

F. No. 23/23/2020-R&R/RCM
Government of India
Ministry of Power
(RCM Division)

Shram Shakti Bhawan, Rafi Marg
New Delhi, dated the 20th of April 2023

To

1. Chairperson, CEA
2. ACS/Principal Secretary/Secretary (Energy/Power) of all States/UTs
3. Secretary, CERC
4. Secretaries of all SERCs/JERCs
5. CMD/MDs of all GENCOs

Subject: Scheme for Pooling of Tariff of those plants whose PPAs have expired - reg.

Sir,

At present, the annual electricity demand and the peak demand in the country is around 1400 BUs and 216 GW, respectively, and the peak demand is growing at an annual rate of around 6%. It is also a fact that the country is advancing along the path of energy transition from fossil fuel to non-fossil fuel. During April-May 2022 challenges were faced in meeting increasing demand. With the support of all stakeholders including all states, the challenges were handled successfully. However, the systems need to be restructured to meet future challenges.

2. As per National Electricity Plan, the projected electrical energy requirement and peak electricity demand on all-India basis is estimated as 1908 BU and 277 GW for year 2026-27 and 2474 BU and 366 GW for year 2031-32, respectively. This will require a total capacity addition of around 212 GW in the Power sector during 2022-27 and about 292 GW during 2027-32, against the present installed capacity of about 412 GW. The total fund requirement for investment during the period 2022-2027 is estimated to be around Rs. 14.5 Lakh Crores. The total fund requirement for investment during the period 2027-2032 has been estimated to be around Rs. 19.06 Lakh Crores. Apart from this the successful integration of 365 GW Solar and 122 GW Wind planned by 2031-32 will require large quantum of storage capacity in the electrical grid. In such a scenario, it is essential that the generation capacity available in the country at present is utilized optimally. The available Gas based capacity is also required to be kept operational to meet the flexibility requirement and for peaking support at least during the crisis period.

3. With the objective to facilitate the States to optimize their electricity generation/availability portfolio, Ministry of Power, considering the request of the States, vide guidelines dated 22.03.2021, allowed the States to exit from PPAs with Central Power Sector Utilities after the expiry of the PPA period. Thereafter, many States/ Distribution companies exited from PPAs of costlier plants (non-pit head coal stations and Gas based thermal generating station), while retaining the PPAs of

cheaper plants. This trend may be detrimental to the resource adequacy in the power system.

4. The Government is committed to promote non-fossil fuel-based generation and the efforts to promote RE generation are being taken. However, in this stage of energy transition, it will not be wise to let go off the resources that are already available in hand and whose capex has been substantially recovered. Even with generation capacity two times of the demand, the demand - supply situation of electricity becomes tight for some periods in the crunch months. The development of balancing resources as ESS will take a while for full deployment and it is very expensive presently. While PSPs are limited by their gestation period of at least 5 to 7 years the Batteries are limited by their ability to be commercialized and availability of raw materials. Despite significant quantum of Renewables in the grid, it would be difficult to meet peak demand without conventional sources, in near future.

5. In case of shutdown of existing but without offtake arrangements thermal generation plants, following scenarios / options emerge:

- i. Additional investments for new thermal capacity addition for meeting the balancing and peaking requirements. Investment in such additional capacity would need to be serviced for further 25 years by payment of depreciation, interest on loan and other elements of tariff. Further, there may be requirement to support their technical minimum during off-peak hours for their useful life. All these costs would have to be eventually borne by the end consumers.
- ii. Installation of larger capacities of BESS/PSP will be required to provide for balancing requirements. Deployment of BESS in large quantum is dependent on factors as high capital costs, availability of critical raw material, production batteries or on imports – all adding to uncertainty in balancing resources. Development of PSPs has its own challenges.

Further, both the above options are much costlier as compared to continued operation of these well-maintained generation plants with almost all the investment cost paid.

6. In view of long gestation period required for the construction of new thermal capacities and impending retirement of old inefficient thermal plants, it would be prudent to continue to operate the existing efficient thermal capacities of CPSUs whose PPAs have expired, but have remaining operational life, deferring the capital expenditure required for creation of new capacities. It is required to ensure continued operation of these gas-based power plants to provide peaking /balancing power for smoother and affordable energy transition towards RE & for Resource Adequacy.

7. It is noteworthy to mention that many thermal units in India and the world are operating efficiently much beyond 25 years. Further, it is a known fact that due to better O&M practices, the generating stations of CPSUs are operating at full capacity even after completion of 25 years of the useful life as per the norms specified by CERC. These constitute a well-balanced pool of thermal stations comprising of pithead coal stations for catering to the base load, non-pithead coal stations and gas

stations to meet peak demand and provide much required cycling and balancing services required for smooth RE integration. Gas stations are important to grid operation as they are capable of fast ramping operations and best suited for flexing. CPSU gas stations are being frequently utilized in providing ancillary services for reliable grid operation. The selective approach adopted by the procurers, who are exiting from PPAs, may lead to the shutdown of significant thermal capacities especially the Gas based capacities, which would be detrimental to the power sector.

8. As the stations of 25 plus years have their capex recovered, fully depreciated, debt free, Fuel Supply Agreement (FSAs) in place, and well-maintained, power at competitive tariffs can be made available to the beneficiaries from these stations. Accordingly, to utilize these capacities, it has been decided to pool power from all Central Generating Station (CGSs) whose PPAs have expired, and such pooled power shall be made available to willing beneficiaries. The willing beneficiaries will have to enter PPA for a duration of a minimum of 5 years. Discoms not finding value in pooling will be able to opt out from the pool after 5 years.

9. The measure will ensure availability of adequate resources in the grid for peaking, balancing, and flexing and re-distributing benefits such as reliability, cost-effectiveness among the beneficiaries. A detailed mechanism in this regard finalized after consultation with States and other stakeholders (Draft scheme was circulated on 15th November, 2022, comments received have been examined and a meeting was also held with States on 20th February, 2023) is enclosed. All the concerned organizations shall take necessary action to implement the scheme w.e.f. 1st July, 2023.

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

 20/4/23
(Suresh Annepu)
Director (RCM)
Tel: 011-23717137

Copy for information to:

1. PS to Hon'ble Minister of Power & NRE
2. APS to Hon'ble Minister of State for Power
3. Sr. PPS to Secretary, Ministry of power
4. PPS to Joint Secretary (Thermal)
5. PSO to CE (R&R)/ PPS to Director (RCM), Ministry of Power

Copy To: Technical Director, NIC for uploading on Ministry's website under 'New Notices' with the heading "**Scheme for Pooling of Tariff of those plants whose PPAs have expired**"

Scheme for Pooling of Tariff of those plants whose PPAs have expired

1. Background

The power situation in the country has been changing over the years. There had been times when States were keen to enter into long term Power Purchase Agreement (PPA) with the objective of securing power. However, the situation has changed now. The emergence of cheaper renewable energy, especially Solar, has attracted attention of everyone. Today, the procurers are scouting for cheaper power on the exchanges and otherwise; but are hesitant to enter long term PPAs anticipating further reduction in power prices. However, an often-ignored fact is that the volume of power transacted on the exchange is only about 7.4% of the total energy requirement in the country.

Due to availability of ample generation capacity, low cost of some recently signed renewable PPAs and low tariffs in the market, a few States, specifically those that are surplus in power had approached Ministry of Power with proposal for relinquishment of their share from Central Generating Stations (CGS). Ministry of Power considering the request of the States vide guidelines dated 22.03.2021 allowed the States to exit from PPAs with Central Power Sector Utilities after the PPA period was over. Thereafter, many States/ Distribution companies based on commercial considerations started to exit from PPAs of costlier plants (non-pit head coal stations and Gas based thermal generating station) while retaining PPAs of cheaper plants.

Paradoxically, there is a generation capacity crunch during the peak demand season despite the availability of generation capacity in the grid which have been isolated from the grid due to forfeit of PPAs by the buyers. As a result, there is a need to bring back these generation capacities in a manner that the tariff is maintained at reasonable levels, and the capacity is also available in the grid.

Ministry of Power has promulgated Electricity (Rights of Consumer) Rules 2020 which mandate standards of performance for DISCOMs. The Rules provide for penalization/compensation for non-supply of power to consumers as per the standards. This does away with the practice of load shedding by the States during peak demand times when electricity prices are high. Accordingly, it is imperative that each MW of available generation capacity in the grid is up and running on bar to match the rapid pace of demand growth in the country alongside the newer capacities to be added to the grid.

2. Creation of Genco-wise Common Pool for plants whose PPAs have expired

India is aiming to install 500 GW of non-fossil fuel capacity comprising primarily of RE by 2030. The increase of RE in the grid will reduce fossil fuel usage and carbon emissions, thus enhancing sustainability. Although higher penetration of RE in the grid enhances energy sustainability, it also impacts grid stability and poses difficulties for the power network in the form of RE intermittency, and supply-demand imbalances.

The successful integration of RE planned and to be installed by 2031-32 viz. 365 GW Solar and 122 GW Wind will require greater amount of storage capacity in the electrical grid. Central Electricity Authority (CEA) in the National Electricity Plan 2022, has estimated a requirement of about 236 GWh BESS and about 27 GW of PSP projects by the end of 2031-32 for successfully integrating the planned RE into the grid. However, as of now, only 4,750 MW of PSP and 37 MWh of BESS is available in the grid. Although it is envisaged that the cost of Energy Storage Systems (ESS) will reduce in future, at present, the high cost of ESS is a deterrent to its deployment on a large scale. It may still be a few years before the electrical grid will have adequate storage capacity. Presently, thermal generation which constitutes the mainstay of electricity generation along with gas generation provides a major support to grid balancing and RE integration. Therefore, until the time adequate storage capacity develops in the grid, the generation load balancing must be carried out in the usual manner through the conventional load following generating stations such as coal and gas thermal plants. Thus, ensuring continued operation of the thermal/ gas plants which have already completed 25 years of operation will be in the interest of the electrical grid, taking care of balancing needs until development of adequate storage capacity.

It is noteworthy to mention that many thermal units in India and the world are operating efficiently much beyond 25 years. Further, it is a known fact that due to better O&M practices, the generating stations of CPSUs are operating at full capacity even after completion of 25 years of the useful life as per the norms specified by CERC. These constitute a well-balanced pool of thermal stations comprising of pithead coal stations for catering to the base load, non-pithead coal stations and gas stations to meet peak demand and provide much required cycling and balancing services required for smooth RE integration. Gas stations are important to grid operation as they are capable of fast ramping operations and best suited for flexing. CPSU gas stations are being frequently utilized in providing ancillary services for reliable grid operation. The selective approach adopted by the procurers, who are exiting from PPAs, may lead to the shutdown of significant thermal capacities especially the Gas based capacities and that would be detrimental to the power system.