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| 19. | Assam Power Sector Development Programme Tranche-III/ ASEB | 27.02.2012 | 50.00 |
| 20. | Gujarat Solar Power Transmission Project/GETCO | 16.03.2012 | 100.00 |

Power grid failure

1664. SHRI MOHAN SINGH:

SHRI RANBIR SINGH PARJAPATI:

SHRI ANIL DESAI:

SHRI AAYANUR MANJUNATHA:

SHRI MOTILAL VORA:

SHRI MOHAMMED ADEEB:

SHRI SABIR ALI:

Will the Minister of POWER be pleased to state:

- (a) whether the power grid failed on 30 and 31 July, 2012 for a number of hours;
- (b) if so, the reasons therefor;
- (c) the States responsible for this power grid failure;
- (d) whether Government has appointed a committee to go into the failure of grids and whether that committee has submitted any report;
- (e) if so, the details thereof and the action taken thereon;
- (f) the steps taken to ensure that grids do not fail in future; and
- (g) whether there is acute shortage of coal in power houses and if so, the steps taken to supply them adequate quantity of coal?

THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI K.C. VENUGOPAL): (a) Yes, Sir. Two major grid disturbances on 30th and 31st July, 2012 affected supply of power to Northern, Eastern and North-Eastern Regions.

(b) and (c) The Enquiry Committee constituted to enquire into the reasons for the grid disturbances has come to the conclusion that no single factor was responsible for the grid disturbances on 30th and 31st July, 2012. The Committee

has concluded that the disturbances were caused by a combination of factors, *inter-alia*, weak inter-regional corridors due to multiple outages, high loading on 400kV Bina-Gwalior-Agra link, inadequate response by State Load Despatch Centres (SLDCs) to the instructions of Regional Load Despatch Centres (RLDCs) to reduce overdrawal, loss of 400 kV Bina-Gwalior link on 31st July, 2012 apart from the aforementioned reasons, the system was weakened by outages of transmission lines in the Eastern Region network near the Eastern Region - Western Region interface.

(d) Yes, Sir. An Independent Committee of Experts was constituted under the Chairmanship of the Chairperson of the Central Electricity Authority to enquire into the reasons for the grid disturbances and suggest *inter-alia* remedial measures to avoid recurrence, including secure operation of the grid in the future. The Committee has submitted its report.

(e) and (f) The Committee has concluded that the disturbances were caused by a combination of factors, *inter-alia*, weak inter-regional corridors due to multiple outages, high loading on 400 kV Bina-Gwalior-Agra link, inadequate response by State Load Despatch Centres (SLDCs) to the instructions of Regional Load Despatch Centres (RLDCs) to reduce overdrawal, loss of 400 kV Bina-Gwalior link. On 31st July, 2012, apart from the aforementioned reasons, the system was weakened by outages of transmission lines in the Eastern Region network near the Eastern Region - Western Region interface.

The Committee has made a number of recommendations, both long-term and short-term to avoid recurrence of such incidents, some of which are:

1. Extensive review and audit of the protection systems should be carried out.
2. Frequency control through generation reserves/Ancillary services should be adopted and the present UI mechanism should be reviewed in the light of recent disturbances.
3. Primary response from generators and operation of defense mechanisms, like under frequency and rate of frequency based relays as well as special protection schemes should be ensured in accordance with the provisions of the grid code.
4. Review of Total Transfer Capability should be carried out and revised periodically as per changes in the system.
5. Coordinated outage planning of the transmission elements should be carried out.

6. Installation of adequate static and dynamic reactive power compensators.
7. Penal provisions of the Electricity Act 2003 need to be reviewed to ensure better compliance of instructions of Load Despatch Centres and directions of Central Commissions.
8. Synchrophasor based Wide Area Monitoring Systems (WAMS) should be widely employed.
9. Load Dispatch Centres should be equipped with dynamic security assessment tools.
10. Islanding schemes need to be planned and implemented so as to ensure power supply to essential services and faster recovery in case of grid disruptions.
11. Need to grant more autonomy to SLDCs.
12. Proper telemetry and communication systems between all constituents.

(g) For the year 2012-13, against an estimated coal requirement of 476 Million Tonne (MT) from domestic sources, availability of coal was indicated as 407 MT, thereby resulting is an anticipated shortfall of 69 MT coal. In order to bridge this gap, Power Utilities were assigned a target to import 46 MT (equivalent to 69 MT of domestic coal due to its higher calorific value) of coal during the year 2012-13 for blending with the domestic coal.

In order to overcome the shortage of coal (i) Coal India Limited (CIL) is being persistently impressed for expediting signing of Fuel Supply Agreements (FSAs) with trigger value of 80% for levy of disincentive for short supply and (ii) Power Utilities are being impressed for expediting import of coal to meet the shortfall in demand and domestic availability of coal.

Power ministers' conference

1665. SHRIMATI RENUKA CHOWDHURY:

SHRIMATI T. RATNA BAI:

Will the Minister of POWER be pleased to state:

(a) whether a review meeting of the power Ministers of all the States was held recently;