SECI, in its reply, has submitted that the intermediary agency is entitled to 0.5% of the capacity charge discovered through the bid process from the end procurer. The additional trading margin of Rs. 0.07/kWh corresponds to the additional responsibility of charging and discharging the BESS capacity through market operations.
56. The Commission notes that though the MoP guidelines do not envisage the responsibility for SECI to charge and discharge the ancillary portion of the BESS capacity, providing an additional trading margin of Rs. 0.07/kwh would result in an additional financial burden on the statutory DSM and Ancillary Services Pool Account and also tantamount to double payment of trading margin for the same quantum of power. In fact, to avoid such instances of double payment, the Central Electricity Regulatory Commission (Procedure, Terms, and Conditions for grant of trading licence and other related matters) Regulations, 2020 (“Trading Regulations, 2020”) provided in Regulation 8(2) as under:

*(2) The trading margin specified under these regulations shall be the **cumulative value** of the trading margin charged by all the traders involved in the chain of transactions between the generator and the ultimate buyer, that is to say, trading margin in case of multiple trader-to-trader transactions and shall not exceed the ceiling of trading margin specified under these regulations.*

57. The Commission also notes that the Commission fixes only the ceiling of trading margin, and within the ceiling the contracting parties, are expected to make mutual agreement for the trading margin to be paid/received, subject to the provisions of the Trading Regulations, 2020. The instant case being a pilot project, it would be in the interest of the power sector to optimise cost wherever possible.. In view of the above discussion and in line with Regulations 8(2) of the Trading Regulations, 2020, the Commission hereby directs that for

the quantum of power earmarked for Ancillary Services, Respondent No. 2 shall be entitled to charge trading margin such that the cumulative value of the trading margin (i.e. the trading margin of 0.5% of the Capacity Charge plus the additional trading margin towards charging and discharging of BESS) should not exceed Rs. 0.07/kWh. Further, in case charging of power is arranged through ancillary services by the Petitioner, no additional trading margin (over and above the 0.5% of the Capacity Charge) shall be payable to the Respondent No.2.

58. **BESS for Primary Response:** The Commission observes that BESS, being a flexible resource is best suited for providing all types of Ancillary Services, namely primary, secondary, and tertiary, for reliable system operation. It is also observed that the Petitioner has shared the list of requirements expected from the BESS resource. including the primary response. However, the same was removed after the pre-bid meeting dated 06.05.2022 citing the reason that such a requirement may undermine the economic feasibility of BESS. It is observed that the RfS document for the said pilot project has been concluded for the development of the BESS pilot project without considering the primary frequency control for the BESS Pilot project. SECI, in its reply on the procedure has mentioned in case BESS is being used for PRAS operations also, the compensation charge/ energy charge (as may be applicable) should be paid by the Petitioner. Further, Respondent No. 2, in its reply, has submitted that any additional obligations which were not envisaged at the time of bidding cannot be fastened upon the BESS Developer, after the conclusion of the tender process. It has been submitted that any subsequent requirement to utilize the BESS under the PRAS may attract some augmentation or revisions in the design of the project, and thus, any impact shall be considered under the change in law event. It was also highlighted that the CERC (Ancillary Services) Regulations, 2022, do not prescribe the detailed procedure and implementation of PRAS, as it does for SRAS and TRAS. However, in the joint submission by the parties, it was agreed that the primary response would be provided by the battery developer, subject to the condition as and when the regulatory framework is placed under the CEA Technical Standard and/or Regulations by the Commission with adequate compensation methodology.

59. It is important to note that primary frequency control is an inherent requirement for reliable system operation and the same has been mandated by various regulations of this Commission. Regulation 30 (10) of the Indian Electricity Grid Code (IEGC) also mandated the primary

response of various types of generating units, wherein an Energy Storage System (ESS) co-located with Wind or Solar is provided an option to provide the primary response individually for a capacity more than 10MW. It has been mandated in the IEGC that generation resources, including ESS, should have the capability to provide primary response whenever conditions arise. The capability of delivering the primary response is a primary requirement for the design of the commissioning of any resource with the grid. The BESS should mandatorily have a primary frequency control feature. It is important that the system control features be developed in tandem with the integration of new elements in the grid. **Being the pilot project, the learning on primary frequency control would help further understand the features and create an enabling regulatory framework for compensation in the near future. The Commission directs the parties to explore the possibilities of utilizing the BESS pilot projects for all types of Ancillary Services, viz., Primary, Secondary, and Tertiary response.**

60. **Signing of the Sale Agreement with SECI for 150 MW Ancillary portion:** It has been submitted that the BESS Guidelines contemplate that an intermediary agency may be required to aggregate the power purchased from different developers and sell it to the end procurers. The BESS Guidelines further provided that the intermediary agency shall execute a Battery Energy Storage Purchase Agreement (“**BESPA**”) with the BESS Developer identified through the bidding process as per the Guidelines and a Battery Energy Storage Sale Agreement (“**BESSA**”) with the end procurer, on a back-to-back basis. In the bidding process, M/s JSW Renew Energy Five Limited (JREFL), i.e., Respondent No. 2, emerged as the bid winner. After the conclusion of the tender process, SECI requested Grid-India to execute the BESSA for procurement of Grid-India’s share of the BESS capacity. The Petitioner has sought regulatory directions from the Commission for approving the methodology of scheduling, accounting and settlement. It has been argued that NLDC, being a statutory body, despatches reserves under Ancillary Services for grid security and reliability. NLDC is not the off-taker of the power under ancillary services. Accordingly, the BESS sale agreement cannot be signed by the Petitioner and the despatch of BESS is required to be done under the Ancillary Service Regulation as per directions of the Commission. It has been further suggested that the BESS portion under consideration may be treated at par with the other Ancillary Service providers covered under the Ancillary Regulations 2022. All payments to BESS would be from the DSM and Ancillary Service Pool Account which is

operated by Grid-India as a custodian. Consequential liabilities, if any, arising out of SECI-JSW BESPA may be settled from the DSM and Ancillary Service pool.

61. The Commission agrees with the view of the Petitioner that the despatch of the BESS portion earmarked with the NLDC is for providing Ancillary Service. NLDC as a statutory body, is entrusted with the responsibility of dispatch of reserves under the Ancillary Service Regulations and the Grid Code. However, considering the concerns raised by Respondent No. 1, SECI, it is clarified that the Regulations and Orders of the Commission would suffice to offer an adequate payment security mechanism for the BESS portion earmarked with the Petitioner without any additional requirement of signing a sale agreement. **Accordingly, the Commission directs that all payments towards the portion of the pilot project earmarked for ancillary service, including fixed charges, trading margin, GST applicable, incentive/disincentive etc., shall be made from the DSM and Ancillary Pool Account. Accordingly, Respondent No.2 shall raise an invoice in the name of GRID-INDIA as per the methodology outlined in the agreed procedures submitted by the parties.** Further, the Commission allows liberty to the parties to approach the Commission in case of any future issues that may arise. Being a pilot project of its kind, the Commission also directs the Petitioner to submit periodic reports on the performance and any issues arising during the course of operation of the pilot project.

62. **PSDF Fund and Payment Mechanism:** The Commission observes that the MoP vide letter dated 22<sup>nd</sup> February 2022 intimated SECI and Grid-India that the Power System Development Fund (PSDF) Monitoring Committee has approved a gap funding for the BESS project. The Monitoring Committee approved funding of Rs. 80 Crore for the DISCOM portion and up to Rs. 30 Crore for the Ancillary (Grid-India) portion from PSDF per year for 12 years. Accordingly, the Petitioner initially in the petition proposed a methodology for payment of capacity charges after adjusting from SRAS/ TRAS/ market procurement cost, etc. on a weekly basis from Deviation and Ancillary pool account post deduction of INR 30 crores grant from the MoP. The Petitioner proposed that the trading margin and any other charges, including taxes, etc., shall be claimed by SECI through PSDF and the rest of the charges will be paid by Grid-India through the DSM pool account. However, the respondents objected to the methodology of payment by highlighting the requirement of advance payment from PSDF and also the insufficiency of PSDF funds to cover the payment of charges.



During the course of the hearing it was also pointed out that in so far as the grant from PSDF is concerned, the release of the grant for the Discom portion on an advance basis is specifically mentioned, but the same provision (for advance release of grant) is not there in respect of ‘ancillary service’ portion.

63. The Commission also notes that the residual amount of the DSM pool account is transferred to the Consolidated Fund of India (through PSDF). For utilisation of funds under the PSDF scheme, funds are allocated to PSDF through budget requisition by the MoP. Hence, the transfer of Rs 30 crore per year to the BESS developer through PSDF is circuitous in nature. To avoid delay in processing of funds from PSDF, it was suggested that the entire amount of charges payable to SECI on account of the ancillary service portion of the BESS pilot project may be settled from the DSM pool directly. **The Commission agrees with the views of the parties and directs the Petitioner to pay applicable charges to SECI on account of ancillary service from the DSM pool directly on a weekly basis, and the same may be adjusted once the grant from the PSDF is received..**

64. The Commission observes that payment to SECI for the ancillary portion would be on a weekly basis from the DSM pool, while the fixed charges payable by SECI to the BESS developer are on a monthly basis. Further, the rate of rebate, surcharge etc., on the amount of fixed charges payable from the DSM pool to SECI vis a vis the rate of rebate, surcharge, etc on the amount of fixed charges payable by SECI to BESS developer are different. **Accordingly, the Commission directs annual truing up of rebates, surcharges etc. for an ancillary portion of the BESS project, if any. Further, the Commission also agrees with the views of the Petitioner that weekly charges payable shall be given priority over all other payments from the DSM pool.**

65. The Petitioner has also sought the use of the BESS system after 12 years if there is a possibility of use of the BESS. SECI has objected to this proposal of the Petitioner on the grounds that this would be contradictory to the scheme of the BESS Pilot Project. According to SECI, Clause 3.4 of the RfS specifically provides that the BESS Project will be transferred to SECI in working condition at the end of the term of the BESPAs and BESSAs, which is 12 years. The Commission notes that there is no consensus in this regard between the two parties. Further, it is an arrangement in the future. As such, the Commission does not



consider it necessary to issue any direction on this issue at this stage and gives liberty to the parties to explore the possibilities of a mutually acceptable arrangement closer to the 12-year period and approach the Commission for suitable direction at that time.

66. The Petitioner has also submitted the procedure for Scheduling, Metering, Accounting & Settlement for the Grid Ancillary portion (150MW/300MWh) of the BESS (Pilot) Project and charges proposed for implementation of the earmarked ancillary portion (150MW/300MWh) of the pilot standalone BESS project. The procedure stipulates provisions regarding the roles of all three parties, utilisation of the BESS under the Ancillary portion, likely despatch profile, declaration of availability by BESS and State of Charge, along with provisions for scheduling, despatch, metering, accounting, and settlement of BESS pilot project. **The Commission has examined the procedure submitted by the Petitioner and, after incorporating the suitable changes as per the directions in this order, hereby, approves “the Procedure for Scheduling, Metering, Accounting and Settlement for BESS (Pilot) Project”. The approved procedure is enclosed as Annexure to this order. Accordingly, the Commission directs the Petitioner to publish the same on its website and also share it with the respondents.**

67. The Petition No. 249/MP/2023 is disposed of in terms of the above directions.

Sd/-  
(पी. के. सिंह)  
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(अरुण गोयल)  
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(जिष्णु बरुआ)  
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## Annexure

### Procedure for Scheduling, Metering, Accounting and Settlement for Ancillary portion (150MW/300MWh) of BESS (Pilot) Project

#### **1. Background:**

Battery Energy Storage Systems (BESS) pilot project of capacity 500 MW/1000 MWh (2 hours storage) at 400/220 kV Fatehgarh-III (Rajasthan) Sub-Station has been finalized through competitive bidding by SECI. The capacity (fixed) charges discovered through the bidding process is ₹ 10,83,500 per MW/month.

Based on the decision taken by Ministry of Power, 150 MW/300 MWh storage capacity has been earmarked for Ancillary Services as per the requirement of NLDC, Grid-India. Further, DISCOM and the merchant capacity of BESS can also participate under Ancillary services.

#### **2. Role of NLDC, JSW(Developer), SECI:**

- a) NLDC shall be the nodal agency for scheduling of power under Ancillary Service Regulation 2022, for the portion earmarked for Grid-India (150 MW/300 MWh) in case charging and discharging of BESS is done through SRAS and/or TRAS.
- b) Developer JSW shall coordinate payments related to deviation settlement, congestion charge, reactive power, RLDC Fees and Charges etc. for the entire BESS pilot project (500 MW/1000 MWh).
- c) SECI shall be the nodal agency for the coordination of procurement and scheduling of power for charging and discharging through market mechanism on behalf of BESS developer (JSW Renew Energy Five Limited) for the portion earmarked for Grid-India (150 MW/300 MWh). SECI shall also coordinate the payment and settlement related commercial aspects associated with the above activities.

#### **3. Registration:**

- a) BESS developer shall get registered at NRLDC separately for DISCOM quantum (150 MW), Grid Ancillary Services (150 MW) and Merchant quantum (200 MW) in line with the CERC (Fees and Charges of Regional Load Despatch Centre) Regulations 2019 or amendments or consolidation or re-enactment thereof in the “others” category for the purpose of the pilot project. As the physical grid connected entity, the developer shall be responsible for complying with all extant CEA Standards and CERC Regulations.
- b) Developer shall register as BESS in National Open Access Registry (NOAR) separately for DISCOM portion (150 MW), capacity earmarked for Grid Ancillary Services (150 MW) and for merchant quantum (200 MW) and provide the technical parameters for SRAS and TRAS as per the detailed procedures issued by NLDC.

#### **4. Utilization of BESS under Ancillary Services Portion:**

- a) BESS is proposed to be utilized for Primary Reserve Ancillary Services (PRAS), Secondary Reserve Ancillary Services (SRAS) and Tertiary Reserve Ancillary Services (TRAS) as per the extant CERC Ancillary Services Regulations 2022 (AS Regulations) and Indian Electricity Grid Code (IEGC).
- b) The compensation charge for settlement under Ancillary Service Regulation shall be considered as daily average Area Clearing Price (ACP) of the Day Ahead Market (DAM) of the Power Exchange having 80% or more volume in the DAM segment, applicable for the day of despatch. In case no Power Exchange has volume 80% or more in the DAM segment, the weighted average of the daily average ACP of the DAM of all power exchanges shall be taken as compensation charge.
- c) The deployment of BESS, under SRAS shall be based on the compensation charge and the ramp rate provided by the BESS developer.
- d) Based on the grid conditions, BESS under TRAS provision would be despatched as per the following methods.
  - i) Since this earmarked portion of BESS is akin to advance procurement of reserves and the fixed costs are fully paid for this resource, BESS under TRAS provision would be despatched before market procured ancillary service. This is also important from the viewpoint of maximum utilization of BESS for which full cost are already paid.

- ii) Alternatively, BESS may be dispatched (under TRAS) on merit order based on its compensation cost.

## **5. Likely Dispatch Profile:**

- a) Grid Ancillary Services (150 MW) portion:
  - i) NLDC shall inform about the periods when 150 MW/300 MWh shall be required to be made available for discharge for the next day depending on the anticipated system conditions on a day-ahead basis.
  - ii) The periods of despatch may be revised considering the real time system conditions.
  - iii) The periods other than those identified for discharging, shall be used for charging the BESS.
  - iv) Further, BESS shall be enabled to accept AGC signals under SRAS continuously for providing secondary control of frequency regulation.
- b) DISCOM (150 MW) portion:
  - i) DISCOM (s) shall coordinate with the BESS developer for scheduling and despatch of capacity earmarked to them i.e., 150 MW.
  - ii) In cases where more than one DISCOM has share, the efforts shall be made to provide a common agreeable schedule to BESS, as mutually agreed among the BESS developer and the DISCOMs.
- c) Merchant (200 MW) portion:

BESS developer shall be responsible for scheduling and despatch of 200 MW merchant capacity.

## **6. Declaration of availability by BESS and State of Charge (SOC):**

- a) The BESS developer shall declare the available capacity separately for the 3 portions along with a single (combined) availability on a day-ahead basis to NRLDC.
- b) The State of Charge (SOC) separately for the 3 portions, along with a combined portion shall be part of the availability declaration.

- c) At 0000 hours on the date of commercial operation (COD date), the SOC for the Grid-India portion shall be maintained at 50% level of 150 MW/300 MWh. This would enable providing reserves in both directions (up and down).

## **7. Charging of BESS:**

### a) Grid Ancillary Services (150 MW) portion:

#### i) Charging through market and /or bilateral mode in consultation with NLDC:

- a. SECI shall arrange charging power on behalf of NLDC.
- b. The charging of BESS shall be done in the designated hours as per the likely despatch profile notified by NLDC.
- c. The charging power may be procured through I-DAM /RTM/TAM/Bilateral mode in a manner so as to minimise the charging power procurement cost.
- d. The cost for arranging the charging power shall be payable to SECI from the DSM pool on weekly basis, after issuance of weekly Ancillary Services accounts by NRPC. However, if the discharging of power of BESS for Grid-India portion is also made through SECI, any gain or loss due to charging and/or discharging of power shall be adjusted against the fixed charges payable to SECI for BESS developer on the Grid-India portion.
- e. The cumulative value of the trading margin payable to SECI i.e. the trading margin of 0.5% of the Capacity Charge plus the additional trading margin towards charging and discharging of BESS through I-DAM/RTM/TAM/Bilateral mode, shall be subject to a ceiling of Rs. 0.07/kWh.

#### ii) Charging through Ancillary Services:

- a. The charging power may be arranged through TRAS and/or SRAS by NLDC, keeping in view of the grid conditions.

- b. In case of charging power through ancillary services is arranged by NLDC, then no additional trading margin over and above the 0.5% of the Capacity Charge shall be payable to SECI.

b) DISCOM (150 MW) portion:

BESS developer shall coordinate with DISCOM for charging and despatch of power. The charging by DISCOM shall be scheduled from its portfolio or from its identified generator or source.

c) Merchant (200 MW) portion:

BESS developer shall directly arrange for charging power for the Merchant portion.

## **8. Scheduling and Despatch:**

a) Grid Ancillary Services (150 MW) portion:

i) NLDC shall despatch the portion earmarked to it under SRAS / TRAS as per the real time system requirements and schedules will be provided accordingly to BESS Developer and/or SECI. The timelines for despatch shall be followed as per the Grid Code (IEGC) 2023 and Ancillary Services Regulations 2022 or its amendments or enactment.

ii) Depending on the system conditions, NLDC may allow despatch of power through the I-DAM/RTM/TAM which shall be facilitated by SECI.

a. If the charging of power of BESS for Grid-India portion is also made through SECI, any gain or loss due to charging and/or discharging of power shall be adjusted against the fixed charges payable to SECI for BESS developer on the Grid-India portion.

b. The cumulative value of the trading margin payable to SECI i.e. the trading margin of 0.5% of the Capacity Charge plus the additional trading margin towards charging and discharging of BESS through I-DAM/ RTM/TAM/Bilateral mode, shall be subject to a ceiling of Rs. 0.07/kWh.

b) DISCOM (150 MW) portion:

i) DISCOM shall coordinate with the BESS developer for the scheduling and despatch of power.

- ii) If No Objection Certificate (NOC) is provided by the DISCOM, this quantum may also participate in the Energy and/or Reserve market.
- c) Merchant (200 MW) portion:  
BESS developer may schedule the power, in any mode viz. energy market, ancillary, bilateral, etc.

**9. Metering:**

- a) The BESS pilot project will have metering arrangement at project/aggregate (500MW/1000MWhr) level. Accordingly, computation for project performance shall be done at project/aggregated level.  
However, for monitoring of SoC, performance and computation of SRAS/TRAS performance incentives, segment wise (DISCOM portion, Ancillary and Merchant portion of the BESS) SCADA and/or PMU and/or any other soft signals as specified by NLDC shall be provided by BESS developer.
- b) NRLDC shall provide the metering scheme and accordingly CTU shall install the Interface Energy Meters (IEM) at the site. The cost of the IEMs shall be borne by the BESS developer.
- c) Considering the fact that this is a pilot project, IEMs having facility for both 5-minute and 15-minute metering shall be installed as a part of the pilot project.
- d) BESS developer shall take weekly meter readings and transmit them to NRLDC as per IEGC provisions. Data flow from BESS to NRLDC shall be as per CERC Regulations and CEA Installation and Operation of Meters Regulations 2006 and its subsequent Amendment(s).

**10. Voice and Data requirements:**

- a) Reliable voice and data telemetry shall be provided by the BESS Developer.
- b) BESS Developer shall take all measures to ensure the telemetry of all signals/status to NRLDC.
- c) BESS should be ready in terms of infrastructure to accept AGC signals from NRLDC and/or NLDC.

**11. Compensation Charge:**

- a) For despatch under ancillary services, both SRAS and TRAS (including shortfall and/or emergency provisions), a compensation charge is required as per the Ancillary Service Regulations.
- b) Compensation charge for settlement under Ancillary Service Regulation shall be considered as daily average ACP of the Day Ahead Market (DAM) of the Power Exchange having 80% or more volume in the DAM, applicable for the day of despatch. In case no exchange has volume equal to or more than 80%, the weighted average of the daily average ACP of DAM of all power exchanges shall be taken as compensation charge.

## **12. Deviation Settlement:**

- a) Through appropriate metering philosophy as decided by NRLDC, the actual delivery of BESS shall be recorded and deviations against aggregate schedule shall be worked out for each time block as per extant regulations.
- b) DSM accounts shall be prepared for BESS Pilot for its entire capacity (500MW/1000MWhr).
- c) The charges for deviation shall be as per the applicable regulatory provisions .
- d) NRPC shall issue the weekly DSM accounts for BESS.
- e) The reference charge rate for DSM computation shall be equal to the weighted average of compensation charge/PPA rate/Normal rate of charge, as applicable declared by BESS for all the three portions (Grid-India, DISCOM, Merchant).
- f) The treatment of auxiliary power consumption including transformer losses shall be duly factored by the BESS developer for computation of the ex-bus (MW) quantum of schedule.
- g) BESS Developer shall pay/receive charges for deviation in line with CERC Deviation Settlement Mechanism Regulations, 2022 and its subsequent amendment and/or extant order.
- h) BESS developer shall ensure timely payment of deviation charges to the respective DSM Pool account as per timelines notified in the extant Regulations.

## **13. Transmission Charges and Losses:**

- a) **Grid Ancillary Services (150 MW) portion:** For despatch under Ancillary Services, no interstate transmission charges and losses shall be applicable in accordance with the Ancillary Service Regulations.



- b) **DISCOM (150 MW) portion:** Transmission Charges and Losses shall be applicable as per CERC Sharing Regulation 2020 and its amendment or enactment thereof.
- c) **Merchant (200 MW) portion:** Transmission Charges and Losses shall be applicable as per CERC Sharing Regulation 2020 and its amendment or enactment thereof.

#### **14. Accounting and Settlement for BESS:**

##### **a) Grid Ancillary Services (150 MW) portion:**

- i) NRPC shall issue weekly Ancillary Services accounts including BESS as per the formats provided in the Detailed Procedure of Ancillary Service Regulation issued by the Nodal agency.
- ii) Charges on account of Ancillary Services shall be settled (pay-in/pay-out) by SECI as per the RPC accounts.
- iii) SECI will raise weekly payment invoice in the name of Grid-India after issuance of weekly Ancillary Services Accounts by the NRPC.
- iv) GST and TDS shall be applicable as per the prevailing rates on the invoice raised by SECI.
- v) TDS as applicable shall be deducted by Grid-India on the invoice raised by SECI. For this, TDS amount will be drawn from the NR DSM pool account by NRLDC (on behalf of Grid-India).
- vi) Grid-India will pay GST on the amount payable to SECI for the weekly fixed/capacity charge and SECI's trading margin.
- vii) The concerned RPC shall issue weekly Ancillary Services Accounts including BESS as per the formats provided in the Detailed Procedure of Ancillary Service Regulation issued by Nodal agency.
- viii) Weekly charges payable to SECI shall be given priority over all other payments from the DSM and Ancillary Pool.
- ix) For charging and/or discharging through the I-DAM/RTM/TAM/Bilateral/Market based TRAS, SECI shall maintain all relevant accounts.
- x) Net payment received on account of Ancillary Service dispatch (except performance based incentive for SRAS) and any gains through I-DAM/RTM/TAM/Bilateral would be used to offset the capacity (fixed) charges.

- xi) Any shortfall in the charges for procurement in charging energy through the market would be disbursed from the Ancillary and DSM Pool Account.
- xii) The cost of charging and discharging of BESS for Grid-India portion is as followed:

***Weekly charges payable(f) = (Fixed charges computed per week, payable from DSM Pool (#)) - (Sale through TRAS for discharging - Purchase through TRAS for charging) – (Sale through TRAS market for discharging - Purchase through TRAS market for charging) - (Discharging through SRAS UP – Charging through SRAS DOWN) – (Sale through I-DAM /RTM/TAM/Bilateral – Purchase through I-DAM/RTM/TAM/Bilateral) + Weekly SRAS incentive***

**(#) Note1** - Fixed charges computed per week, payable from DSM Pool are inclusive of SECI's Trading Margin, Tax (GST) as applicable, Power exchanges transaction fees, open access charges and other incidental charges.

**(#) Note2** - Weekly charges payable will also include late payment surcharge if any, subject to annual truing up.

- xiii) Following formulation shall be adopted for payment of weekly fixed charges from Northern Region Ancillary and Deviation Pool Accounts to SECI:

***Weekly charges payable(f) = [ Fixed charges computed per week, payable from DSM Pool (#)] – (Sale through TRAS UP market for discharging - Purchase through TRAS DOWN market for charging) - (Sale through I-DAM/RTM/TAM/Bilateral – Purchase through I-DAM/RTM/TAM/Bilateral)***

**(#) Note1** - Fixed charges computed per week, payable from DSM Pool is inclusive of SECI's Trading Margin, Tax (GST) as applicable, Power exchanges transaction fees, open access charges and other incidental charges.

**(#) Note2** - Weekly charges payable will also include late payment surcharge if any, subject to annual truing up.

**(#) Note3** – The applicable TDS amount shall be deposited by NRLDC after drawn from the DSM pool account.

- xiv) The incentive and/or penalty for performance/availability as per contract for the battery operation will be settled by SECI annually as onetime payment (for incentive) /receivable (for penalty) to/from BESS developer through SECI, subject to annual truing up of availability incentives/penalties, rebate, surcharge, if any, as per the applicable rules thereunder, after the availability certification by NRPC.
- b) DISCOM (150 MW) portion: Monthly Energy Accounts shall be prepared by NRPC.
- c) Merchant (200 MW) portion: Monthly Energy Accounts shall be prepared by NRPC.

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