

14

**STANDING COMMITTEE ON
ENERGY
(2010-2011)**

FIFTEENTH LOK SABHA

MINISTRY OF POWER

**TRANSMISSION AND DISTRIBUTION
SYSTEMS AND NETWORKS**

FOURTEENTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

March, 2011/Phalgun, 1932 (Saka)

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(2010-2011)

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TRANSMISSION AND DISTRIBUTION
SYSTEMS AND NETWORKS

*Presented to Lok Sabha on 18th March, 2011
Laid in Rajya Sabha on 18th March, 2011*



LOK SABHA SECRETARIAT
NEW DELHI

March, 2011/Phalguna, 1932 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY
(2010-2011)

Shri Mulayam Singh Yadav—*Chairman*

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**Nominated *w.e.f.* 18th October, 2010 *vice* Shri Arjun Munda

#Ceased to be member of the Committee *w.e.f.* 28th January, 2011

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2. Shri N.K. Pandey — *Additional Director*
3. Smt. Neena Juneja — *Executive Officer*

*Nominated *w.e.f.* 21st September, 2010

INTRODUCTION

I, the Chairman, Standing Committee on Energy, having been authorized by the Committee to present the Report on their behalf, present this Fourteenth Report on “Transmission and Distribution Systems and Networks” pertaining to the Ministry of Power.

2. The Committee took evidence of the representatives of the Ministry of Power on 17th June, 2010 and 28th September, 2010. The Committee wish to express their thanks to the representatives of the Ministry for appearing before the Committee for evidence and furnishing the information, desired by the Committee in connection with the issues relating to the subject.

3. The Report was considered and adopted by the Committee at their sitting held on 3.3.2011.

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. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part-II of the Report.

NEW DELHI;
8 *March*, 2011

17 *Phalgun*, 1932 (*Saka*)

MULAYAM SINGH YADAV,
Chairman,
Standing Committee on Energy.

REPORT

PART I NARRATION ANALYSIS

INTRODUCTORY

Elaborating on the brief history on development of transmission system in the country, the Ministry have explained that at the time of independence, power systems in the country were essentially isolated systems developed in and around urban and industrial areas. The installed generating capacity in the country was only about 1300 MW and the power system consisted of small generating stations feeding power radially to load centres. The highest transmission voltage was 132 kV. The state-sector network grew at voltage level up to 132 kV during the 50s and 60s and then to 220 kV during 60s and 70s.

2. During the 3rd Five Year Plan, the concept of Regional planning in Power Sector was introduced. Accordingly, for the purposes of power development planning, the country was demarcated into five power Regions *viz.* Northern, Western, Southern, Eastern and North-Eastern. In 1964, the Regional Electricity Boards were established in each of the Regions of the country for facilitating integrated operation of State Systems in the Regions and encouraging exchange of power among the States. To encourage the States to build infrastructure for exchange of such power, inter-State lines were treated as Centrally sponsored and the States were provided interest free loans outside the State Plan.

3. The Ministry of Power have further informed that till about 1975 the development of transmission was essentially by the State Electricity Boards/electricity Departments in the States and Union Territories. In 1975, to supplement the efforts of the States in increasing generation capacities, Central Sector generation utilities *viz.* National Hydroelectric Power Corporation (NHPC) and National Thermal Power Corporation (NTPC) were created. These corporations established large generating stations the benefits of which were shared by the States of region. These corporations also

undertook development of associated transmission lines, for evacuation of power and delivery of power to the beneficiary States transcending State boundaries. This gave a fillip to the formation of Regional Grid systems and by the end of 1980s, strong Regional networks came into existence.

4. Further in 1989, transmission wings of Central generating companies were separated to set up Power Grid Corporation of India (POWERGRID) to give thrust to implementation of transmission system associated with Central generating stations and inter-Regional transmission programme based on perspective planning done by Central Electricity Authority (CEA). Till then, the generation and transmission systems in the country were planned and developed on the basis of regional self-sufficiency and the initial set of inter-regional links developed under the Centrally sponsored programme for building inter-state infrastructure of State utilities was utilized to facilitate exchange of operational surpluses among the various regions in a limited manner because the Regional Grids operated independently and had different operational frequencies and the power exchanges on these inter-regional links could take place only in radial mode.

5. While providing a liberal framework for power sector, the Electricity Act, 2003 lays emphasis on development of efficient, coordinated and economical inter-state transmission system for smooth flow of electricity from generating stations to the load centres. It provides for non-discriminatory open access to the transmission systems to a licensee or a generating company or an open access consumer.

6. Elaborating on the achievements at present, the inter-regional transmission capacity of the national grid is 20750 MW and it is likely to increase to 32650 MW by the end of 11th Plan. Total length of transmission lines at 220 kV and above in the country is 238742 CKm and the total capacity of 220 kV and above sub-station in the country is 326552 MVA up to May, 2010. In the first three years of the 11th Plan about 50% of the planned transmission addition has been achieved. The Ministry of Power have further stated that there were no bottleneck in evacuation of power from various generating stations. On the 11th Plan outlay of POWERGRID is about Rs. 55000 crore, out of which about Rs. 25000 crore have been invested.

**A – ACHIEVEMENT OF TARGETS IN THE TRANSMISSION
SECTOR (10TH AND 11TH PLAN TARGETS)**

1.1 As stated by the Ministry the initial target for inter-regional transmission capacity during 10th Plan was to add 15400 MW and due to rescheduling of Barh generation project from the 10th Plan, the target was reduced by 3200 MW and therefore, revised to 12200 MW.

The Ministry have given the following figures for region-wise capacity transmission targets:—

Sl.No.	Regions	Target (MW)	Achievement (MW)
1.	ER- SR	3000	2500
2.	ER-NR	5700	3300
3.	ER-WR	2400	1400
4.	NR-WR	1100	1100
	Total	12200	8300

Therefore, as against 12,200 MW the actual achievement was 8300 MW.

1.2 When the Ministry was asked to give the reasons for non-achievement of the target, the Ministry in a written reply have stated:

“The shortfall in achievement of 10th Plan target of 3900 MW was mainly on account of generation slippages. The shortfall of 3900 MW was on account of slippage of — (a) upgradation of Talcher-Kolar (500 MW) , (b) Ranchi-Sipat 400 kV D/C (Double Circuit) (1000 MW), (c) Biharshariff-Balia 400 kV D/C quad (1600 MW) and (d) one circuit of Patna–Balia 400 kVD/C (quad) line (800 MW).”

1.3 Further elaborating the reasons, the Ministry have given the following project specific reasons for the delay in commissioning of above lines:—

“ER-WR

- (a) Ranchi-Sipat 400 kV D/C (Double Circuit) (1000 MW) : Due to delay in getting forest clearance for WR portion (Sipat-Pilki Section) of the line, the project got delayed and line was commissioned in Dec.’08.

ER-NR

- (b) Biharshariff-Balia 400 kV D/C Quad (1600 MW) : Line was commissioned in Aug.’07 (first circuit) and Oct.’07 (second circuit). Delay in completion of line was due to delay in land acquisition of Balia Sub-station. Further, the works could not be started as local villagers were demanding higher compensation.”

NR-WR

- (c) One circuit of Patna–Balia 400 kV D/C (quad) line (800 MW): Line was test charged in Mar.’07 (10th Plan) and declared under commercial operation in Apr.’07. Hence, technically there was no delay except the change of financial year and plan period.

ER-SR

- (d) Upgradation of Talcher-Kolar (500 MW): This link was earlier targeted to be commissioned in 10th Plan. However, as per its investment proposal, commissioning schedule worked out to May’08. Considering system requirement all efforts were made and this was commissioned in July’07. However, no power evacuation constraint was faced on account of above.

1.4 The Ministry have further explained that during the 10th Plan there was no year-wise target. The cumulative target of 12,200 MW was set for the 10th Plan against which 8,300 MW was achieved. Explaining their difficulties, the Ministry have informed that for the transmission lines in question, PGCIL took timely action and forest proposal for 400 kV D/C

Ranchi-Sipat line was submitted to concerned State forest authorities in November, 2005. However, delay in forest clearance could not be foreseen well in advance as Hon'ble Supreme Court stayed the proceedings of Forest Advisory Committee (FAC) and Forest clearance process in October, 2006. In order to expedite forest clearance, PGCIL approached Hon'ble Supreme Court in December, 2006 and after three hearings, the stay was vacated by Supreme Court on 27.04.2007 with the condition that all recommendations of FAC shall be put up to them through Central Empowered Committee (CEC) and only after the approval of Supreme Court, forest clearance can be processed/issued. Subsequently, Stage-II forest clearance was granted by Ministry of Environment and Forests *vide* order/circular dated 05.05.2008 and the line was commissioned in December, 2008. The process of land acquisition for Balia sub-station was also initiated timely. However, the resistance from land owners was arisen only during implementation of the scheme. The works could not be started in time as local villagers were demanding higher compensation. However, to resolve the issues, PGCIL continuously followed up the matter with the concerned authorities. Matter was also taken up with concerned State Government Officials, through Ministry of Power, and the issue was timely appraised at various meetings also.

1.5 When asked whether non-achievement of the transmission target is also related to non-completion/delay in completion of projects, the Ministry informed that completion of Transmission system associated with generation projects is ensured matching with commissioning of the plant. In case of delay in power plant, completion of associated transmission system is slowed down to avoid the idleness of the transmission system and locking up of capital investment/funds.

1.6 Asked whether the year-wise targets have been planned for the 11th Plan and beyond, the Ministry have replied:—

“For 11th plan, year-wise targets were fixed based on the progress of implementation of transmission projects matching with the commissioning schedule of generation projects. In fact, such targets are now included in the tripartite Memorandum of Understanding (MoU)

signed by PGCIL with the Ministry of Power and Department of Public Enterprises for each year for effective monitoring of the planned targets.”

1.7 Elaborating on the 11th Plan targets, the Ministry of Power have stated:—

“Cumulative target of about 18,600 MW Inter-Regional power transmission capacity addition was set for the XI Plan matching with generation addition, this includes 1600 MW to be done by the private sector. Initially no year-wise targets were set for the same. In the years 2007-08 and 2008-09 achievement has been 2400 MW and 3300 MW, respectively. Against a target of 2600 MW for 2009-10, achievement was 1000 MW. For the year 2010-11, the target is 1600 MW.”

1.8 Explaining the status of some of the projects in the eastern region of the country and their status. The Ministry have replied:—

“Nabinagar (4×250 MW) power Project likely to come progressively from Sept.’12. onwards. Evacuation system for Nabinagar TPS is under implementation and planned to be completed matching with generation.

Barh-I (3×660 MW): Initially generation project commissioning was scheduled for Sep.’09 and transmission system implementation was taken-up matching with the generation project. However completion of generation projects got repeatedly delayed.

Power Grid Corporation of India Limited (PGCIL) has planned to add 7200 MW in balance period of XI Plan i.e. FY 2010-11 & 2011-12.

- (a) 400 KV D/C Barh – Balia (Quad) Line (1600 MW)— Commissioned in Jun.’10.
- (b) 400 KV D/C Rourkela – Raigarh Line alongwith FSC (1400 MW) — Work in progress. All efforts are being made to complete the line in FY 2010-11.
- (c) 765 KV S/C Gaya – Balia Line (2100 MW) — Work in progress and line is expected to be completed by Mar.’12.

- (d) 765 KV S/C Ranchi – WR Pooling point Line (2100 MW)—Work in progress. In this acquisition of land at Ranchi is critical, which is being expedited with the active support of Government of Jharkhand and same is likely to be acquired by Sept.’10 and line is scheduled for completion in 2011-12.

Ministry of Power is providing all support with regard to forest clearance and land acquisition to facilitate timely completion of lines.”

1.9 Explaining further about the details of targets fixed for the year 2010-11, the Ministry has stated that originally, there was no inter-regional line planned to be commissioned during Financial Year 2010-11 as per the approved commissioning schedule of lines. However, backlog of Financial Year 2009-10 has been planned to be achieved during Financial Year 2010-11 as under:—

- (i) Barh-Balia 400 KV D/C (Quad) line (1600 MW) which was affected due to non-readiness of switchyard at Barh, due to delay in Barh Generation Project by NTPC is already commissioned in June’10; and
- (ii) Completion of Rourkela-Raipur 400 KV D/C (2nd line) (1400 MW) with fixed series capacitor, which was affected due to delay in forest clearance. Now, MOE&F with the intervention of MoP has given special permission (in July.’10) to work in forest stretch, pending compliance under Forest Right Act, 2006. PGCIL is making all efforts to ensure its completion during current FY 2010-11.

1.10 The Ministry have informed that 6,700 MW of inter-regional links have already been added during first three years of the Plan. Inter-regional links of 7,200 MW capacity shall be added during FY 2010-11 and 2011-12. The balance 4,700 MW inter-regional capacity addition is under various stages of implementation/ finalisation. However the implementation may slip to early XII Plan. Such shortfall is mainly due to deferment of Sasaram-Fatehpur 765 S/C line (2100 MW) on account of delay in generation capacity addition in Eastern Region like North Karanpura, Barh & Nabinagar etc. Further, LOI for Bongaigaon – Siliguri 400 KV D/C (Quad) line

(1600 MW) which is being implemented through competitive bidding route was issued in January 2010 with implementation period of three years. The South-West Inter-regional link (1000 MW) is also likely to be commissioned in early XII Plan. However, all efforts shall be made to expedite the progress of these links so as to commission them at the earliest.

1.11 When asked on how the Ministry proposed to cover a target of 5600 MW during the balance period of the 11th Plan, the Ministry of Power explained that all efforts are being made by PGCIL to achieve the inter-regional power capacity addition during balance period of the 11th Plan elaborating further for 400 D/C Rourkela – Raipur (1400 MW) line, MOE&F with the intervention of Ministry of Power has been given special permission (in July, 2010) to work in forest stretch, pending compliance under Forest Right Act, 2006. PGCIL immediately took up the work and is making all efforts to ensure its completion during current Financial Year, 2010-11. Further 765 KV S/C Ranchi–WR Pooling Point (2100 MW) line is progressing as per schedule. However, the land for construction of 765/400 KV Ranchi Substation is yet to be handed over. Matter is being continuously followed with State Administration and with a lot of persuasion, section-11 of the Land Acquisition Act, 1894 could be issued in July, 2010 but still some land owners are not accepting the compensation. Pending acquisition of land, PGCIL has already gone ahead with award of substation package and other procurement activities. The matter is being followed up vigorously for acquisition of land, which is expected shortly. PGCIL is planning to complete the priority works and commission the link in Financial Year 2011-12. Further, 765 KV Gaya–Baliala Line (2100 MW) line is progressing as per schedule and is likely to be commissioned in Financial Year 2011-12.

1.12 The Ministry of Power have explained that targets set for commissioning of transmission lines for each year are fixed, based on the physical progress of lines which are matched keeping in view the commissioning plan of associated generating stations.

1.13 When asked to comment on the evacuation of power from the difficult terrain areas and NE region, the Ministry have replied:—

“For evacuation of power from the States of J&K, Himachal & Uttarakhand, transmission system has been planned as per the

requirement of the projects which would come in a certain time frame. Further, North Eastern Region (NER), Sikkim and Bhutan are endowed with large hydro potential of about 50,000 MW. Considering the growth of power demand in the area, about 42,000-45,000 MW is estimated to be surplus and it needs to be transmitted to the power deficit Northern, Western and Southern Regions over long distance through the narrow corridor of the Chicken-neck area, located in Siliguri District of West Bengal as well as the difficult terrain of NER. Since, availability of power transmission corridor in this chicken neck area is limited due to requirement of space for habitation, railways, roads, oil & gas pipelines, communication links etc. and is gradually getting constricted, high capacity transmission systems are required to evacuate power from NER in the future.

As the development of hydro potential in NER is planned in a phased manner, the energy available from the generation projects in initial stages may be less compared to the investments, thereby beneficiaries may have to initially bear the burden of high cost of delivered power. Also, in view of the fact that to evacuate power from hydro-generation resources, transmission lines are required to be designed and built to accommodate peak load power generation from hydel power plant and therefore transmission system costs relatively more.”

1.14 When asked to specify, the programme for the 12th plan period, the Ministry have informed that based on the tentative capacity addition programme in the 12th Five Year Plan, broad contour of transmission plan comprising high capacity 765KV AC and +600KV/800kV HVDC system for the 12th Plan period has been evolved for transfer of power from various generation projects under central/private sector. Large thermal stations are proposed to come up in Chhattisgarh, Orissa, Jharkhand, Madhya Pradesh, coastal Andhra Pradesh and Tamil Nadu etc. Hydro projects are proposed to come up in various river basins in Sikkim, Bhutan, North-Eastern Region, Uttarakhand and Himachal Pradesh. Development of most of these generation projects is envisaged under Independent Private Producers (IPP).

B—ENVIRONMENTAL AND FOREST CLEARANCE FOR TRANSMISSION PROJECTS

2.1 Giving details about Forest clearance, the Ministry of Power have submitted in written reply:—

“1st Stage forest clearance is generally received in 6-7 months from the date of submission of proposal. Compliance of the conditions set therein involves about 2-3 months. After the compliance, final clearance received within 1-2 month. So, the process used to take minimum of about one year. However, as per recent MOE&F Circular dated July/ Aug.’09, written consent of all Gram Sabhas in transmission line route is compulsory under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (FRA, 2006). As transmission line passes through a long stretch involving many Gram Sabhas/ Panchayats, obtaining No Objection Certificate (NOC) from these Gram Sabhas/ Panchayats is very lengthy and complex. This may lead to very long time in getting final forest clearance. To ensure timely completion of the project, PGCIL has requested to exempt PGCIL from the above NOCs, as such there is no acquisition of land for construction of transmission line.”

2.2 When the Ministry was asked to specify the projects which await forest clearance in the transmission sector and whether it was a major hurdle in achievement of targets. The Ministry have informed:—

“One Inter-regional transmission line namely 400 KV D/C Ranchi-Rourkela-Raigarh Line associated with East-West Transmission Corridor Strengthening got delayed on account of forest clearance. The line was planned to be completed during FY 2009-10, but due to delay in forest clearance, its completion is affected. 1st Stage clearance for Rourkela-Raigarh has been received in Oct.’09 & final clearance is still awaited. Recently as a special case Ministry of Environment and Forests (MOE&F) have permitted PGCIL to go ahead with construction activity pending final clearance.”

2.3 Asked whether the Ministry of Power has taken up the matter of forest clearance with the Ministry of Environment and Forests, the Ministry has explained in a written reply:—

“Ministry of Power has taken up the issue of Forest Clearances in respect of PGCIL’s transmission projects with the Ministry of Environment and Forests (MOE&F) seeking the following:

- (i) Keeping in mind that transmission project has negligible environment impact on forest and its habitants, including the tribal people, transmission projects may kindly be exempted (or relaxed by providing extra time for compliance of FRA provisions) from the purview of MoEF circular No. F.No.11-9/1998-FC(pt), dated 30.7.2009 as a special case.
- (ii) PGCIL’s request for permission to start work after in-principle (Ist stage) Forest clearance may be considered, on the basis of an undertaking that PGCIL would comply with all the stipulated conditions, in due course.

The above proposed relaxation will save about 4-12 months of precious time in implementation period of the transmission projects of national importance. These issues were taken up *vide* D.O. letter No.11/22/2010-PG dated 18.8.2010 from Minister of Power with Minister of State (I/C) for Environment and Forests and the reply from the MOE&F is awaited.”

2.4 Elaborating further on the number of clearances required for the transmission sector the Ministry have informed that MoEF *vide* its circular No. 11-9/1998 – FC (PT) dated 3rd August, 2009 directed that all State Governments that all forest proposals requiring diversion of forest land for non-forest purposes under the forest (conservation) Act 1980 has to provide the following:

- (a) A letter from the State Government certifying that the complete process for identification and settlement of rights under the FRA has been carried out for the entire forest area proposed for diversion, with a record of all consultations and meetings held;

- (b) A letter from the State Government certifying that proposals for such diversion (with full details of the project and its implications, in vernacular/local languages) have been placed before each concerned Gram Sabha of forest dwellers, who are eligible under the FRA;
- (c) A letter from each of the concerned Gram Sabhas, indicating that all formalities/processes under the FRA have been carried out and that they have given their consent to the proposed diversion and the compensatory and ameliorative measures, if any, having understood the purposes and details of proposed diversion;
- (d) A letter from the State Government certifying that the diversion of forest land for facilities managed by the Government as required under section 3(2) of the FRA have been completed and that the Gram Sabhas have consented to it;
- (e) A letter from the State Government certifying that discussions and decisions on such proposals had taken place only when there was a quorum of minimum 50% of members of the Gram Sabha present;
- (f) Obtaining the written consent or rejection of the Gram Sabha to the proposal.

2.5 Such consents and Gram Sabha's NOC are required to be compulsorily submitted either alongwith the proposal for new cases or before Stage-II or final clearance. MoE&F have been requested to exempt (or relax by providing extra time for compliance) of FRA provisions from the purview of above-mentioned circular. If the request is acceded to, 4-12 months of implementation period will be saved.

2.6 It was also enquired whether transmission system can be laid underground, the Ministry informed that, Crop Tree compensation as assessed by the authorities is paid to the owners to compensate damage to the crops during construction and heavy maintenance activities of transmission lines. Further, land compensation, in case of transmission line is paid to the owners in some States like Kerala, J&K etc. as per prevailing

law of the land. In Kerala land compensation for transmission line corridor is given and in J&K, land compensation for towers is given. Presently, the extra high voltage transmission of power for long distances through underground cables is significantly costlier than overhead transmission lines in view of capital cost and other system planning considerations. Use of 400 kV or 800 kV EHV cable would result in increased cost of the projects and this in turn will lead to high transmission tariff to the consumer. However, upto 220 kV, PGCIL has used underground cables of short lengths in some of the sub-stations like Maharani Bagh, Gurgaon etc. and shall be using in sub-stations in Navi Mumbai, Manesar etc. where it has been practically impossible to obtain Right-of-Way (RoW), for example, in very densely populated city areas.

2.7 Further the Ministry have expressed their difficulty as PGCIL activities are under regulation of Central Electricity Regulatory Commission (CERC). The CERC has specified fixed time schedule for commissioning of transmission lines of different voltage ranging from 18 months to 36 months depending upon the terrain. The new transmission projects are conceived considering capacity addition of generation projects and any delay in commissioning of associated transmission project may result in bottling up of generated power. Unlike other linear projects, transmission projects span over hundreds of kms and, at times, cross many States and a number of Gram Sabhas. As per the Laws of the Land, land for tower footing is not required to be acquired and ownership of land remains with the owner and he/she is allowed to continue cultivation even after construction. The number of Gram Sabhas involved in long transmission line projects will be substantial and obtaining their consent under FRA and linking the same with forest proposal is likely to delay the forest clearance process significantly. The transmission projects apart from being a linear project are drawn substantially high above the ground avoiding possible encounter with ecologically sensitive areas as well as habitations. Diversion of forest land for transmission projects has negligible impact on forests and there is no alteration in land use patterns, as well.

C—DEVELOPMENT OF THE NATIONAL GRID AND REGIONAL TRANSMISSION SYSTEM

3.1 The Ministry of Power have stated that starting with isolated State grids of the 1960's, we have moved to strongly connected inter-regional grids. Except for the Southern Region the rest of the country operates at single synchronous frequency. The Southern Region is connected with the rest of all India grid through strong HVDC links having 4500 MW capacity. The transmission system of regional grids facilitate delivery of power to the State grids, the National Grid is an important component for facilitating delivery of electricity without congestion. Presently, the 400 kV inter-State transmission lines constitute the backbone of the inter-State transmission system. But, in the times to come there is likelihood of creation of a layer of 765 kV inter-State transmission system.

DEVELOPMENT OF NATIONAL GRID

3.2 The exploitable energy resources in our country are concentrated in certain pockets. As a result, some regions do not have adequate natural resources for setting power plants to meet future requirements whereas others have abundant natural resources. This has necessitated formation of National Power Grid to transmit power from resource rich to deficit areas as well as to facilitate scheduled/unscheduled exchange of power. Further, acquiring Right-of-Way (RoW) for constructing transmission system is getting increasingly difficult. This necessitates creation of high capacity "Transmission Highways", so that in future, constraints in RoW do not become bottleneck in harnessing natural resources.

3.3 When asked to elaborate on the development of National Grid, the Ministry informed:—

"A perspective transmission plan has been evolved for regional power transfer capacity of National Grid. By the end of November 30, 2009 about 20,800 MW of inter-regional power transfer capacity of National Grid has been established. Presently, four major power regions of the

country namely, North-Eastern, Eastern, Western and Northern are operating as one synchronous grid.”

3.4 When it was pointed out during evidence that capacity of the National Grid was relatively low and keeping in view, the capacity addition target of 62,000 MW during 11th Plan what efforts were being made to increase the capacity of National Grid. The Ministry stated:—

“During presentation before the Committee, it has been informed that there has been a growth of inter-regional transmission capacity of 5,750 MW in March, 2002, which has arisen to 20,750 MW and the anticipated growth of inter-regional transmission capacity by March, 2012 (end of XI Plan) is 32,650 MW.”

3.5 The Ministry of Power has given the present status of the transmission lines programme and achievement for X Plan in the table shown below:—

Voltage level	XI Plan Programme	Achievement in first 3 years	Target for balance 2 years
765 kV	2,773	1,379	1,394
+500 kV HVDC	1,600	1,600	-
400 kV	40,186	21,631	18,555
220 kV	24,396	13,470	10,926
Total	68,955	38,060	30,895

3.6 Present status of the transformation capacity of sub-stations programme and achievement for XI Plan in the table given below:—

Voltage level	XI Plan Programme	Achievement in first 3 years	Target for balance 2 years
1	2	3	4
765 kV	24,000	4,500	19,500

1	2	3	4
+500 kV HVDC	3,000	500	2,500
400 kV	41,300	23,485	17,815
220 kV	58,400	32,628	25,773
Total	1,26,700	61,113	65,588

HIGH CAPACITY POWER TRANSMISSION CORRIDOR

3.7 Elaborating on the transmission system, the Ministry have informed, during a presentation before the Committee that nine high capacity transmission corridors will be coming up in the future.

HIGH CAPACITY POWER TRANSMISSION CORRIDOR FOR FUTURE

High Capacity Power Transmission Corridor (HCPTC)	Estimated cost Rs. in crs.
1	2
HCPTC-I (Transmission system with Phase-I Generation Projects in Orissa)	8,752
HCPTC-II (Transmission system with IPP projects in Jharkhand)	5,709
HCPTC-III (Transmission system with IPP projects in Sikkim)	1,304
HCPTC-IV (Transmission system with IPP projects in Bilaspur Complex, Chhattisgarh & IPPs in Madhya Pradesh)	1,243
HCPTC-V (Transmission system with IPP projects in Chhattisgarh)	28,824

1	2
HCPTC-VI (Transmission system with IPP Projects in Krishnapatanam, AP)	2,065
HCPTC-VII (Transmission system with IPP projects in Tuticorin Area, TN)	2,357
HCPTC-VIII (Transmission system with IPP projects Srikakulam Area, AP)	2,986
HCPTC-IX (Transmission system with IPP projects in Southern Region for transfer of power to other regions)	4,821
Total	58,051

3.8 When the Ministry was asked about the challenges in the future in regards to transmission sector, the Ministry have informed:

“Uncertainty about the commencement of IPP projects and their commissioning programme and beneficiaries of IPP projects are not identified. Obtaining Right-of-Way (RoW) for building transmission lines is becoming increasingly difficult. Long distances between sources of generation and load centres requiring huge investment.”

INTRA-STATE & INTER-STATE TRANSMISSION SYSTEMS

3.9 As informed by the Ministry, the transmission systems that are in place in the country consist of Inter-State and Intra-State Transmission systems. Inter-State Transmission System is mainly owned and operated by CTU viz. PGCIL. This mostly consists of 400 kV, HVDC, 765 kV systems, and also 220 kV systems in some of the States of NER and J&K Inter-State transmission serves the following purpose:

- Evacuation of power from the generation projects of Central Generating companies, multi-beneficiary IPP generation project in which the beneficiaries are located outside the State/Region.

- Onwards transmission of power for delivery of share in Central sector and Multi-beneficiary IPP generation projects up to the delivery point of the State grid.
- Transfer of operational surpluses from surplus State to deficit State or from surplus region to deficit region.

3.10 Intra State transmission system within the State is mainly owned and operated by the respective State Transmission Utilities (STU) of each State. This is mostly at 132 kV and 220kV and also at 400kV in some of the States. Maharashtra has HVDC system also under the State sector. The Intra State transmission service the following purpose:

- Evacuation of power from the generation within the State including that from State sector generation as well as IPPs.
- Onwards transmission within the States of their share in Central sector and Multi-beneficiary IPP generation and also of power received through inter-State trading. This covers transmission from regional grid network delivery points up to the various substations of the State grid network.
- Intra-State transmission within the State grid for delivery of power to the load centers within the State.

3.11 Transmission addition programme for the 11th Plan as specified by the Ministry and as given in the National Electricity Plan (2007) was assessed corresponding to about 78 GW generation capacity addition during 11th Plan. If the generation capacity addition is revised, and it is felt that a total of about 62 GW of generation capacity might be achieved as compared to 78 GW during 11th Plan period, the transmission addition would also be revised correspondingly, mainly on account of slippage of generation projects. A comparative list of transmission lines and substation addition programme for 11th Plan (as per National Electricity Plan), achievements during the April, 2007 to October, 2009 period, programme as revised corresponding to 62 GW capacity addition for 11th Plan and the targets for

the remaining period of 11th Plan i.e. from November, 2009 to March, 2012, are given in the following Table:—

Voltage Level	Programme for 11th Plan (NE Plan)	Achievement (April, 07 to Oct, 09)	Programme of 11th Plan (Revised 62 GW)	Target for Remaining period of 11th Plan (Nov., 09 to March, 12)
Transmission lines	CkM	CkM	CkM	CkM
765 kV	5428	1088	2773	1685
HVDC	5206	1480	1600	120
400kV	49278	16982	40186	23204
220kV	35371	10813	24396	13583
Sub-Stations	MVA	MVA	MVA	MVA
765 kV	51000	4500	24000	19500
HVDC (MW)	6000	500	3000	2500
400kV	52058	21095	41300	20205
220kV	73503	27688	58400	30712

3.12 Further, in addition to above, 3077 Ckm of line is ready for commissioning by PGCIL but the same is held up due to delay in the commissioning of generation projects.

3.13 Elaborating on the details of exchange of power from surplus State to deficit State, the Ministry of Power have stated that the transfer of power can be as per the following:

- **Bilateral Transaction** – Deficit States can enter into bilateral contracts with surplus States, either directly or through licensed traders at mutually negotiated price as per CERC's Open Access Regulations, 2008.

- **Collective Transaction** – Deficit States can buy power and surplus States can sell their surplus power on day ahead basis through Power Exchanges as per CERC’s Open Access regulations, 2008 and Power Market regulations, 2010. Rate for sale and purchase of power is discovered in the power exchange platform.
- **Unscheduled Interchange (UI)** – As per Availability Based Tariff (ABT) mechanism, Unscheduled Interchange transactions are permitted. The deficit States can draw power, more than their schedule, within limits at rates notified in CERC’s Unscheduled Interchange Regulation, 2010.
- **Congestion** – Power flow on account of the above transactions may sometime cause congestion in the transmission system. To deal with this situation CERC has notified ‘Measures to Relieve Congestion in Real Time Regulation, 2010’.

3.14 Further CERC has issued Regulations for grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters, with a provision for sale and purchase of power under medium term open access upto a period of 3 years. The rates for Bilateral Exchange of power are at mutually negotiated price. For Collective Transactions, the rates are determined through Power Exchanges. Unscheduled Interchange rates are as per the rates notified by CERC. Inter-State transfer of power takes place through respective RLDCs, SLDCs.

3.15 Asked to specify whether any other schemes have been launched by the Government for strengthening the transmission system in the country it was informed that PGCIL is implementing a scheme namely, strengthening of sub-transmission system in Bihar under Rashtriya Sam Vikas Yojana of Government of India on consultancy basis in two phases at an estimated cost of Rs. 2700 crore as per details given below:—

Phase-I – PGCIL has completed the project and handed over to Bihar Government.

Phase-II, Part-I – Major portion completed progressively by June, 2010. Balance elements could not be completed, as land for bays at Darbhanga, Kataiya and Betia has not been made available to PGCIL by the State Government.

Phase-II, Part-II – Scheduled completion is June 2011. However, the project completion may be delayed as land for 7 new sub-station is yet to be made available.

3.16 The intra-State transmission system of Jammu and Kashmir has been included in the Prime Minister Reconstruction Plan (PMRP) to J&K sanctioned in 2007. Under this package the estimated cost of intra-State transmission system is about Rs.1351 crores (Rs. 615 crores has been sanctioned for Jammu region and Rs. 736 crores has been sanctioned for Kashmir region). Out of this amount Rs. 366.60 crores expenditure has been incurred up to 31st May, 2010 for Jammu region and an amount of Rs. 391.80 crores expenditure has been incurred up to 31st May, 2010 for Kashmir region.

3.17 Asked to specify the achievements, the Ministry have informed that no specific information has been given on the achievements actually made as a result of loss reduction in the States. The Ministry has simply informed that the projects are being implemented for strengthening of sub-transmission in Bihar and J&K. From the data supplied to the Committee, it was seen that State-wise AT&C losses in percentage in the year 2009-10 in J&K was 69.05% which has remained at the same level since 2002 and in Bihar it was 34.37% as against 43.99 in 2006-07 and 83.75 in 2005-06.

OPERATION OF INTER-STATE TRANSMISSION SYSTEM

3.18 The Ministry have informed that ensuring reliable and secure grid operation is a very important aspect of the electricity supply industry. Real time grid upgradation including scheduling, dispatch and energy metering is done by the Regional Load Dispatch Centres. Off-line grid coordination, issue of monthly regional energy account etc. is the responsibility of Regional Power Committees. The coordination among the RLDCs is done by the national load dispatch centres. It is ensured that the Regional Load Dispatch Centres and the National Load Dispatch Centres operate in an impartial, neutral and fair manner and perform their duties as provided in the Electricity Act, 2003. In the liberalized scenario of multiple transmission system projects and generation projects, the independent operation of the grid has become very important. Recently Power System Operation Corporation (POSOCO) has been registered as a wholly owned subsidiary of POWERGRID. POSOCO shall be headed by a CMD and will have 2 full time directors. All

the employees of RLDCs and NLDC who are now POWERGRID employees will become the employee of POSOCO. POSOCO will be responsible for the operation and management of NLDC and RLDCs. This subsidiary company would gradually become independent from POWERGRID at an appropriate time.

3.19 When the Ministry was asked about the need and role of POSOCO, the Ministry informed:

“As per the provisions contained in para 5.3.7 of the National Electricity Policy, the arrangement of CTU operating the RLDCs was reviewed by the Central Government based on the experience of working with the existing arrangement. As a result of the review conducted M/s Power System Operation Corporation Limited (POSOCO), a 100% subsidiary of PGCIL, has been established in March, 2009 to look after Grid Management function, in line with the provisions of National Electricity Policy to ensure independent system operation. CMD, PGCIL is also the Chairman of POSOCO. As such, there is no room for any dispute between the PGCIL and POSOCO.”

3.20 Giving details about the National High Power Testing Laboratory, the Ministry have informed that presently, the short circuit testing of power transformer has to be got done from abroad now the National High Power Test laboratory has been proposed to be set up, as per the following details:—

- (i) Electrical equipments must be tested so as to ensure high quality. Testing facilities at CPRI and ERDA are inadequate for 400 kV and higher classes of equipment. Hence a high power test laboratory in the country was needed.
- (ii) A joint venture company with equal equity from NTPC, NHPC, PGCIL, DVC was incorporated on 22nd May, 2009 under the name National High Power Test Laboratory (Pvt.) Limited.
- (iii) Phase-I of the project for testing of transformers already taken up, would cost about Rs. 298 crore and is expected to be completed in 2010.
- (iv) On completion of Phase-I, the Phase-II of the project would be taken up, for testing circuit breakers and high current equipment.

D—DISTRIBUTION

4.1 Distribution is the key segment of electricity supply chain. Distribution of power is the primary responsibility of State Governments. The distribution sector caters to rural and urban areas. Rural distribution is characterized by low paying capacity of the people, large number of subsidized customers, practical difficulties, low load and low rate of load growth. Urban distribution is characterized by high consumer density and higher growth rate of load. The consumer mix of urban areas is mostly commercial, residential and industrial. The biggest challenges in distribution are the high aggregate villages and rural households. The average AT&C loss in the country is around 29% and at the time of launch of RGGVY scheme in 2005, 19% villages and 56% rural households were un-electrified.

4.2 The Ministry have informed that to assist the States in meeting the above challenges in rural and urban areas, Government of India has launched two programmes in distribution sector:

- Accelerated Power Development and Reforms Programme (APDRP)
- Rajeev Gandhi Grameen Vidyutikaran Yojana (RGGVY).

4.3 Giving details about the unbundling/corporatization of the Distribution Sector, the Ministry of Power have given the following data:—

Unbundling/Corporatization of Distribution Sector.

	Total	Unbundled	SEBs	Electricity Departments
States	29	19	3 (Jharkhand, Kerala & Bihar)	7 (J&K, Manipur, Mizoram, Nagaland, Arunachal Pradesh, Sikkim & Goa)
UTs	6	-	-	A&N, D&NH, Lakshadweep, Daman & Diu, Chandigarh, Puducherry

4.4 The Ministry have also specified that the following issues are affecting the financial health of DISCOMS.

- Inadequate tariff & delay in filing Tariff petition.
- Delay in payment of Subsidy by State Governments.
- Poor billing efficiency and high AT&C losses.
- Energy accounting and auditing not in place.
- Gap in Average Cost of Supply and Average Revenue Realized is increasing.

Poor enforcement of Theft prevention sections of Electricity Act.

ACCELERATED POWER DEVELOPMENT AND REFORMS PROGRAMME (APDRP)

The Ministry of Power have stated in a back ground not that APDRP was launched in 2002-03 as additional central assistance to the states for strengthening and up gradation of sub-transmission and distribution systems with main objectives of reduction in AT&C and commercial losses; improve quality and reliability of supply of power.

- No. of projects sanctioned : 574
- Total project Cost : Rs. 17,329.07 crore
- Revised project cost after short closing : Rs. 14,506.43 crore
- Total fund released by GoI : Rs. 7,777.19 crore
- Counter Part Fund drawn from Fls : Rs. 6,711.80 crore
- Total fund utilized : Rs. 14,077.86 crore

4.5 The Ministry have informed that all the states have completed the exercise of closure of the ongoing projects of X Plan APDRP by 31.03.2009 except Jammu & Kashmir from where closing report is awaited. Ten States

have shown reduction of cash loss amounting to Rs. 5809.89 crore and became eligible for APDRP incentive of Rs. 2904.89 crore, which has been released to the States.

4.6 When asked to enumerate the advantage of the scheme, the Ministry have informed that the following improvements have been made as a result of the APDRP scheme:

- AT&C loss at national level reduced from 38.86% in 2001-02 to 28.44% during 2008-09.
- AT&C losses have been reported below 20 per cent in 215 APDRP towns in the country of which 163 towns have brought AT&C losses below 15 per cent.
- Feeder metering improved from 81% during 2000-01 to 98%.
- Consumer metering improved from 78% during 2000-01 to 89%.
- 19 States have unbundled and corporatized.
- All 29 States constituted State Electricity Regulatory Commissions (SERCs) and 23 SERCs issued Tariff Orders.

4.7 When asked to specify the draw backs of APDRP scheme, the Ministry have informed:

“The X Plan APDRP had limited success in achieving its objectives. Some of the components like investment in IT related energy audit and accounting works were not taken up. It has been observed that very few States have taken up piecemeal standalone IT solutions during the X Plan APDRP and full benefits of these IT solutions could not be derived as the integration of all the IT solution was not adopted. Based on the experience of the X Plan APDRP, recommendations of the Task Force; the independent evaluating agencies, consultation with the States through Conference of Chief Secretaries and Power Secretaries of States/Union Territories, Ministry of Power formulated the re-structured APDRP for XI Plan.”

4.8 When the Ministry was asked about the APDRP launched in 2002-03 and its success, the Ministry have informed:

“Concept of Aggregate Technical and Commercial (AT&C) losses was introduced in 2001-02. State-wise data of AT&C loss from 2001-02 to 2008-09 is at Annexure-I, schemes like APDRP launched in 2002-03 helped State utilities in improving the loss position in the projects areas where APDRP was implemented. AT&C losses have been reported below 20 per cent in 215 APDRP towns in the country, out of which 163 towns have brought AT&C losses below 15 per cent. The Aggregate Technical & Commercial loss of the State power distribution utilities at national level reduced from 38.86% in 2001-02 to 28.44% during 2008-09. The Ministry took up evaluation exercise of APDRP through independent agencies such as IIM Ahmedabad, Administrative Staff College of India, Tata Consultancy Services, the Energy and Resources Institute (TERI), and SBI Caps. Independent evaluators observed that there is improvement in awareness towards commercial aspects of the business & theft control; improvement in metering, billing & collection efficiencies; improvement in the quality of DPR preparation and recommended the continuance of the APDRP beyond X Plan with certain suggestions for achieving better results. The Ministry of Power constituted a Task Force headed by Shri P. Abraham, former Secretary, Ministry of Power, Government of India, to assess and analyze the current efforts, suggestions made by various agencies and to suggest restructuring of the programme to achieve the objectives of APDRP in better way. Based on the experience of the X Plan, APDRP, recommendations of the Task Force; the independent evaluating agencies, consultation with the States through Conference of Chief Secretaries and Power Secretaries of States/Union Territories, Ministry of Power formulated the re-structured APDRP for XI Plan.”

4.9 To a particular query as to why no specific study has been made to assess the AT&C losses of towns covered in the APDRP schemes for the period of their currency and thereafter the Ministry have stated:

“No specific study has been made to assess the AT&C losses of towns covered under X Plan APDRP. However, Ministry had taken up

evaluation exercise of APDRP through independent agencies such as IIM Ahmedabad, Administrative Staff College of India, Tata Consultancy Services, The Energy and Resources Institute (TERI), and SBI Caps. Independent evaluators observed that there is improvement in awareness towards commercial aspects of the business & theft control; improvement in metering, billing & collection efficiencies; improvement in the quality of DPR preparation and recommended the continuance of the APDRP beyond X Plan with certain suggestions for achieving better results.”

4.10 The Ministry was further asked to justify the reason why reduction in AT&C losses in the country have been so insignificant from 36.64% in the year 2002-03 to only 28.44% in the year 2008-09 *i.e.* about 8%. The Ministry of Power replied:

“Distribution of power is the primary responsibility of State Governments. The high AT&C losses in State utilities are due to over loaded and weak physical infrastructure and poor billing and collection efficiencies. Sufficient investments have not been done by the States over the years to improve the distribution sector. Government of India has provided the financial assistance to States under APDRP in limited projects areas only. AT&C losses have been reported below 20 per cent in 215 APDRP towns in the country, out of which 163 towns have brought AT&C losses below 15 per cent.”

4.11 Further from Annexure I, the Committee find that AT&C losses from the year 2001-02 to 2008-09, in percentage have marginally improved in Jharkhand from 60.21% to 59.00, Orissa 48.88% to 39.43%, Arunachal Pradesh 61.94% to 60.15%, J&K 68.22% to 69.05% whereas they have gone up or are fluctuating in some States like Manipur, Madhya Pradesh etc.

RE-STRUCTURED APDRP FOR XI PLAN

4.12 Regarding the re-structured APDRP, the Ministry has informed that Cabinet Committee on Economic Affairs (CCEA) approved the “Re-structured APDRP” for XI Plan as a Central Sector Scheme in its meeting held on 31.07.2008. The focus of the programme is on actual, demonstrable performance in terms of AT&C loss reduction as informed by the Ministry.

Projects under the scheme are to be taken up in two parts. Part-A is for the projects for establishment of baseline data and IT applications for energy accounting/auditing & IT based consumer service centers and Part-B is for regular distribution strengthening projects. The programme budget outlay is Rs. 51, 577 crore. Expected investment in Part –A (Baseline System) would be Rs.10,000 crore and that in Part-B would be Rs. 40,000 crore. Power Finance Corporation (PFC) is the nodal agency for operationalising the programme. Initially funds for projects under both the parts would be provided through loan. The entire amount of loan for Part-A projects would be converted into grant on the completion the project and up-to 50% (90% for special category States) loan of Part-B projects would be converted into grant on achieving the 15% AT&C loss in the project area on a sustainable basis. Part–A and Part–B projects can be implemented simultaneously with a gap of three to six months which is needed to establish the baseline figure of AT&C loss of the project area by installing boundary (import/export) energy meters and collecting revenues data for three billing cycles. To facilitate the State utilities for expediting the implementation of R-APDRP, Ministry finalized the model DPRs, empanelled the IT Consultants, IT Implementing Agencies, Supervisory Control And Data Acquisition (SCADA) Consultants and SCADA Implementing Agencies, finalized the model Request of Proposal (RfP) for appointment of above consultants and agencies. 1401 projects at the cost of Rs. 56451.50 crore have been approved to twenty nine States/UTs (Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, J&K, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal) under Part –A. This includes Part-A SCADA projects worth Rs. 4715.00 crore for 18 towns of Rajasthan, Gujarat and Tamil Nadu. 775 projects worth Rs.14854.43 crore have been approved for thirteen States (Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Uttar Pradesh, Himachal Pradesh, West Bengal and Tamil Nadu) under Part–B. Part –A projects will be executed by IT Implementing Agencies. State Power Utilities will appoint the IT Implementing Agencies through

inviting the Request for Proposal (RfP) from the empanelled list finalized by the Ministry of Power. 29 States have floated the RfPs for appointment of IT Implementing Agencies, out of which 21 States have completed the activity of appointing IT Implementing Agency.

4.13 Details of year-wise progress achieved under the scheme as per the details given by the Ministry is as under:

(Rs. In crore)

Year	Projects Sanctioned			Budget Allocation			Actual Releases		
	Part-A	Part-B	Total	Loan	Grant	Total	Loan	Grant	Total
2008-09	1947.70	0.00	1947.70	325	25	350	325.00	25.00	350.00
2009-10	3183.00	3059.28	6242.28	1365	65	1430	1331.46	1.26	1332.72
2010-11	157.77	2052.65	2210.42	3600	100	3700			
Total	5288.47	5111.93	10400.40	5290	190	5480	1656.46	26.26	1682.72

4.14 Giving details of updated progress on the Revised APDRP, the Ministry have stated:

- Part-A projects worth Rs. 5648.58 crore sanctioned for almost all the eligible towns in the country (including 15 SCADA projects).
- Part-B projects for 775 Towns (70% of 1100 towns) worth Rs.14854.043 crore sanctioned in thirteen States. Balance projects are expected to be sanctioned by March, 2011.
- Rs. 3528.25 crore released for disbursement to States.
- All States appointed IT Consultants except Arunachal Pradesh.
- All States signed Quadripartite Agreement.
- All States issued RfP for appointment of IT Implementing Agency.
- 21 States have appointed IT Implementing Agency.

4.15 Details of projects sanctioned under Part-B of R-APDRP (as in August 2010):—

Sl. No.	Utility/State	No. of projects (Towns/ project area)	Sanctioned Project Cost (Rs. crore)	Funds Released (Rs. crore)
1.	Andhra Pradesh	42	1056.59	158.50
2.	Gujarat	63	993.78	130.97
3.	Karnataka	88	948.99	100.59
4.	Kerala	40	503.43	54.16
5.	Madhya Pradesh	81	1965.20	295.27
6.	Maharashtra	66	1314.00	—
7.	Punjab	15	511.83	68.55
8.	Rajasthan	82	1540.42	192.06
9.	Tamil Nadu	82	3247.75	99.93
10.	Sikkim	02	68.46	—
11.	Himachal Pradesh	14	322.18	49.66
12.	Uttar Pradesh	155	1831.70	—
13.	West Bengal	45	547.02	—
Total		775	14854.43	1149.69

4.16 When asked about gains if AT&C losses are reduced in the country to reasonable level, the Ministry have informed:—

“Presently the AT&C losses in the country are to the tune of 28.44% whereas the shortage of power is about 12.6% in the year 2009-10.

As per the report published by the Power Finance Corporation (PFC), the Aggregate Technical and Commercial (AT&C) losses at the national level has reduced from 36.64% during 2002-03 to 28.44% during 2008-09. It is difficult to calculate the overall exact quantum of impact on demand and supply of power as the loss levels vary significantly from State to State. Moreover, to bridge the gap between supply and demand of power in the country, necessary steps are being taken by the Government of India and States for capacity addition.”

4.17 When the Ministry was asked to specify why the scheme has not been taken up in the States where privatization has been incorporated, the Ministry replied:

“Orissa has private distribution companies. The private utilities are not covered under the R-APDRP. The restructured R-APDRP was approved on 31.7.2008 as a central sector scheme. Participation of private utilities in R-APDRP is to be considered after a period of two years from the date of the sanction of the R-APDRP.”

**E—RAJEEV GANDHI GRAMEEN VIDYUTIKARAN YOJANA
(RGGVY)**

4.18 As informed by the Ministry, the Government of India launched Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) as one of its flagship programme in March 2005 with an objective to electrify over one lakh un-electrified villages and to provide free electricity connections to 2.34 crore rural BPL households. The scheme provides 90% capital subsidy for the projects. Rs.5000 crore outlay was provided for the last two years of the X Plan. Rural Electrification Corporation Limited (REC) is the nodal agency for implementation of the scheme.

4.19 The continuation of RGGVY in the XI Plan was sanctioned by the Government on 3rd January 2008 with a provision of Rs. 28,000 crore capital subsidy at that stage against the proposed requirement of Rs. 42,000 crore for comprehensive rural electrification in the country. 235 projects were taken up for implementation in the X Plan. 338 additional projects have been sanctioned during XI Plan. The cumulative status of implementation as on 31st May, 2010 is given below:—

Proposals	Projects	Projects outlay (Rs. crore)	Unelectrified villages (nos.)	BPL H/Hs (Lakh)
Sanctions in X Plan	235	9732.90	68763	83.1
Sanctions in XI Plan	338	16620.61	49736	163.34
Total Sanctions	573	26353.51	118499	246.45
Total Achievements (As on 31/05/2010)			80430 (67.9%)	113.96 (46.24%)

During the on the spot study visit of the Committee to Kolkata the Ministry have given the data regarding the coverage of unelectrified villages

as 118499 and cumulative achievement of 89675 and BPL households as 246.25 lakhs (coverage) and cumulative achievement of 1407.0353 lakhs as on 31.12.2010 and the remaining unelectrified villages as 27906 in 27 States.

4.20 The year-wise targets and achievements are as given below:

Year	Unelectrified Villages (No.)			BPL Households (Lakh)		
	Target	Achmt.	% Achmt.	Target	Achmt.	% Achmt.
X Plan						
2005-06	10,000	9,819	98.2%	3	0.17	5.7%
2006-07	40,000	28,706	71.8%	40	6.55	16.4%
Total	50,000	38,525	77%	43	6.72	15.6%
XI Plan						
2007-08	10,500	9,301	88.6%	40	16.21	40.5%
2008-09	19,000	12,056	63.5%	50	30.85	61.7
2009-10	17,500	18,374	104.99%	47	47.18	100.38%
2010-11	17,500	2174	12.42%	47	12.99	27.64%
Cumulative (As on 31/5/10)	1,14,500	80,430	70.2%	227	113.96	50.2%

4.21 The Ministry have informed that the Revised Bharat Nirman targets are to electrify 1 Lakh villages and 1.75 crore BPL connections by March 2012. The achievement of RGGVY for 2010-11 has been electrification of villages of 17,500 and release of BPL connections of about 47 Lakh.

4.22 Enumerating the problems in speedy implementation of the scheme, the Ministry have informed that there have been some major issues during the implementation of the RGGVY, which slowed down the progress under the scheme. These were:—

- (a) Delay in sanction of continuation of scheme in the XI Plan.

- (b) States took long time in awarding the projects.
- (c) Delay by States in allotment of land for new substations.
- (d) Delay in release of BPL lists by States.
- (e) Long time taken by States in settlement of entry tax and way bills.
- (f) Delay in forest clearances.
- (g) Long time taken by States in sanction of revised cost estimates.
- (h) Delay in energization and taking over of completed villages.

4.23 When the Ministry was asked to explain how they had proposed to overcome the hurdles and achieve the objectives of the RGGVY, the Ministry informed that they had taken the following steps:—

- (a) Adoption of Three-tier Quality Monitoring Mechanism.
- (b) Web-based Monitoring has been started.
- (c) Introduction of Milestone based monitoring system.
- (d) Constitution of State Level Coordination Committees headed by Chief Secretary to resolve State level and inter-departmental issues.
- (e) Activation of district level committees for review of rural electrification.
- (f) Regular review meetings by Ministry of Power and REC at Delhi and States.
- (g) Training of C&D employees of the State Power Utilities.
- (h) Training of franchisees.

4.24 When the Committee enquired about the funds available for RGGVY, the Ministry informed that the scope of coverage of RGGVY scheme was restricted to unelectrified census villages and households with population of more than 300 in view of fund constraints. However, priority was given to naxal effected areas, border districts, North East & special category States. The balance works are to be taken up in Phase-II of RGGVY scheme in XII Plan. Rs. 28,000 crore has been provided during the 11th Plan against the requirement of Rs. 42,000 crore. The year-wise demands, budgetary allocations and utilization are indicated below:—

Year	Demand (Rs. in crore)	Allocation (Rs. in crore)	Utilization (Rs. in crore)
2005-06	1500	1500	1500
2006-07	3200	3000	3000
2007-08	8000	3944	3913.45
2008-09	13000	5500	5500
2009-10	9000	5000	5000
2010-11	5500	5500	532.28

During the study visit of the Committee to Kolkata and discussions held with REC, the following data was given on the loans sanctioned and disbursed by REC during the 11th plan:—

Particulars	FY 2007-08	FY 2008-2009	FY 2009-2010	FY 2010-11 upto 30.9.2010
1	2	3	4	5
Sanctions	Rs. in crore			
Generation	27,275	21,709	24,032	15,973
T&D	15,255	16,845	17,201	15,697
STL	2,685	2,100	4,090	1,600
Sub-Total	45,215	40,654	45,323	33,270

1	2	3	4	5
RGGVY (Loan)	1,555	92	35	-
Total	46,770	40,746	45,358	33,270
RGGVY (Grant)	13,998	828	320	-
Total (Inclg. Grant)	60,768	41,574	45,678	33,270
Disbursements				
Generation	4,308	7,851	8,397	5,998
T&D	6,662	6,687	8,357	3,059
STL	1,582	2,040	3,790	1,000
Sub-Total	12,552	16,578	20,544	10,057
RGGVY (Loan)	401	579	588	134
Total	12,953	17,157	21,132	10,191
RGGVY (Grant)	3,351	5,121	5,995	1,144
Total (Inclg. Grant)	16,304	22,278	27,127	11,335

The sanction figures for the Eastern States are given below:

Name of State	FY 2007-08		FY 2008-09		FY 2009-10		FY 2010-11	
	Genera- tion	T&D	Genera- tion	T&D	Genera- tion	T&D	Genera- tion	T&D
Bihar	0	0	0	0	3746.75	0	0	0
Jharkhand	0	0	476	0	0	0	0	0
Orissa	140	0	0	82	650	0	1257	0
West Bengal	4080	30	0	18	0	326	0	0

The disbursement figures of Eastern States during the above period are as under:

Name of State	FY 2007-08		FY 2008-09		FY 2009-10		FY 2010-11 (upto 31.12.2010)	
	Genera- tion	T&D	Genera- tion	T&D	Genera- tion	T&D	Genera- tion	T&D
Bihar	0	0	0	0	0	0	0	0
Jharkhand	57500	20433	0	9853	0	3704	20634	1561
Orissa	1037	3054	611	4882	5638	5581	7490	33
West Bengal	21612	12475	76035	14154	150027	16781	72108	307

No State-wise targets for disbursement are fixed.

T&D: Transmission & Distribution, STL: Short Term Loan, RGGVY: Rajiv Gandhi Grameen Vidyutikaran Yojana

Cumulative sanctions over the last 41 years (upto 30.09.2010) Rs. 3,00,045 crore

Cumulative disbursement over the last 41 years (upto 30.09.2010) Rs. 1,23,724 crore (Exclgd. Grant under RGGVY)

4.25 The Ministry was categorically asked to specify how the resource crunch had affected the scheme, the Ministry informed:

“Due to limitation of funds under RGGVY, a significant area of the country could not be covered for providing access to electricity, especially larger and smaller hamlets in the States of Assam, Bihar, Rajasthan and Uttar Pradesh and smaller hamlets in other States. A tentative estimate prepared by the Ministry of Power indicates that about Rs. 28,000 crore additional subsidy will be required to complete rural electrification of the country. The Ministry had requested Ministry of Finance and Planning Commission to accord in-principle approval for starting process for launching phase-II of RGGVY in the XI Plan. The Ministry has been advised to presently concentrate on implementation of the ongoing projects under phase-I.”

4.26 The Ministry have informed that the current status of RGGVY that against the target of electrification of one lakh unelectrified villages and

175 lakh BPL households by March, 2012, works in 83,630 unelectrified villages (70.2%) have been completed and electricity connections to 125.36 lakh (50.2%) have been released under the scheme as on 15.09.2010. During on the spot study visit of the Committee to Kolkata in January, 2011, the State-wise details of coverage and achievement of electrification of un/de-electrified villages and release to BPL connections for the sanctioned projects under RGGVY was given to the Committee which are detailed in Annexure-III of the report. Also the details of the remaining unelectrified villages to be electrified is given in Annexure-IV. The Committee find that a large number of villages remain to be electrified in the States of Orissa, Jharkhand, Assam, Uttar Pradesh, Bihar, Meghalaya, Arunachal Pradesh, Chhattisgarh etc. Some States also do not have sanctions covered *i.e.*, in Andhra Pradesh, Gujarat, Haryana, Kerala, Punjab, Tamil Nadu, etc.

4.27 When the Ministry was asked to specify the bottlenecks in the implementation of RGGVY, the Ministry informed that acquisition of land for new sub-stations, right of way for sub-transmission and distribution lines, forest clearance, railway crossings etc., have been a problem in some of the areas, especially in the states of Bihar and Jharkhand. The scheme is being implemented by the implementing agencies of the concerned State and active support from the State and State power utilities is desirable to ensure smooth and speedy implementation. The States have been advised by MOP to constitute a Coordination Committee under the Chairmanship of Chief Secretary to resolve the bottlenecks in implementation of RGGVY. The matter of forest clearances have also been taken up at Central level by the Ministry of Power to expedite the process. Regular review meetings at Ministry of Power and also at State headquarters are convened to address various issues impeding the progress and efforts are made to resolve such issues.

4.28 Regarding energizing the lines already layed, the Ministry have informed:

“Out of 84618 villages where works have reportedly been completed under the scheme, Village Electricity Infrastructure in 66497 villages have been energized. Energisation of completed works is affected mainly due to following reasons:

- (a) Delay in statutory clearance by the Electrical Inspectorate due to limited availability of Electrical Inspectors.

- (b) Delay in completion of new sub-stations in respective project areas due to delay in acquisition of land.
- (c) Inadequate capacity of back-up transmission and sub-transmission system in some States.
- (d) Shortage of manpower with concerned State Power Utility for energisation and Operations and Maintenance of electricity infrastructure created under the scheme.

Delay in deployment of franchisees by the States for management of rural distribution system.”

4.29 When it was asked during evidence that the Government should pay special attention to the NE States in the RGGVY, the Ministry have informed:

“Considering poor status of rural electrification and majority of the districts having international border, rural electrification in NE States have been provided high priority. RGGVY projects for all the districts of NE States have been sanctioned irrespective of their cost. All the projects are being implemented by State Agencies except for 6 projects in Assam and 2 projects in Tripura which are being implemented by PGCIL. The progress on implementation of the RGGVY projects in NE States is comparatively slow as the State agencies took very long time in awarding the projects. As of now, all the projects have been awarded. Even after award, the implementation is slow due to availability of smaller working season and adverse law and order situation. There is no shortage of fund. The same is being released in advance, whenever States are eligible to draw. Regular review meetings are being held by Ministry of Power and Rural Electrification Corporation. As on 15.10.2010, 4252 villages (31%) have been electrified out of a total of 13906 targeted villages. Similarly, 5.28 lakh BPL connections (34%) have been released out of a total targeted 15.6 lakh connections.”

PART II

OBSERVATIONS AND RECOMMENDATIONS OF THE COMMITTEE

ACHIEVEMENT OF TARGETS IN THE TRANSMISSION SECTOR (10TH AND 11TH FIVE YEAR PLANS)

1. The Committee note that the targets for inter-regional transmission during the 10th Plan (2002-07) was kept as 15,400 MW, which was later revised to 12,200 MW due to the rescheduling of the Barh generation project. However, the total achievement was only 8,300 MW. No year-wise target for the 10th Plan was fixed. The Committee also find that the 11th Plan initially had a target of 18,600 MW only. No year-wise target was fixed for 2007-08 and 2008-09 (the Achievement being 2400 MW in 2007-08 and 3300 MW in 2008-09 respectively). Against a target of 2600 MW for 2009-10, the achievement was 1000 MW. The target for the year 2010-11 was kept at 1600 MW. The Ministry have further informed that the PGCIL has planned to add 7200 MW in the financial years 2010-11 and 2011-12 and a balance 4700 MW inter-regional capacity addition is under various stages of implementation, and it may slip to 12th Plan. The reasons for this have been attributed to deferment of Sasaram Fatehpur line (2100 MW) and delay in generation and capacity addition in Eastern Region like North Karanpura, Barh, Nabinagar. The South-West Inter-regional link(1000 MW) is also likely to be commissioned in early 12th Plan. The Committee are dismayed to note that till the 10th and early 11th Plan periods yearly targets for inter-regional transmission systems were not fixed by the Ministry. The failure to fix adequate targets may have lead to lower achievement of only 8300 MW as against 15400 MW in the 10th Plan period. Similarly achievement in the first two years of the 11th Plan has been only 5700 MW (2400 MW in 2007-08 and 3300 MW in 2008-09). However, it sharply fell in the year 2009-10 to 1000MW. 7200 MW are planned to be added in the financial years 2010-11 and 2011-12 which again appears to be a very high target

compared to assigned target of only 1600 MW in the year 2010-11. No cogent reasons have been furnished for such a sharp decline in maintaining even the previous year achievement. Now, the Government plan to achieve 7200 MW in the remaining years of the 11th Plan. However, the target for 2010-11 has been fixed to be 1600 MW only. Thus, as to how the cumulative target of 7200 MW will be achieved during the remaining period of the plan i.e. upto March, 2012 is beyond any comprehension. The Ministry is also giving very varying figures with regard to the target of 2010-11 and 2011-12. It has not been clarified whether 1600 MW through competitive bidding transmission capacity will be achieved out of 7200 MW earmarked for the years 2010-11 and 2011-12 or otherwise. The Committee regret to note that 4700 MW is likely to slip in the 12th Plan. The main reasons adduced by the Ministry being deferment of Sasaram Fatehpur line (2100 MW) and delay in addition of Generation Capacity in the Eastern region. Considering the performance in transmission sector in the year 2009-10 and the target for 2010-11, it will be utopian target of 7200 MW to be achieved by the end of 11th Plan. The Committee recommend that realistic yearly targets need to be fixed in the transmission sector based on basic assessment parameters like generation time, transmission from projects, availability of clearances etc., as these can be well foreseen and are not insurmountable. For new projects of transmission and distribution synchronization is needed with the Ministry of Power, State Government, PSUs and all parties involved (*i.e.* stakeholders) to overcome all major hurdles of non-achievement of targets. Similarly, the Committee find that land acquisition policies with regard to transmission lines and projects differs from State to State with variations in J&K and Kerala *vis-à-vis* other States. The Ministry should take up this issue with the State Governments so as to develop a uniform pattern in this regard.

ENVIRONMENT AND FOREST CLEARANCE FOR THE TRANSMISSION SECTOR

2. The Committee note that the clearance from the Ministry of Environment and Forests are also required for the transmission

projects. The Ministry have informed that one inter-regional transmission line namely 400 KV D/C Ranchi, Rourkela, Raigarh line associated with East-West transmission corridor strengthening got delayed on account of forest clearance. However, recently the matter has been resolved and as a special case the Ministry of Environment and Forests (MOE&F) have permitted PGCIL to go ahead with construction activity pending final clearance. The Committee also find that the first stage clearance for transmission projects takes about one year. However, as per recent MOE&F circular dated July/August 2009, written consent of all Gram Sabhas in transmission line route is compulsory under the Scheduled Tribes and other Traditional Forest Dwellers [recognition of Forest Rights Act, 2006 (FRA 2006)]. The Ministry have brought out difficulty in obtaining these clearances which are lengthy and complex. The Committee are anguished at the attitude of the Ministry of Environment and Forests. They have remained non-responsive to the request of the Ministry of Power to the issue of Forest Clearances of PGCIL transmission projects. It is amazing that every possible and conceivable obstacle has been put *vide* MOE&F Circular 11-09-1998/FC/PT 3rd August, 2009 in granting forest clearance for transmission projects. The environmental impact of transmission projects are minimal and hence all efforts should be made to pave the way for smoother and faster clearance and the extraneous exercise of getting clearance from endless Gram Sabhas with its own appendixes is bound to adversely impact the timely completion of the projects. The Committee feel that obtaining such clearances will be cumbersome and as there is no acquisition of land for construction of transmission lines, the Ministry of Environment and Forests should look into this matter so as to make the procedure streamlined and that the laying of transmission lines can progress without much hassles. The Committee therefore recommend that being a public sector entity PGCIL should be allowed to start work as soon as First stage clearance is obtained and an undertaking should be taken by them to comply with the other requisite conditions. The Committee also lay stress on the fact that any in-ordinate delay in the commissioning of transmission lines would

result in bottling of generated power and heavy losses and therefore, to resolve this all clearance related issue need to be taken up on priority basis. Generally the laying of transmission lines has negligible impact on Forests and there is no alteration of land use patterns, therefore, existing stringent procedure for according clearance need to be reviewed. The Committee therefore, also recommend that the MOE&F should deal with the transmission related issues more liberally so that work is not hampered for want of clearances. It has been stated that laying of transmission lines underground will not be cost effective but it has not been explained as to how this will be so. With the advancement of technology efforts should be made to explore as to how the cost involved therein can be rationalized as laying of underground lines, wherever possible and suitable will not only be safer but will also invite less opposition from the concerned villages and other stakeholders.

NATIONAL GRID AND REGIONAL TRANSMISSION SYSTEM

3. The Committee note that except for the Southern Region, the rest of the country operates at single synchronies frequency. The transmission systems of regional grids facilitate delivery of power to the State grids, the National Grid is an important component for facilitating the delivery of electricity without congestion. The Committee find that development and upkeep of the National Grid is not being given the importance it deserves. As the exploitable energy resources of our country are concentrated in certain pockets and transfer of power becomes important to other regions which do not have adequate natural resources for setting up of power plants. The Committee also find that efforts are not being made to create high capacity transmission highways corridors for smooth the transmission of power. The Committee find that four major power regions in the country namely, North-Eastern, Eastern, Western and Northern are operating in one synchronies grid, the Southern region is yet to be attached to the Grid. The Committee are also anguished that the

present capacity of the National Grid was only 20,750 MW and the anticipated growth of inter-regional transmission capacity by March, 2012 (end of 11th Plan) is 32,650 MW. With a capacity addition target of 62,000 MW, the Committee are not very sure that the system would be able to cope up with the demand. The Committee, therefore, strongly recommend the proper development and efficient upkeep of the National Grid for transfer of power from surplus to deficit areas along with the creation of High Capacity Transmission Highway Corridors for smooth transmission of power in peak periods. Considering the huge electricity generation targets for the 12th Five Year Plan the Committee recommend that matching growth and enlargement of the National Grid in the 12th Plan period need to be fixed.

4. The Committee are unhappy to find that achievement of target under the transformation capacity of sub-stations programme and achievement for 11th Plan in the 765 KV and +500 KV HDVC has been very poor (achievement of only 20% and below) in the first three years of the plan period and is far from satisfactory. The reasons for such a dismal performances in the sector should be identified and necessary steps taken to avoid their recurrence. A focused approach and concerted efforts with proper planning are essential for a well developed transmission system for achieving the set targets set for the programme.

5. The Committee note that CERC has issued Regulations for grant of connectivity, long term Access and medium term open Access in inter-state transmission and related matters with a provision for sale and purchase of power under medium term open access up-to a period of three years. The rates for such Bilateral Exchange of power will be mutually negotiable. For collective transactions, the rates are determined through power exchanges. The Committee hope that the Ministry would encourage open access in transmission and also devise some mechanism to facilitate Bilateral Exchange of power safeguarding the interest of consumers as some States sell electricity in peak times

at very high rates to deficit States and therefore, some suitable guidelines should be framed in this regard.

6. The Committee also learn that some special schemes have been launched by the Government for strengthening the transmission system in the country *i.e.* for instance, the Rashtriya Sam Vikas Yojana in Bihar and intra-state transmission system of Jammu and Kashmir has been included in the Prime Minister's Reconstruction Plan sanctioned in 2007. However, the Committee note that AT&C losses even after these schemes were taken up have not come down. The Committee, therefore, strongly recommend that special attention be given under the special schemes for reduction of AT&C losses in the States.

7. The Committee note that recently a Power System Operation Corporation (POSOCO) has been registered as a wholly owned subsidiary of Power Grid Corporation Ltd. All the employees of RLDCs and NLDC who are now POWERGRID employees will become the employee of POSOCO which will be responsible for the operation and management of NLDC and RLDCs. The Committee would like the Ministry/PGCIL to review and monitor the working of POSOCO to ensure that the aims and objectives for which POSOCO has been set up are achieved fully.

DISTRIBUTION OF ELECTRICITY

8. The Committee note that distribution is the key segment of electricity supply chain. The distribution system should be such that it caters to the rural and urban populations satisfactorily. The Committee feel that the two areas have to be dealt with in specific manner quite different to each other. The rural distribution is characterized by low paying capacity of the people, large number of subsidized customers, practical difficulties, low load etc. whereas the urban distribution is characterized by high density and higher growth rate of load. The Committee are happy to know that two major schemes

of the Government *i.e.* the Accelerated Power Development and Reforms Programme (APDRP) and Rajeev Gandhi Vidyutikaran Yojana (RGGVY) have been launched to look into these areas. The Committee note that the Electricity Act, 2003, had heavily stressed on the unbundling/corporatization of the distribution sector. The Ministry have been informed that 19 of the 29 States have unbundled their distribution sector, 3 States *i.e.* Jharkhand, Kerala and Bihar have State Electricity Boards and electricity Departments exist in J&K, Manipur, Mizoram, Nagaland, Arunachal Pradesh, Sikkim and Goa. Six Union Territories also have Electricity Departments Andaman & Nicobar Islands, Dadra & Nagar Haveli, Lakshadweep, Daman, Diu, Chandigarh and Puducherry. The Committee hope that each State would be able to take care of their specific problems in their own way and ensure rationalization of tariff, increase in billing efficiency and lowering AT&C losses as also independent Energy accounting and auditing and prevention of theft of electricity. Needless to point out that all these steps are also aimed at passing the benefit to the consumers at large.

9. The Committee have been informed that the APDRP scheme was launched in 2002-03 as additional Central assistance to the States for strengthening and up-gradation of Sub-transmission and distribution systems with the main objective of reduction of AT&C losses, improve quality and reliability of supply of power. The original scheme had 574 projects and the total fund utilized was Rs.14,077.86 crore. The 10th Plan APDRP was closed on 31.03.2009 except in Jammu & Kashmir. The Committee find that there was only a marginal decrease in the AT&C losses at national level from 38.86% in 2001-02 to 28.44% during 2008-09 and most of the States have not been able to bring down the loss below 15%. However feeder metering and consumer metering improved in the country. 25 States also constituted their State Electricity Regulatory Commissions (SERCs). AT&C losses have been reported below 20% in 215 APDRP towns in the country and below 15% in 163 towns after implementing the APDRP, however the

Ministry have pointed out that no specific study has been made to assess the currency of AT&C losses of towns covered under the 10th Plan APDRP. The Committee feel that a meaningful study for change in the format of APDRP scheme should have included the towns covered under Xth Plan APDRP .

10. The Committee are aware of the fact that the distribution of power is the primary responsibility of the State Governments and financial assistance to States under APDRP is limited to project areas only. The Committee have been informed that Re-structured APDRP (Revised) was approved on 31.07.2008, keeping the size of the programme is Rs. 51,577 crore. Expected investment in part 'A' (Baseline System) would be Rs.10,000 crore and part 'B' would be Rs. 40,000 crore. The Committee note that the entire amount of loan for part 'A' projects would be converted into grant on the completion of the projects and upto 50% (90% for special category States) loan of achieving the 15% AT&C loss in the project area on sustainable basis. The Committee have been informed that part 'A' and part 'B' projects can be implemented simultaneously with a gap of three to six months which is needed to establish the baseline figure of AT&C loss of the project area by installing boundary (import/export) energy meters and collecting revenue data for three billing cycles. However, the Committee find as per the data given by the Ministry part 'B' has been sanctioned in only 70% of the towns and the balance projects are likely to be sanctioned in March, 2011. The Committee therefore, strongly recommend that special efforts be made for sanctioning part 'B' of the project as successful implementation will greatly help in reducing the AT&C losses. Periodic monitoring of the programme should be taken up to ensure that the targets set are achieved within the stipulated time with a view to encourage those States where improvements are significant whereas slow improving areas should be brought in for some harsh remedial measures.

11. The Committee also note that presently the AT&C losses in the country are to the tune of 28.44% whereas the shortage of power

in the country was 12.6% in the year 2009-10. The Committee recommend that a detailed study should be carried out to assess the impact of loss reduction under the APDRP and R-APDRP schemes and how this would help in bridging the Demand and Supply position of power in the country.

12. The Committee are also anguished to learn that R-APDRP is not applicable in States where privatization has taken place and distribution companies have been established. These will be considered under the scheme after two years from the date of sanction of the R-APDRP. The Committee recommend that private players who performed well to achieve the objective of the scheme should also be given a chance to benefit from the scheme. The Committee would like to know about the policy in this regard as two years of commencement of the scheme are already over.

Further, the Committee desire that projects relating to renovation of existing lines and feeder separation programmes should also be covered under the scheme.

13. The Committee note that about 8 years have passed since enactment of Electricity Act, 2003. One of the measures aimed at in power reforms was to provide open access to create competitiveness in the supply of electricity. From the material furnished, the Committee observe that there is hardly any progress in this matter. The Committee, therefore, would like to be informed about the status of implementation of this vital aspect.

RAJEEV GANDHI GRAMEEN VIDYUTIKARAN YOJANA (RGGVY)

14. The Committee note that the Rajeev Gandhi Grameen Vidyutikaran Yojana (RGGVY) is a flagship endeavor of the Government to electricity over one lakh un-electrified villages and 2.34 crore rural BPL households was initiated in 2005. The scheme was taken up in the year 2005 and 9819 villages were electrified in the year 2005-2006. The no. of villages electrified in 2006-2007 was 28,706 against a target of 40,000.

The Committee have been informed that the XI Plan was sanctioned by the Government on 3rd January, 2008 with a provision of Rs. 28,000 crore capital subsidy at that stage against the proposed requirement of Rs. 42,000 crore for comprehensive rural electrification in the country. The Ministry in the data supplied to the Committee have informed that 67.9% of un-electrified villages and 46.24% of BPL households have been electrified by May, 2010. As seen from the Data available to the Committee the sanctions made by REC under RGGVY under loan and Grant decreased from the FY 2007-2008 to FY 2009-2010. Similarly the sanctions under T&D which includes Short term loan and RGGVY were negligible for the States of Bihar, Jharkhand, Orissa and West Bengal in the year 2009-2010 and 2010-2011. The Committee desire that the Government should sanction the funds as required under the scheme so that the scheme does not suffer for want of funds. The Committee also find that the pace of scheme should be monitored more stringently as achievement of targets is below 70% in case of village electrification and below 50% in the case of BPL households. The Committee find that a large number of villages remain to be electrified especially in the States of Orissa, Jharkhand, Assam, Uttar Pradesh and Bihar. These States need to be dealt with as high priority areas and the implementation and execution of the projects need to be monitored under the aegis of the Ministry of Power and other related Central Government departments in co-ordination with concerned State Governments.

15. The Committee further note that the revised targets of the scheme are to electrify one lakh villages and 1.75 crore BPL connections by March, 2012. The Government have attributed the delay in the scheme to the fact that there was delay in sanction of continuation of scheme in the XI plan, some States took long time in awarding the projects, delay on their part in allotment of land for new sub-stations, delay in release of BPL lists by States, delay in Forest clearances, delay in energization and delay in the taking over of

completed villages. In the opinion of the Committee these are the problems which can well be foreseen and pre-emptive measures could be taken to ensure that pace of the scheme and results to be achieved do not suffer on account of avoidable problems. The Committee once again, reiterate, that more effective co-ordination is required between the State agencies and Rural Electrification Corporation in execution of the projects. The Ministry of Power should help in implementation process by becoming a facilitator for solving the issues which hinder the implementation of the scheme in the States. Moreover, the Committee as such feel that preparation of BPL lists should have been a pre-requisite for implementation of the scheme to avoid the delay. The Committee have also desired that the Ministry of Finance and Planning Commission should in principle sanction phase-II of the RGGVY so that ground work in this area can be initiated and the hurdles experienced earlier can be done away with when implementing phase-II of the scheme is taken up.

16. It has also been brought to the notice of the Committee that out of 84618 villages where works have reportedly been completed under the scheme village electricity infrastructure, in 66497 villages electrification has been energized. The Committee find no logic in mere completion of the process of RGGVY without actual availability of electricity in these villages. The Ministry have attributed the delay to reasons such as delay in statutory clearances by Electrical inspectorate due to limited electrical inspectors, delay in completion of new sub-stations due to non-acquisition of land, inadequate capacity of back up transmission and sub-transmission system in some States, shortage of manpower with concerned State Power utility for energizing and operations and delay in deployment of franchisees to manage the rural distribution etc. The Committee hope that the Ministry of Power/ REC and concerned States will work in a tendum to solve these problems and ultimately help in bringing electricity to the villages which may have access to the infrastructure without electricity for lack

of co-ordination and other technical reasons. The Committee once again stress that a strong regional transmission system should have been a pre-requisite for implementation of the RGGVY scheme and therefore the Committee would like the Ministry to sanction more schemes for improving the regional transmission network with Central Sector funds and grants.

17. Although the Ministry have informed that considering the poor status of rural electrification in the NE region and districts having International border all projects have been sanctioned in these areas irrespective of their costs. They are being implemented by State agencies, except 6 in Assam and 2 in Tripura which are being implemented by PGCIL. The Committee hope that the progress in these projects will pick up as achievement so far has been quite low *i.e.* 31% villages and 34% BPL households have been covered in the North-East Region of the country. The Committee hope that the Ministry will work more aggressively to achieve their targets in this region of the country which is still lacking in basic infrastructure and development.

18. As brought out in preceeding paragraphs, the Committee, strongly recommend that owing to the importance of the scheme and consequent benefit accruing to the end beneficiary of the scheme as envisaged, a holistic view covering the entire gamut of activity separately as well as collectively need a revisit to refurbish the scheme based on the past experience and rectifying inaccuracies that have been experienced hitherto. To sum up it should be ensured that there are no paucity of funds in implementing the scheme. The reasons enumerated for non-energization of large number of villages should have been addressed before commencement of the projects as they are not insurmountable in nature. A clear and authentic availability of data on BPL households/families, availability of a strong regional transmission system, special attention to electrification of border villages in the NE region in a definite time frame and introduction

of accountability factor in RGGVY is required for successful and timely implementation of the scheme.

19. It has come to the notice of the Committee that projects relating to RGGVY Programme are assigned to various utilities in different States. These utilities are sub-contracting the work and the sub-contractors are further sub-contracting the job which, in turn, has reportedly affected the quality of the work of the projects completed under the Scheme. The Committee, taking a serious view in the matter, would like the Government to examine this aspect and issue necessary guidelines to the implementing agencies so that the only reliable/ experienced/ reputed agencies with proven track record are assigned the jobs/projects.

NEW DELHI;
8 March, 2011

17 Phalgun, 1932 (Saka)

MULAYAM SINGH YADAV,
Chairman,
Standing Committee on Energy.

State-wise AT&C loss (%)

Sl.No.	State	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
1	2	3	4	5	6	7	8	9	10
1.	Bihar	66.02	77.64	66.25	82.50	83.75	43.99	47.38	34.37
2.	Jharkhand	60.21	72.63	62.47	62.83	52.14	54.41	58.17	59.00
3.	Orissa		40.88	47.40	54.07	44.07	39.90	41.38	39.43
4.	Sikkim	81.33	80.12	66.67	38.33	44.87	61.43	51.32	56.86
5.	West Bengal	35.29	26.62	32.87	23.91	28.34	30.66	22.70	22.73
6.	Arunachal Pradesh	61.94	61.73	16.34	25.43	68.99	57.96	61.59	60.15
7.	Assam	36.97	39.43	43.35	39.31	35.24	36.64	35.18	20.32
8.	Manipur	74.11	76.81	69.70	88.56	77.83	79.69	79.39	81.01
9.	Meghalaya	21.60	42.39	39.35	38.12	37.90	39.08	39.45	43.37
10.	Mizoram	76.10	49.63	38.70	24.61	21.98	31.71	28.31	41.01

1	2	3	4	5	6	7	8	9	10
11.	Nagaland	60.89	53.74	55.63	43.13	50.41	48.01	44.08	48.69
12.	Tripura	31.60	34.27	14.84	20.96	32.36	29.19	30.16	31.98
13.	Delhi	60.06	59.51	51.19	43.55	40.32	34.32	37.96	17.97
14.	Haryana		47.62	42.85	43.66	42.83	25.60	33.02	33.29
15.	Himachal Pradesh	28.30	29.52	9.26	21.71	17.06	13.47	17.15	12.85
16.	J&K	68.22	68.22	68.79	68.33	63.25	64.68	71.92	69.05
17.	Punjab	27.66	26.45	25.52	24.00	23.31	22.54	19.10	18.96
18.	Rajasthan		47.13	50.84	46.74	42.19	35.74	33.02	29.52
19.	Uttar Pradesh		32.21	58.38	46.81	43.89	44.25	37.10	40.32
20.	Uttarakhand		37.59	43.48	45.62	27.98	35.54	38.32	35.37
21.	Andhra Pradesh		36.14	22.62	21.15	16.68	17.88	16.19	12.99
22.	Karnataka		45.68	35.82	33.67	38.04	32.76	32.13	25.68
23.	Kerala	31.83	36.19	32.73	32.12	23.61	23.34	21.52	21.61

1	2	3	4	5	6	7	8	9	10
24.	Puducherry	38.94	41.67	20.53	16.46	17.46	17.46	18.69	18.47
25.	TamilNadu	19.26	20.02	20.64	19.41	17.09	16.21	16.19	15.33
26.	Chhattisgarh	39.02	37.48	30.99	32.30	38.76	29.26	30.89	32.45
27.	Goa	48.53	22.99	21.28	18.34	12.37	16.89	13.12	17.17
28.	Gujarat	23.28	31.24	35.48	35.15	26.72	23.60	22.81	22.05
29.	Madhya Pradesh	48.60	49.42	41.52	54.27	44.44	45.67	46.78	61.05
30.	Maharashtra	46.34	44.25	38.95	27.98	33.15	34.59	31.32	31.19
	Grand Total	38.86	36.64	34.90	34.82	33.02	30.62	29.58	28.44

Source: PFC

ANNEXURE II

Details of projects sanctioned under Part-A of R-APDRP and funds released

(Figures in crores of Rs.)

Sl. No.	State	No. of Projects Sanctioned	Sanctioned Project Cost	Funds released
1	2	3	4	5
Non-special Category States				
1.	Andhra Pradesh	113	388.02	116.40
2.	Bihar	71	194.59	58.38
3.	Chandigarh	01	33.34	—
4.	Chhattisgarh	20	122.45	36.74
	Delhi	Being private utilities, not covered under R-APDRP		
5.	Goa	4	110.74	31.47
6.	Gujarat	84	225.36	67.60
7.	Haryana	36	165.63	49.68
8.	Jharkhand	30	160.61	30.00
9.	Karnataka	100	391.14	117.11
10.	Kerala	43	214.40	64.31
11.	Madhya Pradesh	82	228.89	68.41
12.	Maharashtra	130	324.42	97.32
	Orissa	Being private utilities, not covered under R-APDRP		
13.	Puducherry	4	27.53	0.00
14.	Punjab	47	272.85	81.85

1	2	3	4	5
15.	Rajasthan#	87	466.83	111.57
16.	Tamil Nadu	110	417.00	125.11
17.	Uttar Pradesh	168	636.53	190.22
18.	West Bengal	62	159.98	47.99
Sub-Total		1191	4540.33	1294.16
Special Category States				
19.	Arunachal Pradesh	10	37.68	—
20.	Assam	66	173.18	51.95
21.	Himachal Pradesh	14	81.07	24.32
22.	J & K	30	134.49	40.37
23.	Manipur	13	31.55	—
24.	Meghalaya	9	33.99	—
25.	Mizoram	9	35.12	—
26.	Nagaland	9	34.58	—
27.	Sikkim	2	26.30	7.89
28.	Tripura	16	34.36	10.31
29.	Uttarakhand	31	125.82	37.62
Sub-Total		209	748.14	172.46
TOTAL		1400	5288.47	1466.62

#includes Part-A SCADA projects worth Rs 150.90 cr. for 5 towns.

ANNEXURE III

State-wise details of coverage & achievement of electrification of un/de-electrified villages and release of BPL connections for the sanctioned projects under RGGVY including Eastern Region

Sl. No.	Name of State	Un-electrified villages		BPL Households	
		Coverage	Cumulative achievements (as on 31.12.2010)	Coverage	Cumulative achievements (as on 31.12.2010)
1	2	3	4	5	6
1.	Andhra Pradesh*	0	0	2592140	2556527
2.	Arunachal Pradesh	2129	441	40810	6710
3.	Assam	8525	4602	991656	497267
4.	Bihar	23211	20184	2762455	1527123
5.	Chhattisgarh	1132	100	777165	362143
6.	Gujarat*	0	0	955150	627283
7.	Haryana*	0	0	224073	177192
8.	Himachal Pradesh	93	13	12448	719
9.	Jharkhand	19737	15563	1691797	987179
10.	J & K	283	106	136730	26870
11.	Karnataka	132	59	891939	767358
12.	Kerala *	0	0	56351	17238
13.	Madhya Pradesh	806	238	1376242	278067
14.	Maharashtra*	6**	0	1876391	944856
15.	Manipur	882	204	107369	7741

1	2	3	4	5	6
16.	Meghalaya	1943	150	116447	28295
17.	Mizoram	137	25	27417	6211
18.	Nagaland	105	50	69900	15888
19.	Orissa	17895	10920	3185863	1671065
20.	Punjab*	0	0	148860	46266
21.	Rajasthan	4454	3524	1750118	844837
22.	Sikkim	25	14	11458	5221
23.	Tripura	160	56	194730	51511
24.	Tamil Nadu*	0	0	545511	498873
25.	Uttar Pradesh	30802	27757	1120648	872993
26.	Uttaranchal	1469	1503	281615	222700
27.	West Bengal	4573	4166	2699734	1022220
Total		118499	89675	24645017	14070353

* In the States of Andhra Pradesh, Gujarat, Haryana, Kerala, Maharashtra, Punjab and Tamil Nadu, all the villages were electrified prior to launching of RGGVY. Hence, no un-electrified villages are covered for electrification in these States. However, intensive electrification of already electrified villages are being undertaken in these States.

** After survey these 6 villages have been identified as electrified villages.

ANNEXURE IV

Remaining un-electrified villages to be electrified under RGGVY

Sl. No.	State	Sanctioned Coverage (un-electrified Villages)	Villages already electrified as on 15.01.2011	Remaining un-electrified villages to be electrified
1	2	3	4	5
1.	Orissa	17895	11231	6664*
2.	Jharkhand	19737	15740	3997*
3.	Assam	8525	4711	3814*
4.	Uttar Pradesh	30802	27757	3045#
5.	Bihar	23211	20392	2819*
6.	Meghalaya	1943	150	1793*
7.	Arunachal Pradesh	2129	500	1629
8.	Chhattisgarh	1132	108	1024*
9.	Rajasthan	4454	3561	893*
10.	Manipur	882	204	678
11.	Madhya Pradesh	806	238	568
12.	West Bengal	4573	4166	407*
13.	J & K	283	106	177
14.	Mizoram	137	25	112
15.	Tripura	160	64	96
16.	Himachal Pradesh	93	13	80
17.	Karnataka	132	59	73*
18.	Nagaland	105	50	55

1	2	3	4	5
19.	Sikkim	25	14	11
20.	Maharashtra	6	0	6*
21.	Andhra Pradesh	0	0	0
22.	Gujarat	0	0	0
23.	Haryana	0	0	0
24.	Kerala	0	0	0
25.	Punjab	0	0	0
26.	Tamil Nadu	0	0	0
27.	Uttaranchal	1469	1504	-35§
Total		118499	90593	27906

*States have reported reduction in coverage.

#UP has also reported reduction in coverage and remaining UEVs are NIL.

§Coverage has increased to 1504 from 1469.

STANDING COMMITTEE ON ENERGY

MINUTES OF THE SEVENTEENTH SITTING OF THE STANDING
COMMITTEE ON ENERGY (2009-10) HELD ON 17TH JUNE, 2010
IN COMMITTEE ROOM No. '62', PARLIAMENT HOUSE,
NEW DELHI

The Committee sat from 1100 hrs. to 1335 hrs.

PRESENT

Shri Mulayam Singh Yadav — *Chairman*

MEMBERS

Lok Sabha

2. Shri Adhir Ranjan Chowdhury
3. Shri Ram Sundar Das
4. Shri Shripad Yesso Naik
5. Shri Sanjay Nirupam
6. Shri Jagdambika Pal
7. Shri Nityananda Pradhan
8. Shri M.B. Rajesh
9. Dr. K.S. Rao
10. Shri Radha Mohan Singh
11. Shri E.G. Sugavanam

Rajya Sabha

12. Shri Motilal Vora
13. Shri Bhagat Singh Koshyari

14. Shri Shivpratap Singh
15. Shri Shyamal Chakraborty
16. Shri Govindrao Wamanrao Adik
17. Shri Mohammad Shafi
18. Prof. Anil Kumar Sahani

SECRETARIAT

1. Shri Brahm Dutt — *Joint Secretary*
2. Shri N.K. Pandey — *Additional Director*
3. Shri Rajesh Ranjan Kumar — *Deputy Secretary*

REPRESENTATIVES OF THE MINISTRY OF POWER

Ministry of Power

1. Shri P. Uma Shankar Secretary (Power)
2. Shri G.B. Pradhan Addl. Secretary
3. Shri Devender Singh Joint Secretary
4. Shri M. Ravi Kanth Joint Secretary
5. Shri I.C.P. Keshari Joint Secretary
6. Shri Rakesh Jain Joint Secretary & FA

Central Electricity Authority

1. Shri Gurdial Singh Chairperson

Public Sector Undertakings/Autonomous Bodies/Statutory Bodies

1. Dr. J.M. Phatak CMD, REC
2. Shri R.S. Sharma CMD, NTPC
3. Shri S.K. Garg CMD, NHPC

4.	Shri S.K. Chaturvedi	CMD, Powergrid
5.	Shri Satnam Singh	CMD, PFC
6.	Shri H.K. Sharma	CMD, SJVNL
7.	Shri R.S.T. Sai	CMD, THDC
8.	Shri N. Murugesan	DG, CPRI
9.	Dr. Ajay Mathur	DG, BEE
10.	Shri S. Biswas	Chairman, DVC

At the outset, the Chairman welcomed the Members of the Committee and the representatives of the Ministry of Power to the sitting of the Committee and apprised them of the provisions of Direction 58 of the Directions by the Speaker.

2. The representatives of the Ministry made a power-point presentation on the subject 'Transmission and Distribution Systems and Networks' focussing on various areas of the Transmission and Distribution Systems in the country.

3. The Committee *inter-alia* discussed with the representatives of the Ministry of Power the following important points:—

- (i) The targets and achievements in transmission and distribution in the 11th Plan period.
- (ii) Role of private sector in transmission.
- (iii) High capacity corridors identified for bulk transfer of power.
- (iv) Setting up of National High Power Test Laboratory Pvt. Ltd. a joint venture for testing transformers and other equipment.
- (v) High AT&C losses in the country at the level of 29%.
- (vi) Implementation of the Rajiv Gandhi Grameen Vidyutikaran Yojana.

STANDING COMMITTEE ON ENERGY

MINUTES OF THE SECOND SITTING OF THE STANDING COMMITTEE
ON ENERGY (2010-11) HELD ON 28TH SEPTEMBER, 2010 IN
COMMITTEE ROOM NO. '53', PARLIAMENT HOUSE,
NEW DELHI

The Committee sat from 1100 hrs. to 1310 hrs.

PRESENT

Shri Mulayam Singh Yadav — *Chairman*

MEMBERS

Lok Sabha

2. Shri P.C. Chacko
3. Shri Adhir Ranjan Chowdhury
4. Shri Paban Singh Ghatowar
5. Shri Sanjay Nirupam
6. Shri Ravindra Kumar Pandey
7. Shri Nityananda Pradhan
8. Shri M.B. Rajesh
9. Shri Ganesh Singh
10. Shri Radha Mohan Singh
11. Shri E.G. Sugavanam

Rajya Sabha

12. Shri Govindrao Wamanrao Adik
13. Shri V.P. Singh Badnore

14. Smt. Shobhana Bhartia
15. Shri Shyamal Chakraborty
16. Shri Rama Chandra Khuntia
17. Shri Bhagat Singh Koshyari
18. Shri Jesudasu Seelam
19. Shri Mohammad Shafi
20. Shri Motilal Vora
21. Shri Veer Pal Singh Yadav

SECRETARIAT

1. Shri Brahm Dutt — *Joint Secretary*
2. Shri N.K. Pandey — *Additional Director*
3. Shri Rajesh Ranjan Kumar — *Deputy Secretary*

REPRESENTATIVES OF THE MINISTRY OF POWER

Ministry of Power

1. Shri P. Uma Shankar — Secretary
2. Shri G.B. Pradhan — Addl. Secretary
3. Shri Ashok Lavasa — Joint Secretary
4. Shri Sudhir Kumar — Joint Secretary
5. Shri Devender Singh — Joint Secretary
6. Shri M. Ravi Kanth — Joint Secretary
7. Shri I.C.P. Keshari — Joint Secretary

Central Electricity Authority

1. Shri Gurdial Singh — Chairperson
2. Shri S.M. Dhiman — Member

Public Sector Undertakings/Autonomous Bodies/Statutory Bodies

- | | | | |
|----|-------------------------|---|----------------|
| 1. | Shri J.M. Phatak | — | CMD, REC |
| 2. | Shri Arup Roy Choudhury | — | CMD, NTPC |
| 3. | Shri S.K. Garg | — | CMD, NHPC |
| 4. | Shri S.K. Chaturvedi | — | CMD, Powergrid |
| 5. | Shri Satnam Singh | — | CMD, PFC |

At the outset, the Chairman welcomed the Members of the Committee and the representatives of the Ministry of Power to the sitting of the Committee and apprised them of the provisions of Directions 55(1) and 58 of the Directions by the Speaker.

2. The representatives of the Ministry made a power-point presentation on the subject 'Transmission and Distribution Systems and Networks' focussing on the main areas of Transmission, Distribution and various problems being faced at the ground level and suggestions of the Ministry to overcome the same.

3. The Committee *inter-alia* highlighted the following important issues during the sitting:—

- (i) Technological advancement in transmission.
- (ii) Inter-state transmission, open access regulations and grid discipline.
- (iii) Obtaining forest and wildlife clearances for transmission projects.
- (iv) Distribution of power in the rural and urban areas—APDRP and Revised APDRP schemes, programmes and effects of the same on AT&C losses.
- (v) Development of smart grid in the country.
- (vi) Rajiv Gandhi Grameen Vidyutikaran Yojana – Key areas of implementation and problems faced in various States in regard thereto.

The Members sought clarifications on various issues relating to the subject. The Committee directed the representatives of the Ministry to furnish written replies to the questions raised by the Committee.

4. A verbatim record of the proceedings of the sitting of the Committee has been kept.

The Committee then adjourned.

STANDING COMMITTEE ON ENERGY

MINUTES OF THE EIGHTH SITTING OF THE STANDING COMMITTEE
ON ENERGY (2010-11) HELD ON 3RD MARCH, 2011 IN ROOM
NO. '134', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1500 hrs. to 1600 hrs.

PRESENT

Shri Mulayam Singh Yadav — *Chairman*

MEMBERS

Lok Sabha

2. Shri P.C. Chacko
3. Shri Paban Singh Ghatowar
4. Shri Syed Shahnawaz Hussain
5. Shri Sanjay Nirupam
6. Shri Jagdambika Pal
7. Shri Ravindra Kumar Pandey
8. Shri Radha Mohan Singh
9. Shri Vijay Inder Singla
10. Shri E.G. Sugavanam

Rajya Sabha

11. Shri Govindrao Wamanrao Adik
12. Shri V.P. Singh Badnore
13. Shri Rama Chandra Khuntia
14. Shri Jesudasu Seelam
15. Shri Mohammad Shafi

SECRETARIAT

1. Shri Brahm Dutt — *Joint Secretary*
2. Shri N.K. Pandey — *Additional Director*
3. Shri Rajesh Ranjan Kumar — *Deputy Secretary*

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