25

STANDING COMMITTEE ON ENERGY

(2016-17)

SIXTEENTH LOK SABHA

MINISTRY OF POWER

[Action Taken by the Government on the recommendations contained in the Twelfth Report (16th Lok Sabha) on Commercial Losses]

TWENTY-FIFTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

December, 2016/ Agarahayana, 1938 (Saka)

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Presented to Lok Sabha on 15.12.2016

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INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this 25th Report on the action taken by the Government on the recommendations contained in 12th Report of the Standing Committee on Energy (16th Lok Sabha) on 'Measures to Check Commercial Losses' pertaining to the Ministry of Power.

2. The 12th Report was presented to to Lok Sabha on 11th December, 2015 and was laid on 14th December, 2015 on the Table of Rajya Sabha. Replies of the Government to all the recommendations contained in the Report were received on 20th October, 2016.

3. The Report was considered and adopted by the Committee at their sitting held on ___th December, 2016.

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

5. An analysis on the Action Taken by the Government on the recommendations contained in the 12th Report of the Committee is given at Appendix-II.

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

NEW DELHI
14 December, 2016
Agrahayana 23,1938 (Saka)

DR. VIRENDRA KUMAR
Chairman,
Standing Committee on Energy

CHAPTER - I

This Report of the Standing Committee on Energy deals with the action taken by the Government on the Observations/Recommendations contained in the Twelfth Report (Sixteenth Lok Sabha) on Measures to Check Commercial Losses.

2. The Twelfth Report was presented to, Lok Sabha on 11th December, 2015 and was laid on 14th December, 2015 on the Table of Rajya Sabha. The Report contained 15 Observations/Recommendations.

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

(i) Observations/Recommendations which have been accepted by the Government:
Serial Nos. 2,3,4,5,6,7,8,9,10,11,12,13,14 and 15

Total - 14

Chapter-II

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

- Nil -

Total - 00

Chapter-III

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

Serial No. 1

Total–01

Chapter-IV

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

- Nil -

Total - 00

Chapter-V

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

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

(Recommendation Sl. No. 1, Para No. 2.1)

6. The Committee had noted that energy losses occur in the process of supplying electricity to the consumers due to both technical and commercial reasons. The technical losses, which are inherent in a system, are due to energy dissipated in the conductors and equipment used for transmission, transformation, sub-transmission and distribution of power. Commercial losses are caused by pilferage by hooking bypassing meters, defective meters, and errors in meter reading and in estimating unmetered supply of energy. These technical and commercial losses, along with the shortage due to non-realization of total billed amount, constitute Aggregate Technical & Commercial (AT&C) losses. The Committee had further noted that before the concept of AT&C loss was worked out, Transmission and Distribution (T&D) loss was being calculated. T&D loss is the difference in input energy and energy billed and in this method, there is no accounting for losses because of low collection. On the other hand AT&C loss is the difference in input energy and energy for which revenue has been collected. Hence, AT&C loss concept was introduced as it captures both billing and collection efficiency while T&D captures only billing efficiency. The Committee were given to understand that Discoms are benefited directly with the introduction of the concept of AT&C losses as their performance can be judged more accurately by taking care of the collection of revenue aspect also in addition to the billing as per The Committee, had however, found that this concept has not been followed religiously. Rather, the concept of AT&C losses is concentrated on transmission losses.

Knowingly, the aspect of commercial losses has been ignored which has been ignored which has resulted into further deterioration of the financial health of DISCOMs. It had also obfuscated the concept of losses inasmuch that the biggest component of the losses, i.e. pilferage or theft of electricity-could never come to the center stage. With a view to addressing the need for elimination of pilferage or theft of electricity, the Committee took up this subject for detailed examination.

During the examination of subject, the Committee was apprised that at present there is no means to segregate the technical and commercial-losses. However, it was also stated the some study done by the Central Electricity Authority (CEA) indicates:

- The losses in Distribution Sector has been brought down from 40+% to 20+%.

- Presently, AT&C losses in the country is around 22%.
- AT&C losses means
    a. Transmission loss
    b. Commercial loss
- According to CEA, present figure of technical losses, i.e. losses occurring during
- The process of bringing the power to the outskirt of city/villages is around 6 to 8 %.
- The figure for commercial losses, i.e. last point distribution losses is around16to18% per CEA/Expert.

The Committee had therefore, recommended that

(i) First and foremost, segregation of technical and commercial losses should be done, even if it is in approximation. The Committee are of the firm belief that this will not only helping having a clear picture of different components of the losses but will also be instrumental in containing the overall loss level by pinpointing the efforts to the specific areas. Further, segregated values will never prevent anyone from aggregating them to use it for the required purposes.

(ii) Henceforth, Commercial losses should be calculated separately and be brought to the public domain by all the Discoms/Agencies

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

"A Pilot study has been conducted for segregating Commercial losses and Technical losses in ten towns (Dehradun, Visakhapatanam, Hydrabad, Bhopal, Kolakatta, Ahmedabad, Navi Mumabi, Shimla, Panchkula, Bhatapara) by Power Finance Corporation (PFC). The report has been sent to the Standing Committee of Parliament on Energy on 10.08.2016 vide this Ministry's OM No 5/1/2016-IPDS (Pt.). The technical losses in these towns were in the range of 2.62% to 7.71% and commercial losses were in the range of 1.14% to 36.91% for their AT&C losses in the range of 4.94% to 38.18%. Technical losses in these 10 towns were calculated using GIS based network analysis module of the IT system installed under RAPDRP. Commercial losses were calculated by subtracting technical losses from AT&C loss of respective towns. Report also says that the technical loss for a distribution network cannot be a fixed figure because it depends on several factors like the pattern of energy use, intensity of load demand, load density & capability and configuration of the distribution network which varies with above element".

8. The Committee in their original report have recommended for segregation of technical and commercial losses even in if it is in

approximation as this will not only help in having a clear picture of different components of the losses but will also be instrumental in containing the overall loss level by pinpointing the efforts to the specific areas. The Committee are happy to note that the Ministry have made sincere efforts and a Pilot study has been conducted for segregating Commercial losses and Technical losses in ten towns by Power Finance Corporation (PFC). The findings of the study have been as per expectations of the Committee, the technical losses ranges from 2.62% to 7.71%, whereas, commercial losses are as high as 36.91%. The Ministry have further stated that the said Report also says that the technical loss for a distribution network cannot be in fixed figure because it depends on several factors like the pattern of energy use, intensity of load demand, load density & capability and configuration of the distribution network which varies with above element. The Committee do agree with the above conclusion of the Report, however, they do not find it in contravention of their recommendation. The Committee do understand that technical losses cannot be a static figure for all the areas/town and for all the time, nonetheless, even their approximate range band would be able to serve the purpose of segregation to a great extent. The Committee, therefore, would reiterate that on the basis of above study the concept of segregation of commercial and technical losses should also be applied to all these cities wherein the erstwhile R-APDRP scheme (Now, IPDS) was implemented for Computerized Data Collections and follow-up remedial measures for detecting and plugging leakages in electricity supply. And the separate figures of commercial and technical losses should be brought to the public domain by all the Discoms /Agencies.

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

9. The Committee had noted that there have been several schemes and programmes of Government that are aimed at reducing of losses. These include schemes for financial restructuring of the Discoms in addition to the IPDS. The schemes also inter-alia include DDUGJY, Rating of Discoms, Quarterly Review of AT&C Losses, Concept of Feeder Manager, Profit Centre Approach, etc. However, despite various initiatives, the efforts towards loss reduction are not yielding the desired results. Around 1100 towns in various States across the country have been declared 'go-live' under part-A of the R-APRDP. The data regarding use of electricity is flowing from these 'go-live' towns making it easy to identify the places and the reasons for the losses. The Committee had felt that in such a scenario, the desired results will start flowing in as the ground work regarding identification of the losses has been completed these 'go-live' towns. As such, henceforth, there cannot be any alibi for non-performance, particularly when incentives are also being offered for certain results. The Committee had, therefore recommended that:

(i) State-wise 'Go Live' towns be selected for decided trajectory of losses within a definite time frame.

(ii) Various programme and schemes aimed at reduction of losses should be linked only to these areas to produce better and definite results.

(iii) The-system of SCADA needs a reorientation as its results are yet be analyzed for the purpose of targeting loss reduction.

(iv) The selection criteria of population of 30,000 and above for a town, to become eligible for R-APDRP programme should be relaxed and small towns should also be brought within its purview for the purpose of data collection to identify and reduce commercial, losses.

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

> "(i)&(ii) Under IPDS, AT&C loss reduction target is 15% for all towns funded under Part-B of the scheme. AT&C loss reduction shall be monitored for five years with one year after Go-Live of all towns in a State and conversion of loan to grant is linked to achievement of target of AT&C loss reduction to 15% level.
> (iii) SCADA is a system designed for improving reliability of Power Supply. It is designed for remote isolation of faulty section and remote control of feeders so that the location of the power supply can be easily identified and the supply restored through remote operation via alternate supply routes; As such, SCADA interventions are to improve the reliability of power supply and are not capable of reducing AT&C losses. Under R-APDRP Part-A (SCADA) was approved for 72 towns.
> (iv) Erstwhile R-APDRP aims at reduction of AT&C losses to below 15% in towns with population greater than 30,000 as per 2001 census (10,000 for special category States). IPDS was launched in Dec'2014 for urban areas has enlarged to cover larger urban areas by including towns under urban category as per census 2011, district headquarters & towns notified by state

govt Under Integrated Power Development Scheme, state utilities are permitted to extend IT system for other towns also by adding additional hardware. The IT system established under R-APDRP is scalable & expandable in modular fashion. In line with the directions of the Parliamentary Standing committee for energy, all Census 2011 towns, 4041 in number, will be covered under IT implementation under IPDS, for which a decision has already been taken by the Monitoring committee of IPDS in its 7th meeting."

11. The Committee in their orginal report *inter* alia had recommended that the selection criteria of population of 30,000 and above for a town, to become eligible for R-APDRP programme be relaxed and small towns should also be brought within its purview for the purpose of data collection to identify and reduce commercial, losses. The Committee are glad to note that the Ministry have agreed to cover all 4011 (2011census towns) under IT implementation of IPDS, for which a decision has already been taken by the Monitoring committee of IPDS in its 7th meeting. The Committee while appreciating the Ministry for their prompt action in this matter, feel that this is a step in the right direction.

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

12. The Committee had noted that under the concept of Feeder Managers and the profit center based approach, 11 KV/ feeders are treated as the basic unit of monitoring. Distribution utility and State distribution utilities assign feeders to Junior Engineers (known as Feeder Manager). 11 KV feeders are operated as business units, accounting for metering, billing, and collection. Since a JE/AE is required to deal with one/ two feeders on an average, full responsibility can be assigned to him. Feeder managers have all the necessary data / information on metering, billing, collections, etc. and they are assigned targets to improve metering; billing and collection by taking measures such as vigilance, new connection drive etc. which reduce the AT&C losses of the feeders. The Committee, while fully endorsing this concept, had recommended that the Government should extend and expand the concept of Feeder Manager and Profit Centers all over the country and ensure its intensive implementation.

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

"Feeder Manager Concept is emphasized during all interactions with Utilities. Ministry of Power has advised for implementation of Online Feeder Monitoring System (OFMS), whereby feeder data from all 11KV feeders of R-APDRP towns are being captured and monitored centrally. Till 30.09.2016, 16,103 feeders in urban areas have been connected for online monitoring".

14. The Committee in their original Report had recommended that the Government should extend and expand the concept of Feeder Manager and Profit Centers all over the country and ensure its intensive implementation. The Committee note with satisfaction that feeder data from all 11KV feeders of R-APRDP towns are being captured and monitored centrally. Also, the Committee have been informed that till 30.09.2016, 16,103 feeders in Urban areas have been connected for online monitoring. The Committee desire that the remaining feeders shall also be connected for online monitoring in the shortest possible time.

CHAPTER II

RECOMMENDATIONS/ OBSERVATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

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

Problem of AT&C losses in the Country

The Committee note that the electricity sector has been facing many problems since long. The sector has expanded reaching out to the remote areas of the country;however, the financial-health of the sector is a cause of utmost concern. With a view to reforming the sector, The Electricity (Amendment) Act, 2003' was enacted; one of the main features of the Act was to bring in reforms by unbundling the State Electricity Boards intogeneration, transmission and distribution units. Financial restructuring plan was also notified to bail out State distribution companies to achieve financial turnaround by restructuring their debt. An integrated rating Methodology for State Discoms to help in identifying their strengths and weaknesses was also formulated. The National Electricity Policy provided for the accelerated development of the private sector by Supplying electricity to all areas, protecting the interests of the consumers, quality power of specified standard and ensuring commercial viability of the electricity sector.
However, the reforms brought into the sector have not been of much help as sector is beset with problems of huge aggregated technical and commercial lose which have not been properly addressed. Of this, commercial losses constitute a major chunk. The electricity sector is going through a period of transition and unless the - reasons responsible for the ill-health of the sector are Identified and fixed, no improvement can take place.

The Committee, therefore, recommend that:

- ***(i)*** **The percentage of Electricity losses, irrespective of the nature of losses i.e. whether technical or commercial should be capped at an acceptable level and time-bound remedial measures should urgently be implemented.**
- ***(ii)*** **No agency has taken note of commercial losses and efforts are made only to cover them up under the garb of comprehensive AT&C losses. The involved agencies should be made answerable and accountable.**
- ***(iii)*** **High losses in the electricity sector have led to the poor economic health of the State Distribution Companies; this need to be remedied.**
- ***(iv)*** **The reforms introduced to improve the sector and its financial/ commercial viability, need to be reviewed essentially- to ascertain why they failed in achieving the intended target**
- ***(v)*** **To improve the functioning of the sector, such high/heavy Commercial losses, cannot be allowed any longer.**

Reply of the Government

AT&C loss reduction trajectory (discom-wise) up-to 2019-20 has been finalized by the Ministry of Power in consultation with States with the objective of achieving 15% AT&C loss at national level. A copy of the trajectory finalized in consultation with the States after extensive consultations, duly incorporating the commitment of the States under the Ujwal DISCOM Assurance Yojana (UDAY) is enclosed as **Annexure -I.**

To improve the economic health of the DISCOMs, and to have a permanent sustainable solution to the problem, after extensive stakeholder consultations and deliberations on previous attempts at financial turnaround of DISCOMs, UDAY was launched as an optional scheme for States to join. Till 15th October, 2016, a total of 17 States/ UTs, viz Jharkhand, Chhattisgarh, Rajasthan, Uttar Pradesh, Gujarat, Bihar, Punjab, Jammu & Kashmir, Haryana, Uttrakhand, Goa, Karnataka, Andhra Pradesh, Manipur, Puducherry, Madhya Pradesh and Maharashtra have joined UDAY. UDAY incorporates a slew of measures to achieve a defined outcome of reduction in AT&C losses in the States to a level of 15% in three years.

Further, Post Go-Live Reports are being generated by Utilities from IT system for monitoring of AT&C loss reduction etc. to facilitate administrative actions by Utility. Various initiatives are being regularly reviewed centrally at highest level of MoP, GoI during monthly Review, Planning and Monitoring meetings with respective Secretaries of States to improve delivery.

Smart meters have a potential to improve the billing efficiencies by ensuring an automatic collection of Energy data from consumers, besides enabling energy audits down to the consumer level. Smart meters also have a capability of reducing pilferage of electricity due to the built in anti-tamper arrangements. In the revised National tariff policy published in the Gazette of India on January 28th, 2016, the State regulators have been mandated to provide Smart meters for consumers on a consumption based criteria by December 2019. Further, the policy mandates provisions of Smart meters to all consumers to enable energy audits. As a follow-up to this intervention, the Central Electricity Authority (CEA) has released the commercial specifications and the rollout strategy for Smart meters to all States vides their letter No CEA/DPD/AMI/2016/992-1029 dated 31.08.2016. The Ministry has also requested the Forum of Regulators (FOR) to sensitize the State regulators towards these provisions vide its Letter No 26/9/2015-IPDS dated 08.09.2016. These enablers would help States/ DISCOMs to procure and provide Smart meters to the consumers.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation *(S.I no. 3, Para no.2.3)*

The Committee note that the current status of AT&C losses in the- country is extremely worrisome, although a gradual decrease can be noted in the loss since the year 2011-12 to 2014-15. Whereas it was 26.63% in 2011-12, it has been brought down to 21.6% in the year 014-15. However, there are still about 20 States wherein the losses varies from 22% to 71.23%; in 4 States, it varies from 16.18% to 19%. That going so, the average losses at 21.6% raises serious concern. While the Committee do not want to belittle the efforts made to address the problem areas, they are of the considered view that there is an apparent lack of will and to achieve the objective. The Committee, noting also the pace at which things are moving, feel that a time-bound action plan is the need of the hour tackle the problem. Although the issue relates to the States and the degree of the problem may differ from State to State, yet it cannot be left unattended. In this regard, the Committee are clear that State specific action plan should be drawn up with near uniformity to address the issue of Commercial losses.

(i) **Action plan in three months duration may be prepared based on the circumstances of the States with a specific target of bringing down commercial losses.**

(ii) **The loss prone areas to be identified, their data analyzed and remedial measures taken in these zones.**

(iii) **There should be no compromise on the achievement of the loss reduction targets during the period of these action plans.**

(iv) **Non-fulfillment of the objective be viewed adversely and officer concerned be made available.**

(v) **The loss reduction target should be 5% at least of the occurring losses during the period of the action plan.**

Reply of the Government

Establishment of IT enabled system in urban towns that can enable State Utilities to identify loss prone areas in such towns. Of these eligible 1409 Part-A (IT) towns, 1226 towns have already been declared Go-Live implying that IT system have been established under R-APDRP, are able to identify high loss areas and take remedial measures.

The Ministry has embarked upon a plan to identify loss pockets and loss making feeders by ensuring online feeder data integration with the National Power portal. An App called “Urja” been launched in the public domain for use on Mobile phones, through which the loss levels of feeders in each of the Go-live towns can be seen. The App can be downloaded by anyone having access to Android Play Store or Apple Store on their Mobile phones. This would enable States/ DISCOMs to take managerial actions to contain losses. Loss reduction targets have been finalized in consultation with the States under the provisions of IPDS, 24X7 and UDAY schemes.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

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

Loss Reduction Programmes

The Committee noted that the Ministry, with the objective of reducing-high AT&C losses and commercial losses' in the country, had launched the Accelerated Power Development and Reforms Programme (APDRP) way back in 2002-03. The APDRP performance had limited success in achieving its objectives and some of the components like investment in IT related energy audit and accounting works were not even taken up. It has been observed that very few States have taken up standalone IT solutions under APDRP and full benefits of these IT solutions could not be derived as integration of all the IT solutions was not adopted. Based on the 10th Plan experiences, APDRP was later modified and launched as the Restructured-APDRP in 2008. The objective of R-APDRP was of reduction in AT&C loss in urban areas - towns and cities with population of more than 30,000 (10,000 for special category States). Private distribution utilities were not covered under the programme. Projects under the scheme are taken up in two parts. Part-A aims to establish IT enabled system with Data Centre, Customer Care Centre etc for energy accounting / auditing and Supervisory Control and Data Acquisition (SCADA) for bigger towns (population: 4 lakh and Annual Energy Input: 350MU) whereas-part-B is for upgradation & strengthening of electrical networks in these towns. Projects worth Rs. 39197.72 crore (Part-A: Rs 6,983.53 crore covering 1409 towns and 72 SCADA projects; Part-B: Rs. 32,214.19 crore covering 1258 towns) are under implementation.So far, 19 out of 21 Data Centres have been commissioned and 1058 towns have been declared "Go-Live" under Part-A of the programme. Part-B projects have been completed in 282 towns. The Government have now subsumed R-APDRP into the Integrated Power Development Scheme with the additional objective of strengthening of sub-transmission and distribution networks in the urban areas and metering of distribution transformers/ feeders /consumers in the urban areas. The Committee believes that the implementation of these schemes will improve the Electricity Distribution Systems in the country and help in containing AT&C losses. However, the fact that distresses the Committee the most is the pace of their implementation. After the lapse of 12-13 years since the inception of programme aimed at reduction of AT&C losses, substantial parts of the country are yet to get the required infrastructure as envisaged under the various programmes and the AT&C losses are still way too high. The Ministry have stated that the effectiveness of this programme in containing loss could be evaluated only when the components are fully implemented. The Committee are deeply concerned that the Ministry do not have a definite time frame for completion of this programme and stress that these programmes should not be allowed to continue indefinitely. The Committee, therefore, strongly recommends that

(i) **There should be a definite time-frame for coverage of all the cities under the scheme and consequent reduction of AT&C losses.**

(ii) **The effectiveness of the programme should be evaluated during its currency and not on its completion.**

(iii) **The scope and ambit of the programme should be enlarged with special focus on the pace of its implementation.**

Reply of the Government

GoI launched IPDS in December'14, to supplement the effort of Utilities in strengthening their sub-transmission and distribution network in Urban Areas. Coverage of the new scheme includes urban towns and Utilities prioritized urban towns across State for funding under IPDS. The IPDS interventions are likely to be completed by 2019-20.

The Scheme provides for appointment of Third Party Concurrent Evaluation Agency (TPCEA) for concurrent monitoring and evaluation of projects during implementation stage. The scope of IPDS has been enlarged (w.r.t. erstwhile R-APDRP) to include more urban towns and the 7th meeting of the Monitoring. Committee of IPDS has decided to accord an in-principle approval to extension of incremental IT interventions to an additional 2600 Urban towns; this would cover all 4041 Statutory urban towns (as per 2011 Census) under IT interventions. To ensure quick results, it has been targeted to prioritise energy audit related works under these interventions by December, 2017.
Further, introduction of Project Management Agency (PMA) in IPDS likely to improve pace of implementation of projects covered.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 5, Para no.2.5)

The-Committee note-that 1058 towns have been declared "Go-Live" under Part-A of the R-APDRP Programme and Part.-B, Projects have been 'completed in 282 towns. Go-Live towns, are towns where IT work is completed and town energy data has started flowing to the Data Centre for Energy accounting and auditing. Utilities have started using this data for Energy accounting / auditing and to take administrative measures for controlling AT&C losses. Since there are several towns where electricity networks have been strengthened and upgraded under R-APDRP and live data are available for monitoring the system, the committee recommends that the Government should select some towns for running Pilot Projects. The Objective of these projects should be to reduce AT&C losses to the minimum possible level and that too in a definite time frame. The Committee believes that **such Pilot Projects will not only be a testing ground for efficiency and effectiveness of the programme being run to reduce AT&C losses and, if successful, will become role models for other towns.**

Reply of the Government

At the instance of MoP, PFC has taken up an Impact Assessment Study to assess the benefits of Part-A (IT) implementation. Same has been conducted in 76 towns in 14 States where all towns have been declared Go Live. The key findings are as under:
(a) The IT System established has enabled identification of AT&C Loss pockets and utilities have started taking corrective measures
(i) AT&C Loss reduction reported in 85% of these towns

(b) IT System established has enabled accurate measurement of Reliability of Power viz. total hours of power supply.

(i)>85% Reliability observed in 66 towns

(c) Single Window Customer Care Center has been established for all type of complaints in these States. Web Self-service and multiple payment options have also been made operational.

(i) Overall improvement reported in customer convenience in all parameters

(ii) 78% of Consumer Grievances are redressed within SERC time limits.

(iii) 72% of New Connections have been released within SERC time limits.

(iv) Upto 41% of consumers in respective towns have started using e-payment mode

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

(Recommendation S.l no. 6, Para no.2.6)

The Committee noted that efforts had been made in the past to contain commercial losses, but without the desired results. Many reasons have been given for technical and commercial losses which are of a routine nature. Reasons like poor repair and maintenance of equipment, overload of existing lines, non-installation of sufficient capacitors, etc. for technical and low metering/ billing, theft, tempering of meters and unaccountability of employeesfor commercial losses are far satisfactory as all these reasons are not beyond technical and administrative solutions. Citing these reasons for sickness of the sector is unacceptable and better the lack of will of quarters concerned to conduct the sector efficiently and professionally. In that context, the Committee feel that with due diligence appropriate technical innovation and support, these factors can easily be overcome.

The Committee note that upgradation of distribution network and the use of Information Technology as envisaged under R-APDRP/IPDS will, per-se, not bring down AT&C losses. It will only provide information and data as to how much losses being incurred in the system and where. On the basis of the information obtained, through such technology, Discoms will have to make managerial intervention to contain the losses. Therefore, technology will only inform and facilitate taking decisions to contain losses. The Committee have also noted that it is not ownership, viz. Public or Private, of the Discoms that determines the efficiency of Discoms and the loss level, but the managerial styles/skills adopted by them. There are examples Where Government run Discoms have been able to reduce AT&C loss significantly, whereas some private Discoms have miserably failed to contain their losses. In view of these, the Committee concluded that:

(i) **High commercial losses are purely a managerial issue and depend on the willingness and managerial skills of the Discoms rather than on their ownership.**

(ii) **Appropriate and, timely maintenance and installation of adequate capacity equipment will resolve the, problem of technical losses, including overloading of existing lines.**

(iii) **Several DISCOMs have been able to bring AT&C losses down to the national Target of 15%; the functioning of these Discoms should be emulated.**

(iv) **We need not wait for 'the completion 'of R-APDRP/IPDS for reduction of Commercial losses 'There are several Managerial intervention that can be take up to do this.**

(v) **Metering of each and every feeder/transformer should be implemented without any further delay. The concept of Feeder Management has great potential to reduce commercial losses, therefore Utmost efforts should be made to persuade all the Discoms to adopt it.**

(vi) **The use of Geographical Information System (GIS) in the Distribution Sector should be encouraged. Based on that the use of High Voltage Direct Current (HVDC) lines and Aerial Bunched Cables should be started in the-areas prone to high losses.**

Reply of the Government

(i) PFC publishes "Report on performance of state power utilities" particularly indicating AT&C losses. Management of utilities is expected to take note of their losses and initiate commensurate administrative action for reduction of AT&C losses.

(ii) The ongoing IPDS support Utility's effort towards strengthening of its sub-transmission and distribution network in urban areas and Utilities are prioritizing the work in their urban towns in the State.

(iii) Under IPDS, MoP/Power Finance Corporation regularly share among all utilities, the best practices followed by States in distribution sector for improvement in infrastructure, customer services and in reduction of AT&C losses. Further, based on the observations of the Standing Committee on 19.10.2015, PFC has taken up a study of 10 Discoms where AT&C loss has reduced in last 5 years. A copy of the report has been sent to the Standing Committee of Parliament on Energy vide this Ministry's OM No 5/1/2016-IPDS (Pt.) dated 10.08.2016.

(iv) Metering of all feeders/Distribution Transformers is being insisted upon under Integrated Power Development Scheme. Monitoring of 11KV feeders centrally at All India level by porting data through IT enabled system of all feeders in the urban areas to National Power Portal (NPP) has been developed by NIC. Till 30.09.2016, a total of 16,103 out of 31,640 Urban feeders have started exchanging data with the portal in a short period of only 10 months. A system of sharing the analysis of loss prone feeders with the States has been started on a monthly basis. Details of the feeder's performance is also uploaded on the IPDS website. The

process of integration of the feeder data with the online portal is being hastened.

(v) Use of Geographic Information System (GIS) based Asset Mapping & Consumer Indexing was essential part of Restructured Accelerated Power Development & Reforms Programme. High Voltage Distribution System (HVDS) and use of Aerial Bunched Cables provision has been included in the scope of works under the component of strengthening of sub-transmission and distribution network in IPDS.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 7, Para no. 2.7)

The Committee note that there are several towns where works under R-APDRP have been completed and data related to distribution system are being captured and compiled. The Committee are of the opinion that these data are very important in containing AT&C losses and will facilitate DISCOMs to make the required interventions. They also believe if these data are put in the public domain, it will not only lead to greater transparency, but also compel DISCOMs to take needful actions. The Committee, therefore recommend that these data should be made available online for the information of the general public as well.

Reply of the Government

The post Go-Live reports [comprising of reports on Town-wise AT&C losses, monitoring of High loss feeders, New Service connection release, Consumer complaint redressal and Power reliability] of the R-APDRP Go-live towns is being uploaded on IPDS web-portal by concerned Discoms and is available for viewing by concerned executives of Utilities, State Govt., PFC and MoP. The Utilities have also been advised to put-up these reports on their web-sites in public domain and the same has been uploaded by most of the Utilities. Further, the Urja App displays the information of AT&C losses of all Go-live RAPDRP towns for public information.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 8, Para no.8)

The Committee note that there have been several schemes and programmes of Government that are aimed at reducing of losses. These include schemes for financial restructuring of the Discoms in addition to the IPDS. The schemes also inter-alia include DDUGJY, Rating of Discoms, Quarterly Review of AT&C Losses, Concept of Feeder Manager, Profit Centre Approach, etc. However, despite various initiatives, the efforts towards loss reduction are not yielding the desired results. Around 1100 towns in various States across the country have been declared ‘go-live' under part-A of the R-APRDP. The data regarding use of electricity is flowing from these ‘go-live’ towns making it easy to identify the places and the reasons for the

losses. The Committee feel that in such a scenario, the desired results will start flowing in as the ground work regarding identification of the losses has been completed these 'go-live' towns. As such, henceforth, there cannot be any alibi for non-performance, particularly when incentives are also being offered for certain results. The Committee, therefore recommend that:

(v) **State-wise 'Go Live' towns be selected for decided trajectory of losses within a definite time frame.**

(vi) **Various programme and schemes aimed at reduction of losses should be linked only to these areas to produce better and definite results.**

(vii) **The-system of SCADA needs a reorientation as its results are yet be analyzed for the purpose of targeting loss reduction.**

(viii)

he selection criteria of population of 30,000 and above for a town, to become eligible for R-APDRP programme should be relaxed and small towns should also be brought within its purview for the purpose of data collection to identify and reduce commercial, losses.

Reply of the Government

(i) & (ii) Under IPDS, AT&C loss reduction target is 15% for all towns funded under Part-B of the scheme. AT&C loss reduction shall be monitored for five years with one year after Go-Live of all towns in a State and conversion of loan to grant is linked to achievement of target of AT&C loss reduction to 15% level.

(iii) SCADA is a system designed for improving reliability of Power Supply. It is designed for remote isolation of faulty section and remote control of feeders so that the location of the power supply can be easily identified and the supply restored through remote operation via alternate supply routes; As such, SCADA interventions are to improve the reliability of power supply and are not capable of reducing AT&C losses. Under R-APDRP Part-A (SCADA) was approved for 72 towns.

(iv) Erstwhile R-APDRP aims at reduction of AT&C losses to below 15% in towns with population greater than 30,000 as per 2001 census (10,000 for special category States). IPDS was launched in Dec'2014 for urban areas has enlarged to cover larger urban areas by including towns under urban category as per census 2011, district headquarters & towns notified by state govt Under Integrated Power Development Scheme, state utilities are permitted to extend IT system for other towns also by adding additional hardware. The IT system established under R-APDRP is scalable & expandable in modular fashion. In line with the directions of the Parliamentary Standing committee for energy, all Census 2011 towns, 4041 in number, will be covered under IT implementation under IPDS, for which a decision has already been taken by the Monitoring committee of IPDS in its 7th meeting.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 9 Para no.9)

While examining the subject, the Committee felt that theft is being covered up under agricultural electricity supply. The Committee, therefore recommend that all efforts should be made for metering of total electricity supply, irrespective of its use Metering of each and every feeder/ transformer will help to identify and focus on the problematic areas for taking necessary action. It will also help in securing accountability and extending incentives for Discom officials, as the case may be. The Committee also found that there are various legal provisions that are a deterrent electricity theft, but their strict and proper execution is required. The Committee therefore, recommend that **a system should be developed having incentive and penalties with appropriate legal execution of these provisions should also be ensured.**

Reply of the Government

The responsibility of reduction of thefts in the Distribution network is primarily with the Discoms and power departments/utilities. There are enabling punitive provisions against power theft for Electricity Distribution Companies in the Electricity Act 2003. The Ministry of Power has made several interventions such as IT enablement of distribution infrastructure, feeder metering, feeder segregation and monitoring of AT&C loss trajectories through various schemes such as Integrated Power Development Scheme (IPDS) and Deendayal Upadhyaya Gram JyotiYojana (DDUGJY) to detect and prevent power theft.
Under the aegis of UDAY, IEC campaigns under Power theft are also to be conducted by the participating States.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 10 Para no.10)

Energy Audit

The Committee are dismayed to note that the concept of Energy Audit is still in a rudimentary stage in the electricity sector of the country. In the absence of effective energy accounting and auditing, utilities can never know the causes and locations of the technical or commercial loss because of which no curative measures can be taken.
The Committee believes that there is immense scope of energy saving if energy audit is extensively and mandatorily undertaken. The Committee are of the firm belief that Energy Audit is a prerequisite for reduction of AT&C losses as such Energy Audit will show the Discoms where to focus to contain the losses. Since energy audit with the use of Information Technology is essential for effective action against theft and avoidable technical losses, the Committee recommend that

(i) Utmost efforts should be made to make Energy Audit of Discoms in the country mandatory

(ii) State Regulators must ensure the energy Performance audit of the Discoms, besides their financial and economic audit. Appropriate penal provisions should also be there for non-compliance of the energy audit provisions.

Reply of the Government

Under R-APDRP, the IT system established essentially comprises of 'Energy Audit' module. Utilities are using the said module for energy auditing in R-APDRP Go-Live towns.

Further, in order to enable energy audit in the distribution system, following provisions have been made in the revised Tariff Policy notified in the Official Gazette on 28.1.2016-

Para 8.3(3)

"In order to enable energy audit in the distribution system, all distribution companies shall ensure smart meters in their electricity system throughout the chain from transformers at 132kV level right down to distribution transformer level at 11kV and further down to each consumer. Further, in order to reduce theft of power, the distribution companies should have enabling feature like distribution SCADA with distribution management system and energy audit functions. SERCs shall mandate these to be in place within two years"

Further, provisions of punishment for non-compliance of orders or directions have been provided in section 146 of the Electricity Act, 2003, as under-

"Whoever, fails to comply with any order or direction given under this Act, within such time as may be specified in the said order or direction or contravenes or attempts or abets the contravention of any of the provisions of this Act or any rules or regulations made there under, shall be punishable with imprisonment for a term which may extend to three months or with fine, which may extend to one lakh rupees, or with both in respect of each offence and in the case of a continuing failure, with an additional fine which may extend to five thousand rupees for every day during which the failure continues after conviction of the first such offence:

Provided that nothing contained in this section shall apply to the orders, instructions or directions issued under section 121."

These penalty provisions are proposed to be made more stringent through the amendments in the Electricity Act, 2003 under consideration.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 11 Para no.11)

Feeder Management

The Committee note that under the concept of Feeder Managers and the profit center based approach, 11 KV/ feeders are treated as the basic unit of monitoring. Distribution utility and State distribution utilities assign feeders to Junior Engineers (known as Feeder Manager). 11 KV feeders are operated as business units, accounting for metering, billing, and collection. Since a JE/AE is required to deal with one/ two feeders on an average, full responsibility can be assigned to him. Feeder managers have all the necessary data / information on metering, billing, collections, etc. and they are assigned targets to improve metering; billing and collection by taking measures such as vigilance, new connection drive etc. which reduce the AT&C losses of the feeders. **The Committee, while fully endorsing this concept, recommend that the Government should extend and expand the concept of Feeder Manager and Profit Centres all over the country and ensure its intensive implementation.**

Reply of the Government

Feeder Manager Concept is emphasized during all interactions with Utilities. Ministry of Power has advised for implementation of Online Feeder Monitoring System (OFMS), whereby feeder data from all 11KV feeders of R-APDRP towns are being captured and monitored centrally. Till 30.09.2016, 16,103 feeders in Urban areas have been connected for online monitoring.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 12 Para no.12)

AT&C losses and Financial Health of Discoms

The Committee note that AT&C losses have a direct bearing on the financial health of Discoms and therefore, reduction AT&C losses has become the. Pre-requisite improvement of their financial health. Unless Discoms reduce AT&C losses to reasonable levels, extending bailout packages to them by the Government for improving their financial condition would never yield any positive result. The severity of this problem could be understood by the fact that 1% of AT&C loss of a Discom, if monetized, ranges from Rs.250 crore to Rs.300 crore. With the increase in the cost of electricity supply, it tends to grow in the coming years. In other words, reduction of mere 1% will provide extra revenue to the tune of Rs. 250 crore to Rs. 300 crore to a Discom to strengthen its Distribution Network arid further reduce the losses. This will lead to-a cycle of reforms in the Distribution Sector which the Discoms themselves would be able to finance by way of reducing AT&C losses. The Committee believe that to make it happen there is need for concerted, prompt and sincere action by the agencies involved with it, viz. the Union Government, the State Governments, CERC and SERC. The Committee also believe that in the absence of clear demarcation of responsibilities and assigning of accountability, -there is every possibility of the

agencies playing the blame game. The Committee, therefore, strongly recommend that

(i) The task of reducing AT&C losses (chiefly commercial losses) shout be taken as a 'Mission' to be completed in a definite time frame wit unambiguous delineation and demarcation of responsibilities.
(ii) The time frame and the responsibilities so assigned should be made available in the public domain also**.**

Reply of the Government

These recommendations are closely related to distribution sector and the responsibility of reduction of AT&C losses in the Distribution network is primarily with the Discoms and power departments/utilities. However, to facilitate the reduction of AT&C losses and to improve power distribution system, the government has launched various programmes/schemes i.e. DDUGJY, IPDS, FRP, NEF, UDAY etc. Further, Central Electricity Regulatory Commission had also sent these recommendations to State Electricity Regulatory Commissions for compliance/comments.

The trajectories for reduction of AT&C losses have been formulated and finalized in consultation with the States.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 13 Para no.13)

Pilot Project

The Committee note that the Union Government have launched a number of initiatives to contain commercial losses-however, they are not fulfilling the desired objective for whatever reasons. This does not negate the relevance and importance of the ongoing programmes/ schemes of the Government for containing the losses. The efforts in this regard require a pragmatic approach with the cooperation of all concerned. This exercise may encroach upon the established procedures, territorial jurisdiction and the prevalent practices. Despite this, the gravity of the issue cannot be ignored and we will have to look for innovative steps. To begin with, the Union Government and the State Governments may collaborate to initiate pilot projects in the areas/ pockets of mutual agreement. The areas chosen for pilot projects may be dealt with by ensuring all the technical and administrative resources so as to be a role model for the other loss making areas.
In these zones of action plan metered electricity, installation of smart meters, replacement of defective meters, proper upkeep and maintenance of electrical appliances and adequate capacity transformers should form part of the methodology. Collection and processing of data, feeder-wise, and if possible, transformer-wise, will definitely add to the efforts of containing commercial losses. Installation of efficient

electrical architecture and proper HT: LT ratio will help in identifying and reducing technical losses. The Committee, therefore, recommends that:

(i)Union/State Governments should initiate pilot projects for containing commercial losses.

(ii) The pilot projects may, inter-alia, dwell upon the issue of smart meters, replacement of defective meters, 100% billing, installation of adequate capacity transformers, etc.

(iii) Feeder-wise data collection, their analysis and standardization will also help

(iV) Calculation of data transformer-wise may also be considered as it will leave no scope for commercial losses.

Reply of the Government

Replacement of defective meters, smart meters for SCADA towns (sanctioned under R-APDRP) and installation of transformers is covered under IPDS. IT system developed under R-APDRP facilitates collection of feeder-wise data in R-APDRP towns. At the same time, Distribution Transformers are also being metered under IPDS and DDUGJY. Feeders that are being connected progressively are being sorted out on high loss/ low loss parameters and information being placed on Web. Nodal Officers of PFC are taking up the cases of poor feeder performance with the respective States/ DISCOMs.

Smart meters have a capability of reducing pilferage of electricity due to the built in anti-tamper arrangements.

They also have a potential to increase billing efficiency of the DISCOMs. In the revised National tariff policy published in the Gazette of India on January 28th, 2016, the State regulators have been mandated to provide Smart meters for consumers on a consumption based criteria by December 2019. Further, the policy mandates provisions of Smart meters to all consumers to enable energy audits. As a follow-up to this intervention, the Central Electricity Authority (CEA) has released the commercial specifications and the rollout strategy for Smart meters to all States vide their letter No CEA/DPD/AMI/2016/992-1029 dated 31.08.2016. The Ministry has also requested the Forum of Regulators (FOR) to sensitize the State regulators towards these provisions vide its Letter No 26/9/2016-IPDS dated 08.09.2016. These enablers would help States/ DISCOMs to procure and provide Smart meters to the consumers.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 14 Para no.14)

Success Stories

The Committee note that the State of Goa has brought down its commercial losses to 10.72% in the year 2013-14. Similarly, the States of Delhi, Maharashtra and. Andhra Pradesh also have below the targeted AT&C losses of 15% at the national level. These are success stories for which these States need to he complimented; as such, there is great scope for learning from the experiences of these States. The success stories of these States should duly be recognized and discussed at the appropriate forum. The Forum of Regulators (FOR) can take note of the achievements, discuss and adopt the same for the States which are not making improvements. The Committee, therefore, recommend that:

(i) The success stories of the States like Goa, Delhi, Maharashtra and Andhra Pradesh be sufficiently highlighted and emulated.
(ii) However there is no scope for complacency achievement a, there is further scope for reduction in losses to bring it to the international level.

Reply of the Government

(i) Under IPDS, MoP/Power Finance Corporation regularly share among all utilities, the best practices followed by States in distribution sector for improvement in infrastructure, customer services and in reduction of AT&C losses. Further, based on the observations of the Standing Committee on 19.10.2015, PFC has taken up a study of 10 Discoms (including Maharashtra and Andhra Pradesh) where AT&C loss has reduced in last 5 years. The study report has been submitted to the Parliamentary committee for Energy vide this Ministry's letter No 5/1/2016-IPDS(Pt.) dated 10.08.2016.

(ii) The target for reduction of AT&C losses, based on IPDS, UDAY and 24X7 Power for all commitments is 15% as per the trajectory enclosed as Annexure -I.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

Recommendation (S.l no. 15, Para no.15)

Role of* Regulators *in reduction of Losses

The Committee note that Section 61 of the Electricity Act, 2003 provides for guiding principles for terms and conditions for determination of tariff by the Appropriate Commission. As per these provisions, the State Commissions while specifying the terms and conditions of tariff shall be guided inter alia, by the factors which will be encouragecompetition, efficiency, economical use of resources, good performance and optimum investments. The SERCs/JERCs are also mandated to factor in the principles of rewarding efficiency in performance. In regard to the role of

SERCs in reduction of AT&C losses the Committee was informed by the Ministry that the State Commissions usually draw up a trajectory for reduction of transmission and distribution losses or aggregate technical and commercial losses, and the performance of distribution utilities on this account is reflected in the tariff allowed by the Commission. It was further stated that the Forum of Regulators (FOR) has been discussing the issue of loss reduction at regular intervals. Some of the best practices on reduction of distribution losses, including reduction of commercial losses, have been compiled by the FOR Secretariat. Analyzing the present electricity distribution scenario in the country, the Committee have found that the SERCs/FOR have made very little effort to contain high AT&C losses in the country.

While examining the subject, the Committee also felt that instead of facilitating the development of the electricity sector, especially the Distribution Sector, and safeguarding retail consumers, the State Regulators have become an instrument in the hands of the Discoms to penalize honest consumers by making them pay for the misdeeds of dishonest consumers and the inefficiency of the Discoms by taking into consideration the unacceptably high AT&C losses as cost while determining tariff. The Committee find it is Regulators who have institutionalized the losses rather than discouraging it, and that State Regulators have miserably failed to ensure the strict compliance of the trajectory drawn for the reduction of AT&C losses by the Discoms. The Committee believe that the State Regulatory Commissions, being the regulators of the electricity sector, also have the onus to ensure reduction of AT&C losses by Discoms under their purview. The Committee, therefore, strongly recommend that:

(i) Efforts should be made to make SERCs accountable in regard to containment of AT&C losses.

(ii) While determining the tariff of electricity, the burden of commercial losses should not be passed on to the honest

Reply of the Government

In order to encourage *metering and billing and to reduce theft of electricity,* following provisions have been made in the revised Tariff Policy notified in the Official Gazette on 28.1.2016-

Para 8.4 (3)

"*The Appropriate Commission may provide incentives to encourage metering and billing based on metered tariffs, particularly for consumer categories that are presently unmetered to a large extent. The metered tariffs and the incentives should be given wide publicity. Smart meters have the advantages of remote metering and billing, implementation of peak and off-peak tariff and demand side management through demand response. These would become essential in future for load-generation balancing due to increasing penetration of intermittent type of generation like wind and solar power.*

Appropriate Commission shall, therefore, mandate smart meters for:

(a) Consumers with monthly consumption of 500 units and more at the earliest but not later than 31.12.2017;

(b) Consumers with monthly consumption above 200 units by 31.12.2019."

Further, Para 8.2.1(2) of the Tariff Policy also provides that AT&C loss reduction should be incentivized by linking returns in a Multi-Year Tariff (MYT) framework to an achievable trajectory. Greater transparency and nurturing of consumer groups would be efficacious. For government owned utilities improving governance to achieve AT&C loss reduction is a more difficult and complex challenge for the

SERCs. Prescription of a MYT dispensation with different levels of consumer tariffs in succeeding years linked to different AT&C loss levels aimed at covering full costs could generate the requisite political will for effective action to reduce theft as the alternative would be stiffer tariff increases. Third party verification of energy audit results for different areas/localities could be used to impose area/locality specific surcharge for greater AT&C loss levels and this in turn could generate local consensus for effective action for better governance. The SERCs may also encourage suitable local area based incentive and disincentive scheme for the staff of the utilities linked to reduction in losses.

The SERC shall undertake independent assessment of baseline data for various parameters for every distribution circle of the licensee.

The SERC shall also institute a system of independent scrutiny of financial and technical data submitted by the licensees.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

CHAPTER III

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

-NIL-

CHAPTER IV

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

(Recommendation Sl. No.1, Para No.2.1)

Segregation of Commercial Losses from AT&C losses

The Committee note that energy losses occur in the process of supplying electricity to the consumers due to both technical and commercial reasons. The technical losses, which are inherent in a system, are due to energy dissipated in the conductors and equipment used for transmission, transformation, sub-transmission and distribution of power. Commercial losses are caused by pilferage by hooking bypassing meters, defective meters, and errors in meter reading and in estimating unmetered supply of energy. These technical and commercial losses, along with the shortage due to nonrealization of total billed amount, constitute Aggregate Technical & Commercial (AT&C) losses. The Committee further note that before the concept of AT&C loss was worked out, Transmission and Distribution (T&D) loss was being calculated. T&D loss is the difference in input energy and energy billed and in this method, there is no accounting for losses because of low collection. On the other hand AT&C loss is the difference in input energy and energy for which revenue has been collected. Hence, AT&C loss concept was introduced as it captures both billing and collection efficiency while T&D captures only billing efficiency. The Committee were given to understand that Discoms are benefited directly with the introduction of the concept of AT&C losses as their performance can be judged more accurately by taking care of the collection of revenue aspect also in addition to the billing as per The Committee, however, find that this concept has not been followed religiously. Rather, the concept of AT&C losses is concentrated on transmission losses.

Knowingly, the aspect of commercial losses has been ignored which has been ignored which has resulted into further deterioration of the financial health of DISCOMs. It had also obfuscated the concept of losses inasmuch that the biggest component of the losses, i.e. pilferage or theft of electricity-could never come to the center stage. With a view to addressing the need for elimination of pilferage or theft of electricity, the Committee took up this subject for detailed examination.

During the examination of subject, the Committee was apprised that at present there is no means to segregate the technical and commercial-losses. However, it was also stated the some study done by the Central Electricity Authority (CEA) indicates:

- **The losses in Distribution Sector has been brought down from 40+% to 20+%.**
- **Presently, AT&C losses in the country is around 22%.**
- **AT&C losses means**
    - **c. Transmission loss**
    - **d. Commercial loss**
- **According to CEA, present figure of technical losses, i.e. losses occurring during**

- **The process of bringing the power to the outskirt of city/villages is around 6 to 8 %.**
- **The figure for commercial losses, i.e. last point distribution losses is around16to18% per CEA/Expert.**

The Committee therefore, recommends that

(iii) First and foremost, segregation of technical and commercial losses should be done, even if it is in approximation.The Committee are of the firm belief that this will not only helpin having a clear picture of different components of the losses but will also be instrumental in containing theoverall losslevel by pinpointing the efforts to the specific areas. Further, segregated values will never prevent anyone from aggregating them to use it for the required purposes.

(iv) Henceforth, Commercial losses should be calculated separately and be brought to the public domain by all the Discoms/Agencies

Reply of the Government

A Pilot study has been conducted for segregating Commercial losses and Technical losses in ten towns (Dehradun, Visakhapatanam, Hydrabad, Bhopal, Kolakatta, Ahmedabad, Navi Mumabi, Shimla, Panchkula, Bhatapara) by Power Finance Corporation (PFC). The report has been sent to the Standing Committee of Parliament on Energy on 10.08.2016 vide this Ministry's OM No 5/1/2016-IPDS (Pt.). The technical losses in these towns were in the range of 2.62% to 7.71% and commercial losses were in the range of 1.14% to 36.91% for their AT&C losses in the range of 4.94% to 38.18%.

Technical losses in these 10 towns were calculated using GIS based network analysis module of the IT system installed under RAPDRP. Commercial losses were calculated by subtracting technical losses from AT&C loss of respective towns. Report also says that the technical loss for a distribution network cannot be a fixed figure because it depends on several factors like the pattern of energy use, intensity of load demand, load density & capability and configuration of the distribution network which varies with above element.

[Ministry of Power OM No. 5/2/2016-IPDS dated: 19.10.2016]

CHAPTER V

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

-NIL-

New Delhi;
14th December, 2016,
Agrahayana 23, 1938 (Saka)

Dr. VIRENDRA KUMAR
Chairman,
Standing Committee on Energy

MINUTES OF THE SEVENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2016-17) HELD ON 09.12.2016 AT 0930 HOURS IN COMMITTEE ROOM NO 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 0930 hours to 1000 hours.

PRESENT

Dr. Virendra Kumar - Chairperson

LOK SABHA

2. Shri Sultan Ahmed
3. Shri Bhagat Singh Koshyari
4. Shri Arun Kumar
5. Shri Ravindra Kumar Pandey
6. Shri Vinayak Bhaurao Raut
7. Shri Bhanu Pratap Singh Verma

RAJYA SABHA

8. Shri La Ganesan
9. Shri Javed Ali Khan
10. Dr. Pranbhakar Kore
11. Shri Shamsher Singh Manhas
12. Dr. Anil Kumar Sahani

SECRETARIAT

1. Shri Sukhi Chand Chaudhary - Joint Secretary
2. Smt. L. Nemjalhing Haokip - Under Secretary

2. At the outset, the Chairperson welcomed the Members and apprised them of the agenda for the sitting. Thereafter, the Committee took up for consideration the following draft Reports:-

i) 'Energy Access in India – Review of current Status and Role of Renewable Energy'.
ii) Action Taken Report on the recommendations contained in the Twentieth Report (16th Lok Sabha) on 'Power Generation from Municipal Solid Waste'
iii) Action Taken Report on the recommendations contained in the Twelfth Report (16th Lok Sabha) on 'Commercial Losses'
iv) Action Taken Report on the recommendations contained in the Fifteenth Report (16th Lok Sabha) on Demands for Grants of the Ministry of Power for the year 2016-17, clause by clause.

3. After detailed deliberations, the Committee adopted the aforementioned draft Reports without any changes. The Committee uthorized the Chairperson to finalize the Reports and present the same to Lok Sabha/ lay in Rajya Sabha in the current Session.

The Committee then adjourned

APPENDIX-II

(*Vide* Introduction of Report)

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE RECOMMENDATIONS/ OBSERVATIONS CONTAINED IN THE 12th REPORT (16TH LOK SABHA) OF THE STANDING COMMITTEE ON ENERGY

(i)	Total number of Recommendations	14
(ii)	Recommendations/ Observations which have been accepted by the Government:	15
	Sl. Nos. 2,3,4,5,6,7,8,9,10,11,12,13,14 and15	
	Total:	15
	Percentage	93.33%
(iii)	Recommendation/ Observation which the Committee do not desire to pursue in view of the Government's reply:	
	- Nil -	
	Total:	00
	Percentage	00%
(iv)	Recommendation/ Observation in respect of which the reply of the Government has not been accepted by the Committee and which require reiteration:	
	Sl. No. 1	
	Total:	01
	Percentage	6.66%
(v)	Recommendation/ Observation in respect of which final reply of the Government are still awaited:	
	- Nil -	
	Total:	00
	Percentage	00%