

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA

STARRED QUESTION NO.31
ANSWERED ON 06.02.2024

GRID PROBLEMS OF RENEWABLE ENERGY

31. SHRI JAWHAR SIRCAR:

Will the Minister of **POWER** be pleased to state:

(a) the reasons as to why grid problems are continuing to bother renewable energy, despite the unified national network of 117 GW;

(b) the problems of integration of renewable energy in the grid built for scales and stability of thermal and hydro power generation;

(c) the progress in implementing Renewable Energy Source Grid-Connected Generation system (RES-GGS) and whether there is any plan to soften the higher initial investment cost; and

(d) whether the very-delayed payments are received and passed on by DISCOMs continuing to create deep financial difficulties for renewable energy?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d) : A Statement is laid on the Table of the House.

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO. 31 FOR REPLY ON 06.02.2024 REGARDING GRID PROBLEMS OF RENEWABLE ENERGY ASKED BY SHRI JAWHAR SIRCAR.

(a) to (c) : It is incorrect to say that there has been any problem in Grid stability due to the addition of RE capacity. Grid continues to be stable. The Government have added 196.558 GW generation capacity since 2014, which includes 104.059 GW of RE capacity increasing the total generation capacity by 70 % from 248.554 GW in March 2014 to 428.299 GW in December 2023. In order to accommodate this substantial capacity addition, Government of India planned and added 189052 circuit Km (ckm) of transmission lines in the same period. This has resulted in increase of inter regional transfer capacity from 36 GW in 2014 to 116.540 GW till date.

In addition to this 24,000 ckm of transmission lines are under construction and 17,860 ckm is under bidding. CEA has drawn up a plan of transmission augmentation to handle a total RE capacity of 500 GW and transmission capacity is being added accordingly. While Government are adding transmission system at a rapid pace, the renewable energy capacity is also being increased rapidly. The RE capacity has gone up from 75.5 GW in 2014 to 180.80 GW upto December, 2023. In addition, 103.66 GW is under implementation and 71.65 GW is under bid.

Wind and Solar energy is variable and intermittent. Thirteen (13) Renewable Energy Management Centres (REMCs) have been setup for better forecasting and real time monitoring of Renewable Energy generation. The variability is balanced by load dispatch centres through resources like Hydro and Thermal. Flexibilization of significant capacity of Thermal Power plants has already been done and the same is being implemented in the balance Thermal plants. The current level of Variable RE (VRE) penetration is quite low. Out of 1624.34 BUs energy generated in 2022-23, only 173.8 BUs(10.7%) were generated by Solar and Wind.

Solar and Wind which are inverter based generators, need to respond as per the CEA Technical Standards for connectivity during transmission line faults in the grid. A few incidents of some of these generators going out of the grid in the Rajasthan RE-complex had occurred in the past. The Grid was however stable. These incidents were inter-alia traced to inverter level protective system settings which have been changed and such incidents have been minimized.

As far as cost of electricity from RE sources is concerned, it is cheaper than conventional energy sources. The Solar tariff discovered in recent bids is around Rs 2.50 per kWh and Wind tariff is around Rs 3.18 per kWh. While aggregating the demand of various DISCOMs for tariff based competitive bidding from various coal based thermal generating stations, the price discovered was around Rs 5.30 per kWh.

(d) : The total outstanding dues of GENCOs were Rs 139947 crores (including dues of RE GENCOs at Rs 17232 crores) in 2021-22. The Government have put in place rules, [Electricity (Late Payment Surcharge and Related Matters) Rules, 2022], which ensured payment of legacy dues in instalments as well as the current dues in full. Non payment of dues results in regulation of access to the market. As a result, the GENCO legacy dues have now reduced from Rs.1,39,947 crores to Rs. 49451 crores (Rs 3116 crores of RE GENCOs).
