

F. No.09/11/2021-RCM
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, the ~~17th March~~, 2022

12th April

To

1. ACS/Principal Secretaries/Secretaries (Power/Energy) of all States Governments/UTs.
2. CMD/MDs of State Gencos/ Discoms
3. All Central Power Sector Utilities

Sub: Scheme for Flexibility in Generation and Scheduling of Thermal/ Hydro Power Stations through bundling with Renewable Energy and Storage Power.

Sir/Madam,

Ministry of Power vide letter dated 15th November 2021 has issued the Scheme for Flexibility in Generation and Scheduling of Thermal/ Hydro Power Stations through bundling with Renewable Energy and Storage Power. Since the issuance of the scheme, the stakeholders have requested to i) allow the RE power plants established anywhere in the country to bundle their power with thermal/ hydro power, ii) to allow the sharing of gains between the generator and beneficiary in the ratio of 50:50 without subjecting to a cap of 7 paise/KWh, as was the case in the earlier scheme and iii) other incidental matters.

2. In view of above, the matter was examined in the Ministry and taken up with the competent authority. Accordingly, it has now been decided with the approval of competent authority and in the interest of renewable energy promotion, to repeal the scheme notified on 15th November 2021 and substitute with the fresh scheme notified hereunder.

3. Further, the Guidelines for Tariff Based Competitive Bidding Process and nomination of third party Bid Process Coordinators will be issued shortly. A Trajectory for replacement of Thermal/ Hydro power with renewable power will also be issued shortly.

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

Yours sincerely,



(Ghanshyam Prasad)
Joint Secretary (R&R, Trans, OM & RCM)
Tel. No. 011-23710389

Copy to:

1. Secretary, Ministry of New & Renewable Energy, New Delhi
2. Secretary, Ministry of Coal, New Delhi
3. The Chairperson, CEA, New Delhi
4. The Secretary, CERC, Chanderlok Building, Janpath, New Delhi
5. Secretaries of All State Electricity Regulatory Commissions/JERCs

Copy for information to:

1. PS to Hon'ble Minister of Power and NRE
2. PS to Hon'ble Minister of State for Power and Heavy Industries
3. Sr. PPS to Secretary(P)/ PPS to AS (Hydro)/ PPS to AS (Thermal)/ PPS to JS (R&R)/ PPS to JS (Hydro)/ PS to Director (RCM), Ministry of Power

Revised Scheme for Flexibility in Generation and Scheduling of Thermal/ Hydro Power Stations through bundling with Renewable Energy and Storage Power, 2022

1. Introduction

Ministry of Power vide letter dated 05th April 2018 had introduced a detailed mechanism for allowing Flexibility in Generation and Scheduling of Thermal Power Stations. The objective was to promote bundling of cheaper Renewable Energy (RE) with costlier Thermal Power, promote energy transition, and enable the beneficiary DISCOM achieve RPO at least costs. Recently, changes in energy-mix and the larger procurement by distribution licensees has brought new issues to the forefront needing policy attention. Accordingly, the detailed mechanism that was issued earlier in this regard, was revised on 15th November 2021, to comprehensively cover replacement of thermal and hydro power with standalone renewable energy power or renewable energy combined with battery energy storage systems; so that the distribution licensees can meet their Renewable Purchase Obligation (RPO) within the existing contracted capacity and without facing any additional financial burden.

India is aiming to have Net Zero Emissions by 2070. In the recent COP-26 Summit at Glasgow, India has upped its target of electricity from non-fossil fuel-based sources to 500 GW by 2030 and thus, about 50% of total energy consumed by 2030 is expected to come from renewable sources. As India prepares for the energy transition from fossil fuel to non-fossil fuel based energy systems and aims to achieve the reduction in GHG/CO₂ emission by 1 billion tonnes by 2030, India will need to promote installation of 500 GW of non-fossil fuel capacity, out of which 450 MW will come from RE. The instant scheme will propel growth in installed capacity of RE as well as its uptake. Keeping these commitments in mind, the scheme issued earlier vide MoP letter dated 15th Nov, 2021 has been repealed and a new scheme as hereunder is hereby brought into force.

2. Applicability

- 2.1. All new and existing coal/lignite/gas based thermal generating stations or hydro power stations for the purpose of the scheme are hereinafter referred to as a 'Generating Station'.
- 2.2. Any Generating Company having such Generating Station(s) may establish or procure renewable energy from a Renewable Energy (RE) power plant which is either co-located within the premises or at new locations.
- 2.3. The generating companies shall be allowed to utilize such renewable energy for supplying power against their existing commitments/PPAs i.e., replacement of Thermal/ Hydro power to procurers anywhere in India. The RE in the mix shall count towards the RPO compliance of the Distribution Licensee.



- 2.4. The 'RE power plant' under the scheme may be established on a standalone basis or in combination with Battery Energy Storage System (BESS) in the cases mentioned in para 2.2.
- 2.5. Accordingly, henceforth the term 'RE power' shall mean either standalone RE power or RE power with BESS.

3. Tariff Determination of RE Power Plants

- 3.1. In case of RE power plant co-located within the premises of a Generating Station under section 62, the Appropriate Commission shall determine the tariff of RE supplied. Provided that such RE power plant shall be established through a competitive EPC tendering.
- 3.2. In all other cases except para 3.1, RE shall be procured on a competitive bid basis.
- 3.3. A Generating Company under section 62 or its subsidiary shall also be allowed to establish an RE power plant through tariff based competitive bidding process under section 63 provided the bids are called by a Central Government approved third party.
- 3.4. Any Battery Energy Storage System (BESS) to be established with a RE power plant shall be established through a competitive bid process under section 63.

4. Transmission Charges

- 4.1. No additional transmission charges shall be levied for bundling of RE power with Thermal/ Hydro power when the RE power plant is co-located within the premises of a Generating Station.
- 4.2. No transmission charges for use of Inter State Transmission System (ISTS) shall be levied when RE power from an RE power plant is being scheduled to the Thermal/Hydro generating stations as a replacement power; for supply to procurers of another Generating Station located at a different location and owned by the same Generating Company.

Provided that the evacuation of RE power is being made from the same switchyard of the Thermal/ Hydro power plant, up to total transmission capacity.

- 4.3. In any other cases the waiver of transmission charges for use of ISTS for sale through power exchange or to any third party shall be as per the extant policy of the Central government.

5. Transmission Connectivity and Access



- 5.1 The Thermal/ Hydro generating station and the RE generating station shall ensure that connectivity is obtained for full installed capacity including overload if applicable as per the extant Regulations so as to ensure full evacuation.
- 5.2 No additional access shall be required to the extent of total transmission capacity at places where RE generation and thermal generation are co-located, and where margins are available in the transmission system for evacuation of Thermal/ Hydro generation.
- 5.3 The RE generating station other than the case of para 3.1 where the RE plant is co-located, shall require transmission access/GNA for scheduling the RE power to the Thermal/ Hydro generating station as per the extant Regulations.

6. Scheduling and Commercial Mechanism

- 6.1. Separate scheduling, metering, accounting and settlement shall be carried out for the RE generation and the Thermal/ Hydro generation whose power is being replaced. This shall facilitate RPO compliance for the beneficiaries and sharing of gains between the beneficiary and the generating station.
- 6.2 Declared Capacity (DC) shall be given by Generating Station(s) as per the extant regulations. Once the schedule for the next day is received, the Generating Station(s) shall have the flexibility to use Thermal/ Hydro power or RE Power from the plant set up for bundling to meet its scheduled generation.
- 6.3 The Declared Capacity of the Thermal/ Hydro Generating Station shall be with respect to the terms of the Power Purchase Agreement (PPA) and the availability of primary fuel. The declared capacity of Thermal/ Hydro Generating Station shall not be based on the availability of additional RE power.
- 6.4 The RE power, wherever found feasible shall replace the Thermal/ Hydro power of any of the Generating Station of the Generating Company.
- 6.5 The RE generator and the Thermal/ Hydro generator shall provide the required information for scheduling to the respective RLDC/SLDCs on a day-ahead basis.
- 6.6 Separate injection schedules for all modes of transaction (replacement power, market sale etc.) including net injection schedule for the RE generator and the Thermal/ Hydro generating station shall be indicated by the concerned RLDC.
- 6.7 The RE power (with or without energy storage system) shall be supplied to the beneficiaries at a tariff which shall be less than the Energy Charge Rate (ECR) of the Generating Station which was originally scheduled. Such a tariff would include the balancing cost and the tariff risk to be taken by the Generator.
- 6.8 The net savings realized, if any, from supply of RE power instead of Thermal or Hydro power under existing PPA shall be passed on to the beneficiary by the Generating Company on a monthly basis. If required, at the end of each year,

truing-up shall be done by the Appropriate Commission. The net savings shall be shared between the generator and the beneficiary in the ratio of 50:50 basis.

7. Deviation Settlement Mechanism (DSM)

- 7.1. For the purposes of flexible scheduling and operation of Thermal/ Hydro stations, while giving the DC of a Generating Station the generator shall not take into the account the forecast of generation from renewables from the plant set up in the same premises. Once the schedule for a specific Thermal/ Hydro Generating Station has been received, then depending upon the forecast available for renewables, that Generating Station shall supply to meet the schedule from Thermal/ Hydro power and replacement RE power.
- 7.2. The net injection schedule for the Thermal/ Hydro Generating Station and the RE Generator would form the reference for DSM calculations as per the extant regulations.

8. Renewable Purchase Obligation

- 8.1 The renewable energy procured by the beneficiaries under these guidelines shall qualify towards meeting their Renewable Purchase Obligations (RPO).

9. Additional mechanisms for RE bundling

- 9.1. **Requirement of Additional Agreements to PPA/PSA:** Distribution Licensee will have the flexibility to procure RE power within the existing PPA to meet their RPO. There shall not be any requirement of signing additional agreement in cases where the landed tariff of RE power (with or without energy storage system) is less than the ECR of the Generating Station.
- 9.2. A standard terms and conditions of RE bundling for facilitating operation of the scheme shall be annexed with the existing PPA/PSA.
- 9.3. Requirement of selling the RE power in power market when it is not feasible to replace the Thermal/ Hydro power: During certain periods, the replacement of Thermal/Hydro power may not be feasible on account of technical minimum schedule or forced/planned shutdown of a Generating Station. To avoid stranding of RE power, it is provided that the Generating Station shall be allowed to sell such RE power to third parties/ Power exchange and no clearance is required from beneficiaries of the station. However, the right to schedule power from the Generating Stations shall first rest with the PPA holders and in case, they do not schedule the power, the Generating Station shall have the right to sell the unscheduled RE power in the market. As during such conditions an RE power plant would not be operating under the flexibility scheme and therefore there shall not be any requirement of sharing gains/losses derived through sale of such RE power in the market.



The concerned RLDC shall facilitate sale of such power in the power market by separate scheduling of RE power for both co-located and other RE stations from which energy has been procured.

- 9.4 The Generating Company may take up procuring RE power in tranches. Accounts of the quantum of RE Power supplied to beneficiaries under the scheme will be submitted to the Appropriate Commission on a quarterly basis.
- 9.4.1 The trajectory for the bundling of RE Power with Thermal/ Hydro power will be worked out by the Generation Company so as to meet the following objectives:
- i. Continuous supply of reliable power at least cost to the PPA holder.
 - ii. Enabling the PPA holder/ obligated entity meet its RPO obligations.
- 9.4.2 The maximum quantity of bundling will be determined by technical consideration.
- 9.4.3 The proposed mix for the bundling shall be submitted to the PPA holder for comments; with copies to MNRE and MOP. The mix shall be finalised after taking into account the comments of the PPA holder.
- 9.5 Central Electricity Authority shall monitor the implementation and suggest changes, if required, in the scheme to the Central Government. In doing so, CEA may consult MNRE, POSOCO, CERC, Distribution Licensee and other stake holders.
- 9.6 Changes, if any, required in the regulations for implementation of the above scheme shall be done by the Appropriate Commission.

