44

STANDING COMMITTEE ON ENERGY

(2013-14)

FIFTEENTH LOK SABHA

MINISTRY OF POWER

[Action Taken by the Government on the recommendations contained in the Thirty-Seventh Report (15th Lok Sabha) on Development of National Grid]

FORTY FOURTH REPORT

सत्यमेव जयते

LOK SABHA SECRETARIAT
NEW DELHI

December, 2013/ Agarahayana, 1935 (Saka)

FORTY FOURTH REPORT

STANDING COMMITTEE ON ENERGY
(2013-14)

(FIFTEENTH LOK SABHA)

MINISTRY OF POWER

[Action Taken on the recommendations contained in the Thirty-Seventh Report (15th Lok Sabha) on Development of National Grid]

Presented to Lok Sabha on 13.12.2013

Laid in Rajya Sabha on 13.12.2013

LOK SABHA SECRETARIAT
NEW DELHI

December, 2013/Agrahayana, 1935 (Saka)

COE NO. 248

Price: **Rs. .....**

Published under Rule 382 of the Rules of Procedure and Conduct of Business in Lok Sabha (_____Edition) and Printed by National Printers, New Delhi – 110 028.

CONTENTS

COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2013-14)

LOK SABHA

Shri Mulayam Singh Yadav - Chairman

2. Shri P.C. Chacko
3. Shri Syed Shahnawaz Hussain
4. Shri Gurudas Kamat
5. Shri Shripad Yesso Naik
6. Shri Jagdambika Pal
7. Shri Ravindra Kumar Pandey
8. Dr. Padamsinha Bajirao Patil
9. Shri Nityananda Pradhan
10. Shri A.Raja
11. Shri Gutha Sukhender Reddy
12. Shri Baju Ban Riyan
13. Shri Nripendra Nath Roy
14. Shri C.L. Ruala
15. Shri Sushil Kumar Singh
16. Shri Radha Mohan Singh
17. Shri Jagadanand Singh
18. Smt. Pratibha Singh
19. Shri Vijay Inder Singla
20. Shri Bhishma Shankar *alias* Kushal Tiwari
21. Vacant

RAJYA SABHA

22. Shri V.P. Singh Badnore
23. Shri Shyamal Chakraborty
24. Shri Y.S.Chowdary
25. Shri Bhubaneswar Kalita
26. Shri Bhagat Singh Koshyari
27. Shri Kiranmay Nanda
28. Dr. Anil Kumar Sahani
29. Shri Birender Singh
30. Shri Motilal Vora
31. Vacant

SECRETARIAT

1	Shri Brahm Dutt	Joint Secretary
2	Shri N.K.Pandey	Director
3.	Shri Manish Kumar	Executive Assistant

INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this 44th Report on the action taken by the Government on the recommendations contained in 37th Report of the Standing Committee on Energy (15th Lok Sabha) on 'Development of National Grid' pertaining to the Ministry of Power.

2. The 37th Report was presented to Hon'ble Speaker, Lok Sabha on 25th May, 2013. The Report was presented to Lok Sabha on 06th August, 2013 and was laid same day on the Table of Rajya Sabha. Replies of the Government to all the recommendations contained in the Report were received on 18th October, 2013.

3. The Report was considered and adopted by the Committee at their sitting held on 11th December, 2013.

4. The Committee place on record their appreciation for the valuable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

5. An analysis on the Action Taken by the Government on the recommendations contained in the 37th Report of the Committee is given at Appendix-II.

6. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

NEW DELHI
12th December, 2013
Agrahayana 21,1935 (Saka)

MULAYAM SINGH YADAV,
Chairman,
Standing Committee on Energy

CHAPTER - I

This Report of the Standing Committee on Energy deals with the action taken by the Government on the Observations/Recommendations contained in the Thirty-Seventh Report (Fifteenth Lok Sabha) on Development of National Grid.

2. The Thirty-Seventh Report was presented to Hon'ble Speaker, Lok Sabha on 25th May, 2013. The Report was presented to Lok Sabha on 06th August, 2013 and was laid same day on the Table of Rajya Sabha. The Report contained 17 Observations/Recommendations.

3. Action Taken Notes in respect of all the Observations/Recommendations contained in the Report have been received from the Government. These have been categorized as follows:

(i) Observations/Recommendations which have been accepted by the Government:

Serial Nos. 1,3,4,5,6,7,8,9,10,11,12,13,14,15,16 and 17

Total - 16

Chapter-II

(ii) Observation/Recommendation which the Committee do not desire to pursue in view of the Government's reply:

- Nil -

Total - 00

Chapter-III

(iii) Observation/Recommendation in respect of which the reply of the Government has not been accepted by the Committee and which require reiteration:

Serial No. 2

Total–01

Chapter-IV

(iv) Observation/Recommendation in respect of which the final reply of the Government is still awaited:

- Nil -

Total - 00

Chapter-V

4. The Committee desire that Action Taken Notes on the Observations/Recommendations contained in Chapter-I of the Report may be furnished to the Committee within three months of the presentation of this Report.

5. The Committee will now deal with action taken by the Government on some of their Recommendations that require reiteration or merit comments.

A. Strengthening of National Grid

(Recommendation Sl. No. 2, Para No. 2.2)

6. The Committee had noted that the exploitable energy resources are not uniformly distributed in the Country. Some States have abundant natural resource while some are deprived of the adequate resources to set up power plants. This reason has necessitated the shift in focus of planning the generation and the transmission system in the Country from the orientation of regional self-sufficiency to the concept of optimization of utilization of resources on All-India basis. The Committee had further noted that the Government has accordingly planned a National Grid by interconnecting of all the existing five regional grids. It had been stated that through establishment of National Grid, optimal setting, development and utilization of power potential through coal, hydro and other resources has been envisaged in the overall interest of the Nation. It is also expected that National Grid would enable exchange of power amongst the regions for optimization of generation resources – transmission of surplus power to deficit region, dealing commercial obligations and meeting emergencies in other regions. During the examination of the subject it had come out that at present the Eastern Grid is the only grid which has direct transmission links with the rest of four regional grids. Theoretically, this region, due to favorable transmission interconnection should have been in a better position in terms of the availability of electricity. Ironically, in reality the States of this region have energy deficit as high as 30%. The situation indicates that a National Grid *per-se* is not a solution for the regional imbalances in the Country in terms of availability of electricity. Rather, if not regulated by a fair policy, it could become an instrument

for further aggravating the regional imbalance as economically sound States/utilities will be able to grab the electricity meant for the less developed States by bidding at higher rates. In North-Eastern Region, where there is immense potential for hydro power, a high capacity transmission line to facilitate the evacuation of electricity from the region to northern region is underway, whereas the region itself reels under power shortages. Eastern Region, where about 20% population of the Country resides, have only 12% of the total power generation capacity. Furthermore, on the basis of a misconception that the region does not have much demand, a part of that little generated power is being transmitted to other regions. The Committee were not averse to the idea of evacuation of electricity from the regions having power potential to deficit regions, but they had strong objection in regard to depriving the people of that region of their right for having fair amount of electricity. The inclusive growth of the Country is the duty of the Centre. The Committee believed that by creating a National Grid, the Government has done only half part of the task, remaining should be accomplished by formulation of a policy which can effectively address existing regional imbalances in regard to the availability of electricity in the different States/Regions of the Country. The Committee had also recommended the Government to allocate more electricity from the central pool to the economically weaker Regions/States having acute shortages so that they can also be able to contribute in overall development of the Nation.

7. The Ministry in their action taken reply has stated:

> "Regarding deficit in Eastern and North-Eastern Regions, it is to state that, there is overall shortage of power in the country. The shortage varies from state to state and season to season as well as time of the day depending on demand and supply of power. During the current year (April, 2013 to July, 2013), the overall energy and peak shortage in the country was 5.5 % and 6.3 % respectively. Except Bihar, other States in Eastern region have energy and peak shortages less than 3.8%, which are below the overall shortages in the country. In North – Eastern Region the percentage peak shortage (in %) in all the states is less than the deficit (in %) national average. However, energy deficit (in %) in Assam, Meghalaya and Tripura are more than the national average. Further, power availability to any State comprises power from its own State Sector generating Stations, power allocation from Central Sector Generating Stations (CGSs) and power purchase from private / State/ Central sector generating stations or other States through bilateral contracts or through Power Exchanges on short-term/medium–term basis. Regarding increase in power availability by setting up more generating units, the pace of generation capacity addition in the country has increased considerably. Generation capacity addition achieved during 11th Five Year plan was 54,964 MW which was about 2.5 times the capacity addition achieved during the 10th Plan period. Generation capacity addition achieved during the year 2012-13 was 20,622.8 MW which is the highest ever capacity addition in a single year in any five year plan period. Capacity addition of

88,537 MW has been planned from conventional sources for the 12th Five Year Plan. With this level of capacity addition, demand for power on all-India basis is likely to be met by the terminal year of 12th Five Year Plan (2016-17).

In addition to setting up power plants itself, states may meet their power requirement through purchase of power through competitive bidding. Government has advised States to tie up for procurement of power through competitive bidding to meet their requirement, based on their anticipated demand supply scenario. However, generation is a de-licensed activity and any party, including any utility can set up a generating plant at any location. States need to provide conducive policies and environment for setting up of power plants by Independent Power Producers (IPPs) or public sector generators. As per policy guidelines future requirement of power should be procured competitively by Distribution licensees, after a fixed timeline set by the Government. The State Utilities are responsible for calling bids to set up power plants, which is a transparent market based mechanism.

For transmitting power from surplus region to deficit region, inter-state transmission lines are planned and implemented. It is the responsibility of power deficit States to assess and plan for import of power and seek inter-regional/ inter-state transmission access from the CTUs/RLDCs under the provisions of Open Access laid down in the Electricity Act,2003 and relevant regulations notified by CERC. In the present scenario, the integrated grid facilitates State utilities in getting power available in market at reasonable rates from any corner of the country. Thus, National Grid along with development of power market would facilitate in alleviating the regional imbalance, if any, of power availability.

As regards allocating more power from central pool to the deficit regions, power from Central Sector Generating Stations (CGSs) in a Region is allocated to the constituent States /UTs of the Region in accordance with “Central Formula for allocation of power” in two parts. 85% power is allocated as firm allocation (including home state share).The allocation of this 85% firm power among the States is made not only on the basis of power consumption in the States during last five years but also on plan assistance to them during that period. The plan assistance in turn is allocated in greater proportion to the poor/under-developed States, despite low per capita consumption of electricity. The requisition from different States is also considered while allocation of firm power is done from CGSs. Thus, the firm allocation is done considering the willingness of the States to take power as well as the economic condition of the State.

The allocation of remaining 15% unallocated power of CGSs, kept at the disposal of Central Government, is revised from time to

time, generally keeping in view factors like emergent and seasonal nature of the requirement, relative power shortages, utilization of existing generation and other power sources, operational and payment performance of the States/UTs of the region.

It may be noted that the Bongaigaon (Assam, NER) – Siliguri (West Bengal, ER) 400kV D/c line created primarily for export of power from NER to ER is now utilised by NER for importing power from ER for about 60% of time. Similarly, prior to 2009, Eastern Region was generally considered a surplus region and power was flowing from the Eastern Region to Western and Northern Regions. However, after 2009, with generation capacity addition in the Western region and Northern Region and load growth in the Eastern Region, the power flow direction has reversed and now power is flowing from the Western Region to the Eastern Region. Thus, the inter-regional transmission systems built over a period of time have facilitated meeting of the demand in the Eastern Region. For example, the Ranchi (Jharkhand, ER) – Sipat (WR) 400kV line, primarily planned for export of power from ER to WR is now mainly utilised for import of power by ER from WR.In North Eastern Region, in order to address the power deficiencies, two nos. of thermal/ gas generating stations are being developed, viz. Pallatana Power Project with 726 MW capacity by ONGC Tripura Power Company Private Limited (OTPC) in Tripura and Bongaigaon Power Project with 750 MW capacity by NTPC Ltd. in Assam. To increase the thermal share of NER States, entire power of the above two projects has been allocated to NER States only"

8. The Committee, considering the great disparity in terms of availability of electricity in the various regions of the Country, had recommended the Government by formulating an effective policy to allocate more electricity from the central pool to the economically weaker Regions/States address existing regional imbalances in regard to the availability of electricity in the Country. The Ministry in their reply have *inter-alia* stated that Bongaigaon (Assam, NER) – Siliguri (West Bengal, ER) 400 kV D/c line created primarily for export of power from NER to ER is now utilized by NER for importing power from ER for about 60% of time. Similarly, Ranchi (Jharkhand, ER) – Sipat (WR) 400 kV line,

primarily planned for export of power from ER to WR is now mainly utilized for import of power by ER from WR. The Committee are heartened to note that the utilization of National Grid in its true spirit, i.e. two way flow of electricity, is now slowly but surely becoming a reality. However, the reply of the Ministry is silent on the recommendation of the Committee to allocate more electricity to needy States from Central electricity pool. Rather, they have just stated the factual position in regard to the allocation of power from the Central electricity pool. A National Grid can help in transmission of surplus power from one corner of the country to another having power deficit. However, the Committee are of the firm opinion that the real motive behind the development of a National Grid should not be limited just to transmission of power from one region to another but to minimize the disparity among the States in terms of access of electricity and its consumption. They do understand that States themselves have to arrange for setting up power plants of required generation capacity. The Committee also note that the States are in the process of enhancing generation capabilities. Nonetheless, the purpose of having a Central Electricity Pool is to provide assistance to the States whose generation capacities, for whatever reasons, are not sufficient to match the electricity demands. This is precisely what the Committee recommended in their original Report. They desired to increase the share of needy States to meet their electricity requirements till the time they are able to develop the required generation capacity. The Committee, therefore, would like to reiterate their recommendation and await specific action taken by the Government in this regard.

Green Energy Corridor

(Recommendation Sl. No. 8, Para No. 2.8)

9. The Committee had noted that the renewable energy resources are generally located in remote locations and confined in few states like Tamil Nadu, Karnataka, Andhra Pradesh, Gujarat, Maharashtra, Rajasthan Himachal Pradesh and Jammu & Kashmir which contribute about 80% to 90% of total renewable capacity installations in the country. Presently, the renewable energy generation capacity in the Country is about 26,000 MW. Till recently, the quantum of Renewable Energy was small and it was being consumed locally. It was presumed that connectivity with the nearest grid substation of State Transmission Utility (STU) would suffice for evacuation of Renewable Energy. Now, the emphasis has been given to harness Renewable Energy on a large scale to supplement the capacity addition from conventional sources and for clean development as well. In this connection it is envisaged to add about 30,000 MW renewable energy generation capacity during the 12th Plan period. The Committee had been informed that for recognizing the importance of promotion of renewable generation and its integration into the grid, a comprehensive plan called Green Energy Corridors has been made by the PowerGrid costing about Rs.43,000 crore. The Secretary, Ministry of Power informed the Committee that concerned Ministries were in touch to find out ways of funding this project. As Renewable Energy sources have intermittency and variability features which make it challenging for their grid inter connection, the Committee were heartened to note that a corridor dedicated for the evacuation of renewable energy and its integration with main grid is being planned. The Committee were also of the view that in future energy producing States would not be able to consume entire Renewable Energy produced within the State beyond their Renewable Purchase Obligation (RPO) requirements, so it has to be transmitted to other States. The Committee, therefore, felt that the Green Energy Corridor is in consonance with the growth in the field of renewable energy in the recent years and their massive future projections. The Committee had recommended that the Green Energy Corridor should be given utmost priority in terms of according various clearances, arrangement of funding and other technical support whenever needed. The Committee had also recommended that the Ministry of Power and the Ministry of New and Renewable should chalk out the modalities for early implementation of time completing this project. The Committee believed that providing monetary incentives in this project would go a long way in ensuring proper funding in Green Energy Corridor.

10. The Ministry in their action taken reply has stated:

> "During the visit of Hon'ble Prime Minister of India to Germany, a joint declaration of intent was signed between India and Germany for cooperation in the field of integration of renewable energy sources in India. The joint declaration consists of two parts, providing assistance by Germany viz, financial part by driving soft loan, about 1 billion euro from KFW, for development of priority

"Green Energy Corridors" as well as sharing of technical expertise in the above field.

In order to facilitate implementation of Green Energy Corridors, a series of discussions were held by Planning Commission, Ministry of Power, MNRE, Ministry of Finance, CEA, State Utilities and POWERGRID for possible means of financing including concessional finance from various funding agencies as well as grant (40%) from National Clean Energy Fund (NCEF).

In this context, concessional finance from KFW (about 1 billion euro) is being considered in the Ministry in consultation with MNRE & DEA. A proposal from MNRE has already been submitted to DEA for external assistance of 1 billion Euro from KFW.

In this direction, the scheme to be considered for concessional finance covering Intra-state as well as Inter-state transmission systems are in the process of finalization.

In addition, to address volatility of renewable generation, other control infrastructure like Forecasting of renewable generation, Flexible generation, Demand-side & Demand response management and energy storage solutions, Real time measurement/monitoring through Synchrophasor technology, establishment of Renewable Energy Management centers (REMC) etc. are also identified as part of Green Energy Corridor report.

As per the above Joint declaration of Intent, proposal for seeking technical assistance from GIZ, Germany, in the domain of forecasting, balancing, market design and network management, setting up of Renewable Energy Management Center (REMC) etc. is also being explored."

11. The Committee are glad to note that Germany has shown interest in providing soft loan of about 1billion euro from KFW for development of Green Energy Corridors as well as sharing of technical expertise in the field. The Committee believe that this collaboration will further boost the renewable energy sector in the Country. The Ministry has further stated that in order to facilitate implementation of Green Energy Corridors, a series of discussion were held by Planning Commission, Ministry of Power, Ministry of New and Renewable Energy (MNRE), Ministry of Finance, Central Electricity Authority (CEA), State Utilities and PowerGrid for possible means of financing including

concessional finance from various funding agencies as well as grant (40%) from National Clean Energy Fund (NCEF). However, the Ministry have not furnished the details of the outcome of these discussions. The Committee would like to be apprised of the outcome of the exercise done for the funding of the National Green Energy Corridors in the Country.

C. Grid Management

(Recommendation Sl. No. 9, Para No. 2.9)

12. The Committee had noted that Regional Load Despatch Centres (RLDCs) are the apex bodies, as per the Electricity Act, 2003, to ensure integrated operation of the power system in their concerned region. RLDCs are responsible for carrying out real time operation of grid control and despatch of electricity within the region in accordance with the Grid Standards and Grid Code. Whereas, the State Load Despatch Centres (SLDCs) have to perform functions similar to RLDCs except the area of jurisdiction, which in case of SLDCs is the State. The Committee had further noted that there is one National Load Despatch Centre (NLDC) for overall supervision of scheduling and despatch of electricity across various regions. The Committee feel that for economic, secure and uninterrupted functioning of National Grid, effective coordinating system among NLDC, RLDCs and SLDCs is of paramount importance. During the examination of the subject, the Committee found that the coordination between RLDC and SLDCs is not as desired. RLDCs do not have adequate power to control erring SLDCs, who are under great control of the respective State Governments, except for giving directions. If any SLDC does not obey these directions, RLDC files a petition in the Central Electricity Regulatory Commission (CERC) who can fine them if found at fault. The Committee during the examination of the subject 'Functioning of CERC' had found that in most of the cases even the fine imposed by the CERC has not been realized. As whole of the Country's transmission system will now be synchronized soon, any dereliction/under-performance of SLDCs will have cascading effects and its impact could extend upto entire Country. The Committee, therefore, were of the opinion that in view of the growing complexities due to expansion of National Grid it is crucial that there is an effective control mechanism for better coordination between RLDCs and SLDCs for enforcing strict grid discipline. The Committee, therefore, had strongly recommended that the Government should bring out necessary amendments in The Electricity Act, 2003 for giving much needed clout to RLDCs/CERC to deter the erring SLDCs and ensure stricter grid discipline.

13. The Ministry in their action taken reply has stated:

> "As per the existing provisions of the Act, SLDCs have to comply with directions of RLDCs .In case of non-compliance CERC may take action. In the past, CERC has imposed penalties on SLDCs several times on this count.
> Ministry of Power has constituted a committee under Chairmanship of Chairperson, CEA to examine and recommend amendments in this regard to the Electricity Act, 2003 in April 2012.
> In the proposed amendment of Electricity Act, 2003,the penal provisions have been made more stringent to ensure compliance of RLDC directions and CERC regulations/orders. The amendments are under consideration in the Ministry of Power."

14. In regard to the recommendation of the Committee to give clout to RLDCs/CERC to deter the erring SLDCs to ensure stricter grid discipline, the Ministry has stated that they have constituted a Committee under Chairmanship of Chairperson, CEA to examine and recommend amendments in this regard to the Electricity Act, 2003. In the proposed amendment of Electricity Act, 2003, the penal provisions have been made more stringent to ensure compliance of RLDC directions and CERC regulations/orders. The amendments are under consideration in the Ministry of Power. The Committee would like the Government to expedite process of amending the Electricity Act, 2003. They would also like to be apprised of the conclusive action taken in this regard.

D. Grid Discipline

(Recommendation Sl. No. 14, Para No. 2.14)

15. The Committee during the examination of the subject 'Functioning of CERC' had pointed out that Unscheduled Interchange (UI) charges for the period 2002-03 to 2011-12 have cumulative value of Rs. 74,181 crore. The figure itself speaks volume about the misuse of the mechanism. The Committee had also noted that the frequency had dipped to as low as 48.7 Hz. The Committee, therefore, inferred that

UI mechanism, actually legitimize the power overdrawl by utilities by paying a little price for it, therefore, instead of enforcing grid discipline, have encouraged the overdrawl of power by the utilities who are ready to pay, leaving the safety of the grid at stake. The Committee are against the idea of generation of revenue through UI mechanism at the cost of grid safety and reliability. The Committee had concluded that UI mechanism has miserably failed to enforce grid discipline and deter overdrawl of electricity by Discoms rather it encourage Discoms to use UI mechanism as an alternative of short term electricity trading. The Committee, therefore, had strongly recommended formulating a regulation which can replace UI mechanism and ensure stricter enforcement of grid discipline by deterring the Discoms to overdraw after a certain frequency. The Committee had further recommended that the Government, besides exploring the possibility of adopting disconnection clause in extreme cases, should also incorporate harsh penal provisions for repeated offenders of overdrawl in the said regulation.

16. The Ministry in their action taken reply has stated:

> "UI pricing mechanism was introduced to serve the twin objectives of specifying settlement rate for deviations from schedules in normal operating range and ensuring 'grid discipline'. It's intention was to ensure maximization of generation at optimal cost for grid participants without intervention/direction of system operator. Priority of Grid security is the highest in the operation of the grid, and therefore, the generators / sellers and the beneficiaries/ the buyers should use other avenues like bilateral trading or the trading platforms of power exchanges by availing open access for meeting short term, medium term or long term arrangements or agreements. UI mechanism should not be used as a real time market.
>
> However, there have been instances when this mechanism has not been utilized in the intended manner notwithstanding the fact that the UI mechanism has proved a very useful tool for grid discipline. Before, implementation of UI mechanism, the grid was experiencing wide fluctuations of frequency excursions from 52.5 Hz. – 48.8 Hz. for a considerable period of time. After this mechanism there was tremendous improvement in grid discipline. Presently, frequency remains between 49.7-50.2 Hz. for more than 85% of the time. This has become possible due to UI mechanism.
>
> In CERC regulations, besides the higher UI rate and additional UI charges for overdrawal beyond the stipulated quantum and frequency range, there are provisions to take action under the Act.
>
> The matter related to replacement/amendment in UI mechanism is under CERC consideration."

17. The Ministry in regard to the recommendation of the Committee to replace the UI mechanism to ensure stricter enforcement of grid, has replied that the matter is under CERC consideration. The Ministry has further stated that there have been instances when UI mechanism has not been utilized in the intended manner notwithstanding the fact it has proved a very useful tool for grid discipline. Before, implementation of UI mechanism, the grid was experiencing wide fluctuations of frequency excursions from 52.5 Hz. – 48.8 Hz. for a considerable period of time. After this mechanism there was tremendous improvement in grid discipline. Presently, frequency remains between 49.7 – 50.2 Hz. for more than 85% of the time. This has become possible due to UI mechanism. The Committee do not disputes the benefits that have been derived from the introduction of UI mechanism in containing the fluctuation of frequency to a certain extent. However, one mechanism cannot remain relevant for all the times. Although, the UI mechanism has contained the fluctuation to a certain extent, it leaves scope for overdrawl of electricity even at low frequency by just paying more for it. Since the overdrawl at low frequency can wreck havoc on the smooth functioning of the grid as witnessed by the Country in the year 2012, the safety of the grid cannot be compromised further. Accordingly, the Committee again emphasize to replace the UI mechanism. The Committee would also like to be apprised of the final decision taken by the CERC in this regard.

CHAPTER II

RECOMMENDATIONS/ OBSERVATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

Recommendation (Sl No. 1 Para No. 2.1)

The Committee note that the whole country is divided into five regional grids namely, Northern Region, Western Region, Eastern Region, North Eastern Region and Southern Region. The first four regional grids are collectively called NEW (Northern, Eastern, North Eastern and Western Region) Grid. At present all the regional grids, except Southern Region, are synchronously interconnected with each other and run at one frequency. However, the Southern Region Grid is connected asynchronously to NEW Grid through HVDC and has different frequency. The Committee further note that Synchronization of Southern Region with NEW Grid is under implementation through two 765 kV lines connecting Solapur (WR) to Raichur (SR). One of the circuits is being implemented by a private company Raichur Sholapur Transmission Company Limited (RSTCL), selected through competitive bidding route. The other circuit is being implemented by PowerGrid. These links will pave the way for interconnection of all five regional grids in synchronous mode having same frequency. The work on these lines is expected to be completed by January, 2014. During the examination by the Committee it came out that one of the link being implemented by RSTCL has been facing Right of Way (RoW) problems at 18 locations in Afjalpur area and at 12 locations at Jewergi area in Karnataka. Though, later it was informed that RSTCL has resolved issues at all 18 locations in Afjalpur area and at 6 locations at Jewergi area. But still there are 6 locations at Jewergi area where the RoW issue is yet to be resolved. Further, the scrutiny of the Committee have revealed that in respect of project being implemented by RSTCL only 9 towers have been erected out of 541 towers proposed for the entire link having a length of 208 km., while, the work of PowerGrid is even slower as only 8 towers have been erected. The Committee express their concern over the slow progress of the project which will enable the interconnection of all the grids of the Country for running at same frequency and making the National Grid fully functional. The interconnection of the Southern Grid with NEW grid will benefit the power deficit Southern Region by facilitating it to draw more power from other regions. The Committee therefore, strongly recommend the Government to ensure that RSTCL resolve the remaining RoW issues at earliest. It should also be ensured that the other construction work related to the project be expedited by both the organization i.e. RSTCL and PowerGrid lest this important project get delayed.

Reply of the Government

Out of two 765 kV S/C transmission linesunder construction for interconnecting Southern Grid with NEW Grid, one transmission line is being constructed by Raichur-Sholapur Transmission Company (RSTCL), a Private Company. On this line out of total 542 tower locations, 480 foundations have been completed &277 towers have been erected and out of 208 km of Stringing, 10 kms stringing has been completed. RSTCL has resolved ROW problems faced earlier at

all 6 locations in Jewergi area. More gangs are being deployed by RSTCL for completing the work by January, 2014.

As regard another 765 kV S/C transmission line being constructed by PGCIL, out of total 532 tower locations, 430 foundations have been completed and 285 towers have been erected. Further, out of 208 km of stringing involved, 65 km of stringing have been completed. The transmission line is scheduled to be completed by January,2014. The above lines are being closely monitored by the Ministry of Power to ensure that the work is completed in time.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

Recommendation (Sl No. 3 Para No. 2.3)

The Committee note that the Country has about 2,23,000 MW installed power generation capacity. Further, for the 12th Plan period, a target of generation capacity addition to the tune of, 88,537 MW has been envisaged from the conventional sources and 30,000 MW from the Renewable Energy sources. Thus, the total generation capacity at the end of the 12th Plan would be about 3,40,000 MW. Against this backdrop the Committee also note, that the Country's present total inter-regional links to facilitate the exchange of power among various regions is only 27,750 MW, which in view of the Committee is not adequate considering the present installed capacity and the planned addition. The Government has stated that they are planning to enhance this to 66,000 MW by adding transfer capacity of 38,400 MW during the 12th Plan. They have also stated that about 1,07,000 circuit kilometers of transmission lines, sub-stations of 2,70,000 MVA and HVDC terminals of about 12,750 MW capacity at 220 kV and above level are planned to be added in the existing capacity of about 2,70,000 circuit kilometers of transmission lines and about 4,20,000 MVA sub-station capacity at the voltage level of 220kV and above. The Committee feel that the massive addition in generation capacity envisaged for the 12th Plan and the proposed synchronous operation of All-India National Grid warrants proportionate augmentation of transmission links as well as increase in number of sub-stations and their capabilities. For the efficacious functioning of the National Grid, it is important that the proposed increase in transfer and transmission capabilities actually takes place in consonance with the growth of generation sector. The Committee, therefore, recommend that the Government besides, augmenting the transmission capabilities to match the proposed generation capacity, should simultaneously enhance and strengthen the relevant infrastructure of National Grid also for its smooth functioning.

REPLY OF THE GOVERNMENT

The growth of transmission capacity in the country is generally aligned with the growth of the generation capacity. The inter-state & intra-state transmission system including the inter-regional transmission links are planned to deliver the power from the existing generation projects to the beneficiaries.

The figure of 27,750 MW is only the capacity of inter-regional transmission links at the end of 11th Plan. These inter-regional links are used to facilitate the exchange of power among various regions. Transmission of power within the regions is done through inter-state and intra-State transmission systems. At present, National Grid with inter-regional power transfer capacity of about 31,850 MW has been established.

POWERGRID envisaged addition of about 40,000 Circuit kilometer (Ckm) of transmission lines and about 1,00,000 MVA of transformation capacity during XII Plan matching with generation capacity addition programme under central sector, UMPPs and IPPS entrusted to it. During FY 2012-13(1st year of XII Plan), POWERGRID has added 7,046 Ckm & 35,480 MVA against target of 6,186 Ckm & 20,000 MVA respectively and the balance envisaged during the remaining period of XII Plan is expected to be achieved.

The inter-regional transmission Capacity at the end of 11th plan was 27, 750 MW. Government has planned to add another 38400 MW of Inter Regional transmission Capacity during the 12th plan period taking the interregional capacity to 65550 MW (excluding 600 MW of 132/110 kv inter-regional links operated in radial mode time to time). Also, it is planed to add about 107000 circuit kilometers of transmission lines, 12750 MW of HVDC terminal capacity and 270000 MVA substations capacity (220 kV and above) during the 12th plan. This transmission capacity has been planned considering 88537 MW generation addition programme.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.4, Para No.2.4)

The Committee note that it has been envisaged by establishment of a National Grid to extend economies of scale by enabling setting up of large sized pit-head based power station and considering cheaper cost of transmission of power compared to transportation of fuel. Even National Electricity Policy stipulates that imported coal based thermal power stations, particularly at coastal locations should be encouraged based on their economies. Further, it would be economical for new generating stations to be located either near the fuel sources e.g. at pit head locations or load centers. In this connection the Committee are surprised to note that out of total 97,720 MW coal based thermal projects which are under construction, 37,380 MW projects are located at Pithead, 14,910 MW projects are located at coastal location, and 45,430 MW are at other locations. In regard to reasons for setting up projects at locations other than coastal or pit heads it has been stated that for locating a thermal power station, availability of a large area of land, availability of large quantity of water for cooling and other infrastructure facilities like road and rail connectivity for transportation of equipments and coal are required. Thermal power projects are being set up in different states depending upon availability of land, water and other infrastructure facilities. Some plants near load centres are also considered necessary for energy security of those states. Further, it was stated that power generation being a delicensed activity, a person can choose a place wherever

desires to set up generation project. Though, the Committee do understand that there are several factors which decisively matter be considered for setting up of power plants, and hence all the power plants cannot be set up at pit heads or coastal areas. However, the fact that surprises the Committee is that almost half of the coal based power projects are coming up at places other than pit heads or coastal areas. The factors like sufficient availability of land, water, and road connectivity and other essential infrastructures can be explored near and around the fuel sources. This will not only cut the cost of fuel but will also be a vital factor for the relevance and importance of transmission network. The Committee feel that this defeats the very purpose of developing a National Grid for transmission of electricity from one corner to another of the country saving cost of transportation of coal for the power stations. Generation of power at the pit head or coastal areas (for imported coal based plant) and transmission of electricity to load centre is certainly more cost effective. The Committee, therefore, strongly recommend that the Government should encourage setting up of coal based thermal power projects at pit heads or coastal areas for projects dependent on imported coal as the case may be by facilitating and incentivizing them as ultimately the consumer will have to bear the increased cost of electricity due to irrational planning of power generation sites.

Reply of the Government

The National Electricity Policy, inter alia, stipulates that Imported Coal Based thermal power stations, particularly at coastal locations would be encouraged based on their economic viability. Further, setting up of pithead thermal power plants are also being encouraged wherever found feasible with respect to availability of land and water and considering environmental issues.

Ministry of Power has issued coal linkage policy for 12th plan power projects as per which Plants located near coal Pit Head and plants using sea water are to be given priority. Further, the Ultra Mega Power plants being proposed under GOI initiative are either at pithead or at coastal location.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.5, Para No.2.5)

The Committee note that fund requirement for the development of transmission system proposed for the 12th Plan is estimated to be order of Rs. 2,00,000 crore. In regard to arrangement for this huge fund the Ministry of Power has stated that Intra-State power transmission projects will be eligible for viability gap funding. They have also stated that the figure of Rs. 200,000 crore has three components – Central Transmission Utility, that is, PowerGrid, private licencees and State Transmission Utilities. CTU will not have any difficulty in raising the money and they do not need viability gap funding. The same will hold good for licencees. It will be the State Transmission Utilities which may require viability gap funding. The Ministry have stated that there will not be any problem in arrangements of funds for the transmission projects planned for the 12th Plan. Considering the importance that

these projects hold for the overall development of the nation, it would not be prudent to become lax in regard to the in arrangement of the required fund. The Committee, therefore, recommend that the Government should not become complacent in arrangement of the required fund.

Reply of the Government

The Working Group on Power for the XIIth Plan assessed fund requirement for transmission at Rs. 1.8 lakh crores, the respective shares of the central, state and private sector projects being Rs. 1 lakh crore, Rs 55,000 crores and Rs 25,000 crores.

HCPTCs worth Rs.66,000 Crore which are being implemented by POWERGRID shall be funded from its internal resources, loans from Multilateral institutions like The World Bank/ ADB/ Supplier's Credit, External Commercial Borrowings (ECB) through bonds / notes and Commercial loans, besides loans from domestic market. Owing to its excellent credit rating, availability of funds shall not be a constraint in implementation of the transmission projects on this account.

During XII Plan, an investment of about Rs. 100,000 Crore is planned by POWERGRID for further development of inter-State transmission systems and establishment of National Grid. As a part of XII plan outlay, POWERGRID is also implementing High Capacity Power Transmission Corridors works of about ` 66,000 Crore. The capital expenditure (CAPEX) planned by POWERGRID for projects undertaken in XII Plan period are as per CERC norms. POWERGRID intends to maintain Debt: Equity ratio of 70:30. Accordingly, POWERGRID proposes to raise a Debt of about ` 70,000 Crore of which about 46% has already been tied up through funding from Multilateral institutions like The World Bank/ ADB/ Supplier's Credit, External Commercial Borrowings (ECB) through bonds / notes and Commercial loans, besides loans from domestic market through private placement of bonds. During the 1st year of XII Plan period (FY 2012-13) POWERGRID has already made a CAPEX of ` 20,037 Crore. The Company owing to its excellent credit rating does not foresee any difficulties in mobilizing balance fund. The Company has been assigned a Corporate Rating of **"BBB - (Outlook: Stable)"** by Fitch Ratings and **BBB – (Outlook: Negative)** by Standard & Poor's Rating Services (S&P). These ratings are consistent with Govt. of India's sovereign rating. On the domestic front, the Company enjoys excellent credit rating with financial institutions, thereby, is placed in a comfortable position in terms of resource mobilization. Equity requirement shall be met through POWERGRID's internal resources.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.6, Para No.2.6)

The Committee note that with the synchronous integration of Southern Grid with the NEW Grid, the complexities are bound to increase in ensuring the seamless transmission of electricity throughout the Country at a desirable frequency. In regard to review of the present regional grid transfer capability in view of the synchronous integration of the Southern Grid with NEW Grid, the Ministry has stated that Central Electricity Authority (CEA) has convened three meetings during August-September, 2012 to discuss this matter. The matter was also discussed in the Eighth meeting of the Forum of Load Despatchers (FOLD) held in October 2012. POSOCO has submitted a comprehensive report to CERC in October, 2012 regarding loadability of transmission lines, which is under consideration of CERC. The Committee are happy to note that the Government has started some review of the transmission network, nonetheless, they believe that integration of all the grids for operating at one frequency and massive growth proposed in transmission network will only make the job more challenging. Thus it becomes imperative to reassess the transmission network system and transfer capabilities thoroughly by a team of experts on a larger scale. The Committee, therefore, recommend that the outcomes of the Report of POSOCO whenever approved by CERC should be implemented with sincerity and expeditious manner. The Committee also expect that they will be apprised about the outcome of the POSOCO Report as approved by the CERC at time of Action Taken Report. Simultaneously, the Government should further plan a thorough review of the transmission networks on a larger scale keeping in view the future developments, necessities and complexities by involving experts not only of the Country but also from abroad having expertise in this field.

Reply of the Government

Regarding comprehensive report submitted by POSOCO on loadability of transmission lines, it may be mentioned that final orders of CERC in Suo-Motu Petition No. 188/SM/2012 about Calculation of Total Transfer Capacity, Available Transfer Capability and Transmission Reliability Margin are yet to be issued. The orders of CERC shall be implemented in an expeditious manner. The Hon'ble Committee shall be apprised of the outcome of POSOCO's report once the CERC issues necessary orders in this regard.

CEA has revised the Transmission Planning Criteria in January 2013 and this has come into force from 1st Feb 2013. From the perspective of improving the reliability of the grid, 'N-1-1' has been adopted as the transmission planning criteria.

The need to expand transmission system is assessed on a regular basis and is firmed up in the meetings of Regional Standing Committees on Power System Planning. In 2012-13, the following six meetings of the Standing Committees were held.

SN	Region	Regional Standing Committee	Date

		Meeting on Power System Planning	
1	Eastern	2nd- 2012 Meeting	05.01.2013
2	Northern	31st Meeting	02.01.2013
3	Western	34th Meeting	09.05.2013
4	Western	35th Meeting	03.01.2013
5	Southern	34thMeeting	16.04.2012
6	Southern	35th Meeting	04.01.2013

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

Recommendation Sl. No.7, Para No.2.7)

High Capacity Corridors

The Committee note that there are certain States *viz*. Odisha, Jharkhand, Chhattisgarh, Tamil Nadu, Andhra Pradesh etc. where massive generation capacity has been planned. To evacuate this large amount of electricity, 11 High Capacity Power Transmission Corridors (HCPTCs) at an estimated cost of Rs. 75,000 crore have been planned. They further note that most of this Corridor work will be done by the PowerGrid and same is proposed to be implemented through private participation/tariff based competitive bidding process. Implementation of these corridors has been taken up in a phased manner matching with generation projects. The Committee feel that the high capacity corridors have greater importance for the power sector as these line are meant for evacuation of the large quantum of electricity from the generation stations of Independent Power Producers (IPPs) to load centres across the States and Regions. The High Capacity Transmission lines are futuristic technology of transmission sector as they have numerous benefits such as low AT&C losses due to high voltage, cost effectiveness, reduced need of RoW etc. The Committee believe that the project will yield dual benefit, firstly, evacuation of huge amount of electricity will be helpful in bridging the gap between demand and supply of power caused by ever growing energy need of the Country, secondly, it will boost the confidence of private sector for more active participation in power generation field due to assurance of proper evacuation of electricity generated. The Committee, therefore, recommend the Government to ensure that these projects are implemented as scheduled by providing all necessary assistance and effective intervention in resolution of the problems being faced or anticipated. The Committee also recommend that the transmission projects specially HCPTCs should be accorded environment and forest clearance more liberally and in a time bound manner as the laying of transmission lines have negligible impact on forest/ environment and there is no change in land use patterns. As, the HCPTCs project has huge fund requirements, the Committee, also desire the Government to ensure that paucity of fund does not become a reason for delay in implementation of these corridors.

Reply of the Government

POWERGRID has signed Bulk Power Transmission agreement (BPTA) with respective Independent Power Producers (IPPs) for implementation of corresponding Transmission Systems under High Capacity Power Transmission Corridors (HCPTC) and accordingly taken up for implementation matching with their generation schedule.

Keeping in view criticality involved in obtaining timely forest / and environmental clearances, POWERGRID has taken-up expeditious action for framing and submission of forest/ environmental proposals and closely following up with the concerned authorities, including intervention from Ministry of Power, Govt. of India for timely clearances. With the intervention of Ministry of Power, recently linear project including transmission line projects have got exemption for obtaining NOC from Gram Sabhas in respect of FRA 2006. Now they only need no objection from Gram Panchayat. This has expedited the process of forest clearance. After persuing the matter with the Ministry of Environment and Forest Stage-Iforest clearance of 36 projects (about 1535 Ha.) and Stage-IIforest clearance of 30 (about 1080 Ha.) transmission projects of POWERGRID were accorded in last seven months.

Implementation of HCPCTs are progressing as per schedule. A few elements under Odisha & Chhattisgarh HCPTC have already been commissioned. As stated in the reply of recommendation sl. no. 5, para no. 2.5, HCPTCs worth Rs.66,000 Crore which are being implemented by POWERGRID shall be funded from its internal resources, loans from Multilateral institutions like The World Bank/ ADB/ Supplier's Credit, External Commercial Borrowings (ECB) through bonds / notes and Commercial loans, besides loans from domestic market. Owing to its excellent credit rating, availability of funds shall not be a constraint in implementation of the transmission projects on this account.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.8, Para No.2.8)

Green Energy Corridor

2.8 The Committee note that the renewable energy (RE) resources are generally located in remote locations and confined in few states like Tamil Nadu, Karnataka, Andhra Pradesh, Gujarat, Maharashtra, Rajasthan Himachal Pradesh and Jammu & Kashmir which contribute about 80% to 90% of total renewable capacity installations in the country. Presently, the renewable energy generation capacity in the Country is about 26,000 MW. Till recently, the quantum of Renewable Energy was small and it was being consumed locally. It was presumed that connectivity with the nearest grid substation of State Transmission Utility (STU) would suffice for evacuation of Renewable Energy. Now, the emphasis has been given to harness Renewable Energy on a large scale to supplement the capacity addition from conventional sources and for clean development as well. In this connection it is envisaged to add

about 30,000 MW renewable energy generation capacity during the 12th Plan period. The Committee have been informed that for recognizing the importance of promotion of renewable generation and its integration into the grid, a comprehensive plan called Green Energy Corridors has been made by the PowerGrid costing about Rs.43,000 crore. The Secretary, Ministry of Power informed the Committee that concerned Ministries are in touch to find out ways of funding this project. As Renewable Energy sources have intermittency and variability features which make it challenging for their grid inter connection, the Committee are heartened to note that a corridor dedicated for the evacuation of renewable energy and its integration with main grid is being planned. The Committee also believe that in future energy producing States would not be able to consume entire Renewable Energy produced within the State beyond their Renewable Purchase Obligation (RPO) requirements, so it has to be transmitted to other States. The Committee, therefore, feel that the Green Energy Corridor is in consonance with the growth in the field of renewable energy in the recent years and their massive future projections. The Committee recommend that the Green Energy Corridor should be given utmost priority in terms of according various clearances, arrangement of funding and other technical support whenever needed. The Committee also recommend that the Ministry of Power and the Ministry of New and Renewable should chalk out the modelities for early implementation of time completing this project. The Committee believe that providing monetary incentives in this project would go a long way in ensuring proper funding in Green Energy Corridor.

Reply of the Government

During the visit of Hon'ble Prime Minister of India to Germany, a joint declaration of intent was signed between India and Germany for cooperation in the field of integration of renewable energy sources in India. The joint declaration consists of two parts, providing assistance by Germany viz, financial part by driving soft loan, about 1 billion euro from KFW, for development of priority "Green Energy Corridors" as well as sharing of technical expertise in the above field.

In order to facilitate implementation of Green Energy Corridors, a series of discussions were held by Planning Commission, Ministry of Power, MNRE, Ministry of Finance, CEA, State Utilities and POWERGRID for possible means of financing including concessional finance from various funding agencies as well as grant (40%) from National Clean Energy Fund (NCEF).

In this context, concessional finance from KFW (about 1 billion euro) is being considered in the Ministry in consultation with MNRE & DEA. A proposal from MNRE has already been submitted to DEA for external assistance of 1 billion Euro from KFW

In this direction, the scheme to be considered for concessional finance covering Intra-state as well as Inter-state transmission systems are in the process of finalization.

In addition, to address volatility of renewable generation, other control infrastructure like Forecasting of renewable generation, Flexible generation, Demand-side & Demand response management and energy storage solutions, Real

time measurement/monitoring through Synchrophasor technology, establishment of Renewable Energy Management centers (REMC) etc. are also identified as part of Green Energy Corridor report.

As per the above Joint declaration of Intent, proposal for seeking technical assistance from GIZ, Germany, in the domain of forecasting, balancing, market design and network management, setting up of Renewable Energy Management Center (REMC) etc. is also being explored.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

Comments of the Committee

(Please *see* Para No. 11 of Chapter I of the Report)

(Recommendation Sl. No.9, Para No.2.9)

Grid Management

The Committee note that Regional Load Despatch Centres (RLDCs) are the apex bodies, as per the Electricity Act, 2003, to ensure integrated operation of the power system in their concerned region. RLDCs are responsible for carrying out real time operation of grid control and despatch of electricity within the region in accordance with the Grid Standards and Grid Code. Whereas, the State Load Despatch Centres (SLDCs) have to perform functions similar to RLDCs except the area of jurisdiction, which in case of SLDCs is the State. The Committee further note that there is one National Load Despatch Centre (NLDC) for overall supervision of scheduling and despatch of electricity across various regions. The Committee feel that for economic, secure and uninterrupted functioning of National Grid, effective coordinating system among NLDC, RLDCs and SLDCs is of paramount importance. During the examination of the subject, the Committee found that the coordination between RLDC and SLDCs is not as desired. RLDCs do not have adequate power to control erring SLDCs, who are under great control of the respective State Governments, except for giving directions. If any SLDC does not obey these directions, RLDC files a petition in the Central Electricity Regulatory Commission (CERC) who can fine them if found at fault. The Committee during the examination of the subject 'Functioning of CERC' found that in most of the cases even the fine imposed by the CERC have not been realized. As whole of the Country's transmission system will now be synchronized soon, any dereliction/under-performance of SLDCs will have cascading effects and its impact could extend upto entire Country. The Committee, therefore, believe that in view of the growing complexities due to expansion of National Grid it is crucial that there is an effective control mechanism for better coordination between RLDCs and SLDCs for enforcing strict grid discipline. The Committee, therefore, strongly recommend that the

Government should bring out necessary amendments in The Electricity Act, 2003 for giving much needed clout to RLDCs/CERC to deter the erring SLDCs and ensure stricter grid discipline.

Reply of the Government

As per the existing provisions of the Act, SLDCs have to comply with directions of RLDCs .In case of non-compliance CERC may take action. In the past, CERC has imposed penalties on SLDCs several times on this count.

Ministry of Power has constituted a committee under Chairmanship of Chairperson, CEA to examine and recommend amendments in this regard to the Electricity Act, 2003 in April 2012.

In the proposed amendment of Electricity Act, 2003,the penal provisions have been made more stringent to ensure compliance of RLDC directions and CERC regulations/orders. The amendments are under consideration in the Ministry of Power.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

Comments of the Committee

(Please *see* Para No. 14 of Chapter I of the Report)

(Recommendation Sl. No.10, Para No.2.10)

The Committee observe that the SLDCs still do not enjoy the due autonomy and are under influence of State Governments which hampers their efficacious and neutral discharge of the assigned duties provided under the Electricity Act, 2003. This often leads to lack of their coordination with RLDCs. The Committee are of the view that for better coordination between RLDC and SLDC, providing functional autonomy to SLDCs is important so that they can be made neutral and more efficacious in discharge of their duties. The Committee, therefore, also recommend that under proposed amendments in the Act SLDCs should be granted more functional autonomy to play a role of integral component of a National Grid rather of a representative of a particular State.

Reply of the Government

In Electricity Act, 2003, there are provisions to provide functional autonomy to SLDCs. However, it could not be implemented. The matter was discussed in the last meeting of the National Power Committee (NPC) held on 15.04.2013, wherein it was agreed that the states would initiate action in this regard .

To make the existing provisions related to the autonomy to SLDCs more stringent, the amendment in Electricity Act, 2003 is under consideration in the Ministry of Power.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.11, Para No.2.11)

The Committee appreciate the initiative of the Ministry for giving training to 700 employees of various SLDCs to converge them with the latest techniques of grid operations. It is envisaged that the training will improve the capabilities and efficiency of the personnel who man SLDCs. The Committee also endorse the planning of the Ministry to offer one-time incentive of Rs. 20,000 to participate in this training programme to attract more and more personnel of SLDCs to get trained. The Committee feel that though these efforts are praiseworthy, lot more needed to be done in regard to modernizing and reforming the SLDCs. The Committee, therefore, recommend the Government that apart from carrying on and intensifying the said training programme, the State Governments and State Transmission Utilities should be persuaded to sponsor SLDCs personnel for the training and able to provide incentives on successful completion of the same.

Reply of the Government

POSOCO has actively been associated with the entire process of Training and Certification of System Operators in India right from the inception stage to course design and providing expert faculty for training. The First & Second System Operator Examination for Basic Level Certification was held in November, 2011 & December, 2012 respectively. Also, the First System Operator Examination for Specialist Level Certification was held on 17th March, 2013. More than 290 System Operators from SLDCs have been declared successful in the basic level certification. Also, more than 45 System Operators from SLDCs have been declared successful in the Specialist Level examination.

Further, seven (7) training programs for basic level certification of System Operators are being organized by PSTI, Bangalore from July 2013 to Dec 2013, wherein SLDC personnel would be trained. The next Basic Level certification exam is tentatively scheduled to be held on 15th Dec 2013.

A specialist level Certification in Power System Reliability is also being implemented and a number of training programs for this are planned between August 2013 – January 2014.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.12, Para No.2.12)

Grid Discipline

The Committee note that the Country witnessed two massive grid failure on 30th and 31st July, 2012, the second failure being bigger and more severe in impact. The Committee were informed that approximately 36,000 MW of load was lost and power supply in Northern region was not available for around 13 hours on 30th July 2012 and 31st July 2012, approximately 48,000 MW of load was lost and power supply was not available for about 5 hours, 8 hours and 2 hours in Northern, Eastern and North-Eastern regions, respectively. The Ministry of Power constituted an Enquiry Committee to analyse the causes of these disturbances and to suggest measures to avoid recurrence of such disturbance in future. The Enquiry Committee brought out that no single factor was responsible for grid disturbances but several factors such as weak inter-regional corridors, loss of 400 KV Bina-Gwalior-Agra link, inadequate response by SLDCs to RLDCs' instructions etc. led to the collapse of the power systems on both the days. The Committee are aghast by the findings of the Enquiry Committee as it has pointed out several lapses and deficits in defense mechanism. The Electricity Act, 2003 provides for various grid safety measures to be taken with a view to ensure the well functioning and safety of the grid which have not been adhered to by the authorities. This Committee are of the view that the decade long absence of any major grid disturbance has set in complacency and lackadaisical approach in regard to regular examination and revamping of transmission systems in the Country. Due to inattention for a long period, the transmission and grid system in the Country could not match the pace of massive capacity addition in the recent years and ultimately collapsed. The Committee feel that for fulfillment of the vision 'Electricity for All', there is an urgent need not only for quantum increase in generation capacity but also for refurbishment and strengthening of the transmission network of the Country to match the increase in generation capacity for smooth and reliable transmission of electricity from one corner to another. The Committee, therefore, strongly recommend the Government to show utmost urgency in implementation of all the recommendations of the Enquiry Committee in their letter and spirit and in time bound manner to ensure non-repetition of such blackouts in future.

Reply of the Government

All the recommendations of the Enquiry Committee on grid disturbances of 30th and 31st July, 2012 are being implemented in a time bound manner and the implementation is being monitored on regular basis at the highest level in MoP & CEA. Some of the recommendations like - third party protection audit in all regions, review of Zone-3 settings of all inter-state lines by the CTU, Audit of Rihand-Dadri HVDC and Pasauli HVDC, survey to ensure healthiness of under frequency relays and df/dt relays, making all existing PMU functional , tightening of frequency band from 49.5-50.2.to 49.7-50.2 Hz., identification and finalization of various Islanding schemes, coordinated outage planning of inter-State and inter-regional transmission elements, constitution of Task Force for long term grid management, establishment of National Power Committee, revision of Transmission planning criteria (TPC) etc.

have been completed and the remaining ones are at different stages of implementation.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.13, Para No.2.13)

The Committee note that the Under Frequency Relays and df/dt relays are installed in distribution substations of State Utilities for automatic tripping of distribution lines connected to a load centre which forms part of the distribution network. PowerGrid conducted an audit of all these relays in 175 substations of the Northern Region in August, 2012. As per audit, 36 substations did not have the UFRs and df/dt relays, in 99 substations the relays did not operate on the date of disturbance i.e. 30th& 31st July, 2012 as per log book maintained by the substation itself. The relays operated in only 40 substations on date of disturbance. The Committee are indignant to note the negligence in regard to up keep of safety devices which are critical for prevention of grid breakdown of a large scale. Had these devices been working, it was very much possible that the blackouts could have been averted. The absence/malfunctioning of such a large number of devices have lead the Committee to believe that the safety audits of the transmission/ grid network is a rare affair otherwise the faults would have been detected and rectified earlier. The Committee, therefore, strongly recommend that provisions should be made for safety audit at a regular intervals and their findings should be implemented in a time bound manner to ensure safe, reliable and efficient transmission network in the Country. Also there should be unambiguous division of roles and responsibilities in ensuring the installation and upkeep of safety devices/measures so that accountability can be fixed in case of any mis-happenings.

Reply of the Government

Protection audit in all regions has been completed and the preparation of DPRs by the States for renovation and up-gradation of protection systems at their sub-stations has been completed/ is underway in different regions and are being examined in CEA as well as in the Ministry.

Regarding roles and responsibilities in ensuring the installation and upkeep of safety devices / measures it may be mentioned that as per Indian Electricity Grid Code 5.2 System security aspects, RPC Secretariat shall carry out periodic inspection of the under frequency relays and maintain proper records of the inspection. RPC shall decide and intimate the action required by SEB, distribution licensee and STUs to get required load relief from Under Frequency and Df/Dt relays. All SEBs, distribution licensees and STUs shall abide by these decisions.

In order to ensure proper upkeep and availability of safety devices in the grid, it was decided in National Power Committee (NPC) meeting held on 15-04-2013 that all RPCs would ensure healthiness of Under Frequency Relays (UFRs) and rate of change of frequency relay (df/dt relays) through regular inspection in a year of at

least one-third number of total relays installed in their respective region. RPCs would also furnish the status of healthiness of UFRs and df/dt relays installed in the region to CEA on a quarterly basis.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.14, Para No.2.14)

The Committee during the examination of the subject 'Functioning of CERC' had pointed out that Unscheduled Interchange (UI) charges for the period 2002-03 to 2011-12 have cumulative value of Rs. 74,181 crore. The figure itself speaks volume about the misuse of the mechanism. The Committee had also noted that the frequency had dipped to as low as 48.7 Hz. The Committee infer that UI mechanism, actually legitimize the power overdrawl by utilities by paying a little price for it, therefore, instead of enforcing grid discipline, have encouraged the overdrawl of power by the utilities who are ready to pay, leaving the safety of the grid at stake. The Committee are against the idea of generation of revenue through UI mechanism at the cost of grid safety and reliability. The Committee find that UI mechanism has miserably failed to enforce grid discipline and deter overdrawl of electricity by Discoms rather it encourage Discoms to use UI mechanism as an alternative of short term electricity trading. The Committee, therefore, strongly recommend that there is a need for formulation of a regulation which can replace UI mechanism and ensure stricter enforcement of grid discipline by deterring the Discoms to overdraw after a certain frequency. The Committee further recommend that the Government, besides exploring the possibility of adopting disconnection clause in extreme cases, should also incorporate harsh penal provisions for repeated offenders of overdrawl in the said regulation.

Reply of the Government

UI pricing mechanism was introduced to serve the twin objectives of specifying settlement rate for deviations from schedules in normal operating range and ensuring 'grid discipline'. It's intention was to ensure maximisation of generation at optimal cost for grid participants without intervention/direction of system operator. Priority of Grid security is the highest in the operation of the grid, and therefore, the generators / sellers and the beneficiaries/ the buyers should use other avenues like bilateral trading or the trading platforms of power exchanges by availing open access for meeting short term, medium term or long term arrangements or agreements. UI mechanism should not be used as a real time market.

However, there have been instances when this mechanism has not been utilized in the intended manner notwithstanding the fact that the UI mechanism has proved a very useful tool for grid discipline. Before, implementation of UI mechanism, the grid was experiencing wide fluctuations of frequency excursions from 52.5 Hz. – 48.8 Hz. for a considerable period of time. After this mechanism there was tremendous improvement in grid discipline. Presently, frequency remains between 49.7-50.2 Hz. for more than 85% of the time. This has become possible due to UI mechanism.

In CERC regulations, besides the higher UI rate and additional UI charges for overdrawal beyond the stipulated quantum and frequency range, there are provisions to take action under the Act.

The matter related to replacement/amendment in UI mechanism is under CERC consideration.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

Comments of the Committee

(Please *see* Para No. 14 of Chapter I of the Report)

(Recommendation Sl. No.15, Para No.2.15)

The Committee note that with the proposed synchronous interconnection of Southern Region with NEW grid, a single grid of about 2,50,000 MW capacity shall be operated in coming years thereby maintaining grid safety, security and reliability of such geographical spread would be a great challenge. The Committee, therefore, strongly believe that in that scenario any grid malfunctioning, as happened in July, 2012, would have the cascading effect making it more severe by affecting one and all regions. In this scenario, the Committee feel shielding of important cities from blackout in case of grid failure becomes absolutely necessary. The Committee have been informed that Islanding Scheme for various parts of the Country including Delhi is under consideration. The Committee recommend that the proposal of Islanding Schemes for Delhi, other important cities/parts of the Country, as proposed by the Government, should be finalized expeditiously and be implemented within a fixed timeframe.

Reply of the Government

Islanding schemes are prepared to ensure continuity of supply to essential services / specified areas and which also help in quick restoration of the grid in case of grid collapse. Islandingschemes are already operational for a number of cities / towns like Mumbai, CESC (Kolkata), Ahmedabad, Narora (UP), etc. Islanding scheme for Delhi was finalized in October 2012 and is under advance stage of commissioning. Islanding schemes for other important cities / parts of different states of the country, wherever technically feasible, have also been identified / finalized and their implementation is underway. States have been advised by the concerned Regional Power Committees to implement the designed islanding schemes in a time-bound manner.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.16, Para No.2.16)

Transaction of Electricity

2.16 The Committee note that Power Exchanges are the platform for short and medium term transaction of electricity. At present there are two power exchanges in the Country, and more exchanges are being planned. The Committee further note that of the total electricity generation, 10.79% were transacted through short term trading. The Committee also note that average weighted price of electricity transacted during the month of December, 2012 through traders, Indian Energy Exchange and Power Exchange of India Limited was Rs. 4.39/kWh, 3.90k/kWh and 3.08/kWh respectively. It was also observed that on several occasions congestion in both the Exchanges was felt due to limitation in transmission transfer capabilities. The Power exchanges were constituted in order to provide inclusive, transparent and nation-wide competitive platform for better price discovery of electricity. The objective of Power Exchanges is to optimize the available generation capacity at national level, facilitating both, generators and the purchasers of the electricity. As it can be seen that the average weighted price of electricity transacted through exchanges are relatively low than that of through traders. The Committee believe that power exchanges facilitate implementation of the Open Access in transmission and meeting short term and medium term electricity demands of the power utilities which cannot be predicted in advance. The Committee also find that though more than four years have been elapsed since the inception of power exchanges, yet there are several issues that remain to be addressed. The volume of electricity transacted through these exchanges is not much; moreover, most of the transactions are being done through only one exchange. The Committee feel that the reason for the less volume could be the congestion due to the limitations in transmission capabilities. The Committee also find that the top five trading licensees had a share of about 70% in the total volume traded by all the licensees indicating that most of the trading players are not getting participation in these exchanges for whatever reasons. The Committee feel that domination of few players in the power exchanges would defeat the very purpose of creating these platforms. The Committee, therefore, recommend the Government to take some remedial measures to ensure that the power exchanges, existing as well as proposed, should work in a fair and transparent manner and allow the inclusive and active participation of all trading players. Needless to emphasize that the problem of congestion which obstacle the transaction of electricity through these exchanges should be dealt expeditiously by suitable measures.

Reply of the Government

The power market in India is in an evolution stage. The rules and regulations are in place for a smooth and transparent market operation. The market is open for all participants including eligible traders. CERC monitors the market operation and intervenes whenever required. Any amendment required in market rules is under the purview of CERC.

Regarding congestion, it is mentioned that it is a dynamic phenomenon, which depends on several factors including load-generation balance, availability of transmission system, flow pattern of power, power system conditions, economic condition of utility for buying short-term power etc. The power in the system flows under Long-term, Medium term and short-term transactions. The transmission system is planned considering Long-term transactions. In the country, normally, there is no congestion for Long-term transactions. Medium and Short - term transactions are allowed based on the leftover margin available in transmission system after Long-term transactions. There are instances of congestion in medium and short-term transactions. The construction of a large number of transmission line are under different stages of implementation, which would help in removing the bottlenecks, if any, in transmission system. State utilities also have to plan and implement transmission and distribution system to alleviate congestion in power system.

[**Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]**

(Recommendation Sl. No.17, Para No.2.17)

Smart Grid Technology

The Committee note that the power systems in the Country have grown manifolds and their complexities are increasing. With the proposed synchronous interconnection of Southern Region with NEW Grid, there will be a single grid of about 2,50,000 MW capacity operating at one frequency. The Committee feel that maintaining grid safety, security and reliability of such geographical spread is of great challenge. Moreover, the proposed grid interconnection of Renewable Energy, having intermittent and variability features will certainly necessitate technological changes and up gradation of the grid. Against this backdrop, the Committee have been informed that PowerGrid has taken initiative for implementation of Smart Grid Technology in the Country and has implemented Phasor Measurement Units (PMUs) using Wide Area Measurement Systems (WAMS) in Northern Region Grid for the first time. It is envisaged that the Smart Grid Technology will help in substantially bringing down the AT&C losses, improvement in quality of power supply, effective management of peak demand and supply response and grid integration of Renewable Energy. The Committee feel that the Smart Grid Technology, though expensive, is an advanced technology which is being used by many developed countries successfully. They, therefore, recommend the Government to go ahead and expedite the implementation of this technology throughout the Country. The Government should also ensure that lack of funds does not hinder the implementation of this ambitious project. The Committee expect that the Government will provide details about the proposals and progress made in implementation of Smart Grid Technology in the Country in their action taken reply.

Reply of the Government

Full scale implementation of WAMS on pan India basis covering installation of PMU at all 400kV and above voltage level substations of State Transmission Utility (STU), Inter State Transmission System (ISTS) as well as 220kV generation

switchyards, HVDC terminals integrated with regional control centers are being taken up for implementation as a comprehensive “Unified Real Time Dynamic State Measurement (USTDSM) scheme. Total cost of URTDSM project is about Rs. 655 Crore and CERC Regulatory approval of the project is under process.

Use of Information Technology (IT) and Automation in Distribution Sector has been included under on-going R-APDRP Scheme, which is the first step towards Smart Grid implementation in power distribution sector. R-APDRP Scheme includes adoption of IT application for meter reading, billing & collection, energy accounting and auditing, establishment of IT enabled data centers, consumer care centers, GIS mapping, consumer indexing, , Asset mapping, automatic data login & analysis and also implementation of Supervisory Control & Data acquisition (SCADA) system in the selected towns in India. 100% funds is being provided by Govt. of India for the implementation of IT based services under Part A of RAPDRP to the States.

For the systemic growth of the Smart Grid in the country, India Smart Grid Task Force and India Smart Grid Forum have been set up under the aegis of the Ministry of Power.

The main functions of the Smart Grid Task Force is to ensure awareness, co-ordination and integration of the diverse activities related to Smart Grid technologies, practices and services for Smart Grid Research and Development; Co-ordinate and integrate other relevant inter-governmental activities, Collaborate on interoperability frame work and review & validate the recommendations from Smart Grid Forum etc. The Secretariat of ISGTF is at Power Grid which are overseeing the working of ISGTF presently.

India Smart Grid Forum (ISGF) is a public private partnership (PPP) initiative of Ministry of Power, Government of India for accelerated development of smart grid technologies in the Indian power sector. It is a non-profit voluntary consortium of public and private stakeholders, research institutes and selected utilities with the prime objective of accelerating development of Smart Grid technologies in India Power Sector. The goal of the Forum is to help the Indian power sector to deploy Smart Grid technologies in an efficient, cost-effective, innovative and scalable manner by bringing together all the key stakeholders and enabling technologies. The India Smart Grid Forum will coordinate and cooperate with relevant global and Indian bodies to leverage global experience and standards where ever available or helpful, and will highlight any gaps in the same from an Indian perspective.

[Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]

CHAPTER III

RECOMMENDATION/ OBSERVATION WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLY

-NIL-

CHAPTER IV

RECOMMENDATION / OBSERVATION IN RESPECT OF WHICH THE REPLY OF THE GOVERNMENT HAS NOT BEEN ACCEPTED BY THE COMMITTEE AND WHICH REQUIRE REITERATION

(Recommendation Sl. No.2, Para No.2.2)

Strengthening of National Grid

The Committee note that the exploitable energy resources are not uniformly distributed in the Country. Some States have abundant natural resource while some are deprived of the adequate resources to set up power plants. This reason has necessitated the shift in focus of planning the generation and the transmission system in the Country from the orientation of regional self-sufficiency to the concept of optimization of utilization of resources on All-India basis. The Committee further note that the Government has accordingly planned a National Grid by interconnecting of all the existing five regional grids. It has been stated that through establishment of National Grid, optimal setting, development and utilization of power potential through coal, hydro and other resources has been envisaged in the overall interest of the Nation. It is also expected that National Grid would enable exchange of power amongst the regions for optimization of generation resources – transmission of surplus power to deficit region, dealing commercial obligations and meeting emergencies in other regions. During the examination of the subject it came out that at present the Eastern Grid is the only grid which has direct transmission links with the rest of four regional grids. Theoretically, this region, due to favorable transmission interconnection should have been in a better position in terms of the availability of electricity. Ironically, in reality the States of this region have energy deficit as high as 30%. The situation indicates that a National Grid *per-se* is not a solution for the regional imbalances in the Country in terms of availability of electricity. Rather, if not regulated by a fair policy, it could become an instrument for further aggravating the regional imbalance as economically sound States/utilities will be able to grab the electricity meant for the less developed States by bidding at higher rates. In North-Eastern Region, where there is immense potential for hydro power, a high capacity transmission line to facilitate the evacuation of electricity from the region to northern region is underway, whereas the region itself reels under power shortages. Eastern Region, where about 20% population of the Country resides, have only 12% of the total power generation capacity. Furthermore, on the basis of a misconception that the region does not have much demand, a part of that little generated power is being transmitted to other regions. The Committee are not averse to the idea of evacuation of electricity from the regions having power potential to deficit regions, but they have strong objection in regard to depriving the people of that region of their right for having fair amount of electricity. The inclusive growth of the Country is the duty of the Centre. The Committee believe that by creating a National Grid, the Government has done only half part of the task, remaining should be accomplished by formulation of a policy which can effectively address existing regional imbalances in regard to the availability of electricity in the different States/Regions of the Country. The Committee also recommend that the Government should allocate more electricity from the central pool to the

economically weaker Regions/States having acute shortages so that they can also be able to contribute in overall development of the Nation.

REPLY OF THE GOVERNMENT

Regarding deficit in Eastern and North-Eastern Regions, it is to state that, there is overall shortage of power in the country. The shortage varies from state to state and season to season as well as time of the day depending on demand and supply of power. During the current year (April, 2013 to July, 2013), the overall energy and peak shortage in the country was 5.5 % and 6.3 % respectively. The details of State- wise actual power supply position during April, 2013 to July, 2013are given in the **Annexure-I**. From the details it is evident that except Bihar, other States in Eastern region have energy and peak shortages less than 3.8%, which are below the overall shortages in the country. In North – Eastern Region the percentage peak shortage (in %) in all the states is less than the deficit (in %) national average. However, energy deficit (in %) in Assam, Meghalaya and Tripura are more than the national average.

Further, power availability to any State comprises power from its own State Sector generating Stations, power allocation from Central Sector Generating Stations (CGSs) and power purchase from private / State/ Central sector generating stations or other States through bilateral contracts or through Power Exchanges on short-term/medium–term basis. Regarding increase in power availability by setting up more generating units, the pace of generation capacity addition in the country has increased considerably. Generation capacity addition achieved during 11th Five Year plan was 54,964 MW which was about 2.5 times the capacity addition achieved during the 10th Plan period. Generation capacity addition achieved during the year 2012-13 was 20,622.8 MW which is the highest ever capacity addition in a single year in any five year plan period. Capacity addition of 88,537 MW has been planned from conventional sources for the 12th Five Year Plan. With this level of capacity addition, demand for power on all-India basis is likely to be met by the terminal year of 12th Five Year Plan (2016-17).

In addition to setting up power plants itself, states may meet their power requirement through purchase of power through competitive bidding. Government has advised States to tie up for procurement of power through competitive bidding to meet their requirement, based on their anticipated demand supply scenario. However, generation is a de-licensed activity and any party, including any utility can set up a generating plant at any location. States need to provide conducive policies and environment for setting up of power plants by Independent Power Producers (IPPs) or public sector generators. As per policy guidelines future requirement of power should be procured competitively by Distribution licensees, after a fixed timeline set by the Government. The State Utilities are responsible for calling bids to set up power plants, which is a transparent market based mechanism.

For transmitting power from surplus region to deficit region, inter-state transmission lines are planned and implemented. It is the responsibility of power deficit States to assess and plan for import of power and seek inter-regional/ inter-state transmission access from the CTUs/RLDCs under the provisions of Open

Access laid down in the Electricity Act,2003 and relevant regulations notified by CERC. In the present scenario, the integrated grid facilitates State utilities in getting power available in market at reasonable rates from any corner of the country. Thus, National Grid along with development of power market would facilitate in alleviating the regional imbalance, if any, of power availability.

As regards allocating more power from central pool to the deficit regions, power from Central Sector Generating Stations (CGSs) in a Region is allocated to the constituent States /UTs of the Region in accordance with "Central Formula for allocation of power" in two parts. 85% power is allocated as firm allocation (including home state share).The allocation of this 85% firm power among the States is made not only on the basis of power consumption in the States during last five years but also on plan assistance to them during that period. The plan assistance in turn is allocated in greater proportion to the poor/under-developed States, despite low per capita consumption of electricity. The requisition from different States is also considered while allocation of firm power is done from CGSs. Thus, the firm allocation is done considering the willingness of the States to take power as well as the economic condition of the State.

The allocation of remaining 15% unallocated power of CGSs, kept at the disposal of Central Government, is revised from time to time, generally keeping in view factors like emergent and seasonal nature of the requirement, relative power shortages, utilization of existing generation and other power sources, operational and payment performance of the States/UTs of the region.

It may be noted that the Bongaigaon (Assam, NER) – Siliguri (West Bengal, ER) 400kV D/c line created primarily for export of power from NER to ER is now utilised by NER for importing power from ER for about 60% of time. Similarly, prior to 2009, Eastern Region was generally considered a surplus region and power was flowing from the Eastern Region to Western and Northern Regions. However, after 2009, with generation capacity addition in the Western region and Northern Region and load growth in the Eastern Region, the power flow direction has reversed and now power is flowing from the Western Region to the Eastern Region. Thus, the inter-regional transmission systems built over a period of time have facilitated meeting of the demand in the Eastern Region. For example, the Ranchi (Jharkhand, ER) – Sipat (WR) 400kV line, primarily planned for export of power from ER to WR is now mainly utilised for import of power by ER from WR.

In North Eastern Region, in order to address the power deficiencies, two nos. of thermal/ gas generating stations are being developed, viz. Pallatana Power Project with 726 MW capacity by ONGC Tripura Power Company Private Limited (OTPC) in Tripura and Bongaigaon Power Project with 750 MW capacity by NTPC Ltd. in Assam. To increase the thermal share of NER States, entire power of the above two projects has been allocated to NER States only.

[Ministry of Power O.M. No. 9/13/2013-PG dated 18th October,2013]

Comments of the Committee

(Please *see* Para No. 8 of Chapter I of the Report)

CHAPTER V

RECOMMENDATIONS/ OBSERVATION IN RESPECT OF
WHICH FINAL REPLY OF THE GOVERNMENT
IS STILL AWAITED

-NIL-

New Delhi;
12th December, 2013,
Agrahayana 21, 1935 (Saka)

MULAYAM SINGH YADAV
Chairman,
Standing Committee on Energy

APPENDIX-I

MINUTES OF THE FIFTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2013-14) HELD ON 11TH DECEMBER, 2013 IN COMMITTEE ROOM '62' PARLIAMENT HOUSE, NEW DELHI

The Committee met from 1030 hrs. to 1100 hrs.

PRESENT

LOK SABHA

Shri Mulayam Singh Yadav - Chairman

2. Shri P.C. Chacko
3. Shri Shripad Yesso Naik
4. Shri Ravinder Kumar Pandey
5. Shri Padamsinha Bajirao Patil
6. Shri A. Raja
7. Shri Baju Ban Riyan
8. Shri Nripendra Nath Roy
9. Shri Jagada Nand Singh
10. Smt. Pratibha Singh

RAJYA SABHA

11. Shri Bhubaneswar Kalita
12. Shri Kiranmay Nanda
13. Dr. Anil Kumar Sahni
14. Shri Motilal Vora

SECRETARIAT

1.	Shri Brahm Dutt	-	Joint Secretary
2.	Shri N.K. Pandey	-	Director
3.	Smt. L.Nemjalhing Haokip	-	Under Secretary

2. At the outset, the Chairman welcomed the Members and briefly apprised them of the agenda for the sitting. The Committee then took up for consideration of the following draft Reports:

i) 41st Report on 'Implementation of Rajiv Gandhi Grameen Vidyutikaran Yojana'.

ii) 42nd Report on Action Taken by the Government on the recommendations contained in the 36th Report on 'International Cooperation in New and Renewable Energy Sector'.

iii) 43rd Report on 'Development of Hydro Sector'.

iv) 44th Report on Action Taken by the Government on the recommendations contained in the 37th Report on 'Development of National Grid'.

3. After discussing the contents of the Reports in detail, the Committee adopted the aforementioned draft Report without any change.

4. The Committee also authorized the Chairman to finalise the above-mentioned Report and present the same to both the Houses of Parliament in the current Session.

5. The Committee placed on record their appreciation for the invaluable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

6. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

The Committee then adjourned

APPENDIX-II

(*Vide* Introduction of Report)

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE RECOMMENDATIONS/ OBSERVATIONS CONTAINED IN THE 37th REPORT (15TH LOK SABHA) OF THE STANDING COMMITTEE ON ENERGY

(i)	Total number of Recommendations	17
(ii)	Recommendations/ Observations which have been accepted by the Government: Sl. Nos. 1,3,4,5,6,7,8,9,10,11,12,13,14,15,16 and 17	
	Total: Percentage	16 94%
(iii)	Recommendation/ Observation which the Committee do not desire to pursue in view of the Government's reply: - Nil -	
	Total: Percentage	00 00%
(iv)	Recommendation/ Observation in respect of which the reply of the Government has not been accepted by the Committee and which require reiteration: Sl. No. 2	
	Total: Percentage	01 6%
(v)	Recommendation/ Observation in respect of which final reply of the Government are still awaited: - Nil -	
	Total: Percentage	00 00%