43

STANDING COMMITTEE ON INFORMATION TECHNOLOGY (2017-18)

SIXTEENTH LOK SABHA

MINISTRY OF COMMUNICATIONS (DEPARTMENT OF TELECOMMUNICATIONS)

[Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Thirty-eighth Report (Sixteenth Lok Sabha) on 'Issues Related to Quality of Services and Reported Call Drops']

FORTY-THIRD REPORT

LOK SABHA SECRETARIAT
NEW DELHI

December, 2017/Pausha, 1939 (Saka)

FORTY-THIRD REPORT

STANDING COMMITTEE ON INFORMATION TECHNOLOGY (2017-18)

(SIXTEENTH LOK SABHA)

MINISTRY OF COMMUNICATIONS (DEPARTMENT OF TELECOMMUNICATIONS)

[Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Thirty-eighth Report (Sixteenth Lok Sabha) on 'Issues Related to Quality of Services and Reported Call Drops']

Presented to Lok Sabha on 29.12.2017
Laid in Rajya Sabha on 29.12.2017

LOK SABHA SECRETARIAT
NEW DELHI

December, 2017/Pausha, 1939 (Saka)

CONTENTS

ANNEXURES

*Not appended to the cyclostyled copy of the Report.

COMPOSITION OF THE STANDING COMMITTEE ON INFORMATION TECHNOLOGY (2017-18)

Shri Anurag Singh Thakur - Chairperson

Lok Sabha

2. Shri L. K. Advani
3. Shri Prasun Banerjee
4. Shri Raosaheb Danve Patil
5. Shri Harish Dwivedi
6. Dr. Sunil Baliram Gaikwad
7. Shri Hemant Tukaram Godse
8. Dr. Anupam Hazra
9. Smt. Hema Malini
10. Dr. Jayakumar Jayavardhan
11. Shri P. Karunakaran
12. Shri Virendra Kashyap
13. Shri Harinder Singh Khalsa
14. Dr. K.C. Patel
15. Shri Paresh Rawal
16. Dr. Bharati Shyal
17. Shri Abhishek Singh
18. Shri D.K. Suresh
19. Shri Ramdas Tadas
20. Smt. R. Vanaroja
21. Vacant

Rajya Sabha

22. Shri Raj Babbar
23. Shri K. G. Kenye
24. Shri Santiuse Kujur
25. Smt. Kahkashan Perween
26. Dr. K.V.P. Ramachandra Rao
27. Dr. Vinay P. Sahasrabuddhe
28. Dr. Subhash Chandra
29. Shri Suresh Gopi
30. Shri Sachin Ramesh Tendulkar
31. Shri Beni Prasad Verma

Secretariat

1.	Shri R. C. Tiwari	-	Joint Secretary
2.	Shri Y.M. Kandpal	-	Director
3.	Dr. Sagarika Dash	-	Additional Director
4.	Shri Shangreiso Zimik	-	Under Secretary

INTRODUCTION

I, the Chairperson, Standing Committee on Information Technology (2017-2018), having been authorised by the Committee, present this Forty-third Report on Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Thirty-eighth Report (Sixteenth Lok Sabha) on 'Issues Related to Quality of Services and Reported Call Drops' of the Ministry of Communications (Department of Telecommunications).

2. The Thirty-eighth Report was presented to Lok Sabha and also laid on the Table of Rajya Sabha on 11 April, 2017. The Department of Telecommunications furnished their Action Taken Notes on the Observations/Recommendations contained in the Thirty-eighth Report on 11th July, 2017.

3. The Report was considered and adopted by the Committee at their sitting held on 30th November, 2017.

4. For facility of reference and convenience, Observations/Recommendations of the Committee have been printed in bold in Chapter-I of the Report.

5. An analysis of Action Taken by the Government on the Observations/Recommendations contained in the Thirty-eighth Report of the Committee is given at Annexure-II.

New Delhi;
30 November, 2017
09 Agrahayana, 1939 (Saka)

ANURAG SINGH THAKUR,
Chairperson,
Standing Committee on
Information Technology.

CHAPTER I

REPORT

This Report of the Standing Committee on Information Technology deals with action taken by Government on the Observations/Recommendations of the Committee contained in their Thirty-eighth Report (Sixteenth Lok Sabha) on 'Issues related to quality of services and reported call drops ' relating to the Ministry of Communications (Department of Telecommunications).

2. The Thirty-eighth Report was presented to Lok Sabha on the 11th April, 2017 and also laid in Rajya Sabha, the same day. It contained 23 Observations/Recommendations.

3. The Action Taken Notes in respect of all the Observations/Recommendations have been received from the Department of Telecommunications and are categorized as under:-

(i) Observations/Recommendations which have been accepted by the Government
Rec. Sl. Nos.:-1,4,5,6,10,11,12,14,15,18,20,21,22 and 23

(ii) Observations/Recommendations which the Committee do not desire to pursue in view of the replies of the Government
Rec. Sl. Nos.:-Nil

(iii) Observations/Recommendations in respect of which replies of the Government have not been accepted by the Committee and require reiteration
Rec. Sl. Nos. 2,3,9,13,16 and 19

(iv) Observations/Recommendations in respect of which the reply of the Government are of interim in nature
Rec. Sl. Nos. 7, 8 and 17

4. **The Committee trust that utmost importance would be given to implementation of the Observations/Recommendations accepted by the Government and also final reply will be furnished by the Government at the earliest in respect of the recommendations to which interim replies have been given at this stage. The Committee further desire that Action**

Taken Statement on the Observations/Recommendations contained in Chapter-I and final action taken replies to the Observations/Recommendations contained in Chapter-V of this Report should be furnished to them at an early date.

5. In the Thirty-eighth Report (Sixteenth Lok Sabha), the Committee had extensively examined various aspects of call drop with all its ramifications. The Committee examined issues such as quality of service benchmark for call drop, effectiveness of Service Level Monitoring, QoS benchmark for 4G and data services, factors responsible for call drop and strategies to deal with it, etc. Major recommendations of the Committee included revision of QoS parameters, better measurement parameters, greater involvement of customers in maintaining of QoS parameters, vesting TRAI with adequate powers to deal with issues of quality of service, increase in investment by TSPs for improving quality of services, strengthening the grievance redressal mechanism and also early setting up of e-Courts to deal with telecom complaints, mechanism for proper coordination and resolution of Points of Interconnection issues, etc. Majority of the recommendations made in the Thirty-eighth Report have been accepted by the Government. The Action Taken Notes on the Observations/Recommendations of the Committee have been reproduced in the relevant Chapters of this Report.

6. The Committee will now deal with action taken by the Government on some of their observations/recommendations.

Quality of Service Benchmark for Call Drop

(Recommendation Sl. Nos. 2&3)

7. The Committee, in their original Report, had recommended as under:-

> "The Committee note that one of the major concerns raised by consumers regarding Quality of Service is Call Drop. The dropped call rate is an important measure for voice calls. The performance of Service Providers on call drop is assessed for both 2G and 3G services through two parameters viz. "call drop rate (benchmark ≤ 2%)" on monthly average basis for the licensed Service Area and "worst affected cells having more than 3% TCH drop (benchmark ≤ 3%)." Thus, any Cell with TCH drop/Circuit Switched Voice drop rate > 3% is treated as bad cell whose performance is to be improved. As per the information furnished by the Department all the service providers had met the benchmark for the parameter "call drop rate (benchmark ≤ 2%)" in respect of 2G and 3G. In case of the parameter, "Worst affected cells having more than 3% TCH drop", service providers did not meet the benchmark in 16 License Service Areas (LSAs) under 2G for the quarter ending in December, 2016 (M/s Aircel in 11, M/s BSNL-01, M/s TTSL (CDMA) -01, M/s

Telenor-02, and M/s Vodafone in-01 Service Areas respectively). With regard to 3G also all the service providers had met the benchmark for the parameter "Call drop (Circuit Switch Voice drop) rate (benchmark ≤ 2%)". In case of the parameter, "Worst affected cells having more than 3% TCH drop", service providers did not meet the benchmark in 10 License Service Areas as on December, 2016 (M/s Aircel in 09 and M/s BSNL in 01). The Committee also note that call drop experience is worst during the busy hours defined as the one hour period when the maximum number of calls are handled. The Quality of Service benchmarks target the worst period for the LSA and the Cell Sites, and prescribe the limits that must not be exceeded. The performance of mobile operators on the both the above parameters are measured for the service area as a whole and averaged for a quarter. The major limitation of this mechanism of average assessment of QoS is that it does not provide information about disparities in performance among different areas or cities such as rural or urban areas. The Committee are of the view that parameters worst affected cells having more than 3% Traffic Channel (TCH) drop/circuit switched Voice Drop Rate (benchmark ≤3%) is the real measurement through which performance of each BTS can be analysed and ascertained. The fact that 16 Licensees are not meeting the benchmark in 2G and 10 Licensees are not meeting the benchmark in 3G service, in case of the parameter, "Worst affected cells having more than 3% TCH drop", points to the existence of dark spots and area of poor performance of call drop. Thus the method of averaging the service area as a whole does not give the realistic picture of quality of service, as factors, such as, density of population, vehicular traffic, hilly terrain, etc. are not uniform across a License Service Area Level. This had been proved from the fact that in spite of claims made by telecom operators that their performance on call drop is well within the TRAI limit of 2% benchmark, increasing complaints on call drop have been confirmed by several test drives conducted by TRAI from time to time. The Committee feel that there are critical gaps in the quality of service parameters which need a review. Instead of assessing the performance of Service Providers on call drop by averaging the licensed Service Area as a whole, the quality of service should be measured at more micro granular level, such as at Secondary Switching Area (SSA) level or at district/city level or at Short Distance Charging Area (SDCA) level, BTS level, etc. This will not only give a more realistic assessment of call drop in the country, but also provide detailed information about areas/places where performance is poor, so that coordinated action can be taken for addressing such problem areas. As the Chairman, TRAI, candidly submitted before the Committee that this overall percentage of call drop over service area as a whole hides the variations which might have. The Committee recommend the TRAI to revise the QoS

parameters and work on a whole new set of parameters taking the above factors into account.

(Recommendation No.2)

The Committee also note that to provide good insight within service area, TRAI had invited a Consultation Paper on "Review of network related Quality of Service standards for Cellular Mobile Telephone Service" on 5th August, 2016, seeking comments on review of the quality of service standards for call drop and other parameters, including measurement methodology, so as to enhance the "Quality of Experience" for consumers. The consultation paper has sought comments on review of the granularity of measurement of Quality of Service standards i.e. whether QoS should be measured at Secondary Switching Area (SSA) level or at district/city level or at Short Distance Charging Area (SDCA) level. The Committee note that during the consultation process regarding measurement of call drop, Service Providers in general were not in favour of shifting the measurement from service area to sub-service area level and have cited numerous reasons, such as factors beyond TSPs control, no international reference of sub-service area level benchmarking in geographical comparable to India, network architecture for a service area and not designed and built on LDCA or District basis, lack of availability of digital maps with clearly defined towns, etc. The Committee recommend the Department/TRAI to examine the method of measurement of call drop carefully so that better measurement parameters are adopted which besides giving a good insight will lead to improvement in quality of services provided by the TSPs. The Committee desire that the process of consultation on measurement of call drop be completed in a time bound manner and Committee be apprised of the outcome."

(Recommendation No.3)

8. The Department of Telecommunications, in the action taken note, have stated as under:-

"At the time of the sitting of the Hon'ble Standing Committee, a review of the network related Quality of service standards for cellular mobile telephone service was underway by TRAI. In this regard, a consultation paper was issued on 5th August, 2016, seeking the comments of stakeholders on issues relating to measurement methodology for various network parameters, especially relating to call drop, and benchmark for these

parameters. In response to the consultation paper, comments were received from 13 stakeholders and no counter comments were received from any stakeholders by the last date of 16.9.2016 and 23.9.2016 respectively. Open house discussions were held at Chennai on 21.12.2016.

Post interaction with the Hon'ble Committee, TRAI has undertaken detailed analysis of data pertaining to call drop by different granularity or geographical region, over a period of time and by operator. These analysis indicates the need to give higher weightage to (a) poorly performing BTS's and (b) those that continue to perform poorly over a period of time. Revised benchmarks for Quality of Service are likely be notified soon by TRAI.

(Reply to Recommendation No.2)

As already mentioned in response to recommendations at para 2, the review of measurement of call drops is also being considered by TRAI and appropriate decision in the matter will be taken at the earliest. The Hon'ble Committee will also be apprised of the decision taken in the matter.

(Reply to Recommendation No.3)

Comments of the Committee

9. **In their original Report, the Committee had observed that there are critical gaps in the quality of service parameters and recommended that TRAI should revise the existing QoS parameters and work on a whole new set of QoS parameters. Taking note of the fact that the method of measuring call drops by averaging the Service Area as a whole does not give the realistic picture of quality of service, the Committee had recommended that the quality of service should be measured at more micro granular level, such as Secondary Switching Area (SSA) Level or at District/City Level or at Short Distance Charging Area (SDCA) Level, BTS Level, etc. The Committee note with satisfaction that TRAI has undertaken detailed analysis of data pertaining to call drop by different granularity or geographical region over a period of time which have indicated the need for giving weightage to poorly performing BTSs and those that continue to perform poorly over a period of time. The**

Department have informed that revised benchmarks for quality of service are due to be notified by TRAI soon. The review of measurement of call drop is being considered by TRAI and appropriate decision in the matter is going to be taken soon. Considering the need for bringing improvement in the quality of service and addressing the issue of call drop, the Committee reiterate their earlier recommendation and desire that the revised QoS parameters benchmarks should be notified at the earliest and Committee be apprised of the revised guidelines.

TRAI proposal for Amendments in the TRAI Act

(Recommendation Sl. No. 9)

10. The Committee, in their original Report, had recommended as under:-

> "One of the important measures taken by TRAI in the direction of quality of service and call drop was the Regulation issued by TRAI in October, 2015 to provide for compensation to consumers in the event of call drop. These regulations mandated originating CMTSPs to credit one Rupee for a dropped call to the calling consumers as notional compensation, limited to three dropped calls in a day. However, the Committee were informed that TRAI's punitive compensation for call drop was termed as arbitrary and unreasonable. Hon'ble Supreme Court held the Regulation to be ultra vires the TRAI Act which pronounced its verdict in Telecom Service Provider's favour, quashing the regulations. Consequently, TRAI have now proposed certain additional amendments in TRAI Act seeking (i) insertion of specific provision in TRAI Act under Section 11 conferring power upon TRAI to take measures to protect the interest of the consumers including award of compensation and mechanism for complaint redressal; and (ii) conferring power upon the Authority to impose fine and power upon the court to award imprisonment and fine for violation of the direction of the Authority and also for furnishing false report. These provisions are akin to those existing under the Reserve Bank of India Act, 1934, the Competition Act, 2002 and the Electricity Act, 2003. TRAI have requested the Government to amend the existing TRAI Act and tightening of the existing QoS regulation to monitor the network performance more effectively. The Committee note with concern that while on the one had TRAI has been given the sole responsibility to

ensure Quality of Service, Interconnection etc., on the other the requisite powers have not been vested with TRAI to enforce its regulations and directions. The Committee strongly feel that making suitable amendments to the Telecom Regulatory Authority of India Act, 1997, in order to statutorily empower TRAI to carry out its functions effectively and proactively is the need of the hour. TRAI should have penal powers including powers to impose financial penalties. More so, this has to be accorded top most priority since the thrust of the Government is on Digital India, broadband penetration and expansion of telecom services in rural and remote areas. These power may be along the lines of similar penal power available to other sectoral regulators. TRAI also needs to be empowered to strictly enforce the quality parameters. Further, as pleaded by Secretary, DoT, and Chairman, TRAI on many issues TRAI has only recommendatory role and it has no say in the acceptance of its recommendations. The Committee note that TRAI is mandated to protect the interest of Service Providers and Consumers. Considering that huge responsibility has been cast on TRAI and in view of the growing consumer complaints against poor quality of service, the Committee feel that TRAI should be vested with required powers to enforce its regulations and directions. At the same time, the Committee desire that revision in the TRAI Act for empowering TRAI with punitive powers should not act as a hindrance to the ease of doing business for telecom service providers also. There needs to be harmonious balance between the authority of the regulator and the business interest of the TSPs. While formulating necessary provisions for arresting call drop, it is essential to take into consideration the business environment of service providers because it is they who are instrumental in the much needed growth of this sector."

11. The Department of Telecommunications, in the action taken note, have stated as under:-

"The Hon'ble Supreme Court passed the judgment dated 11.05.2016 in the case of Cellular Operator Association of India Vs. Telecom Regulatory Authority of India in the matter of WP(C) No. 6521/2016 against TRAI's regulations for providing compensation to consumers in the event of call drop. In this connection, a proposal was submitted by TRAI to DoT on 03.06.2016 addressing issues such as :-

i) Protection of interest of consumers;
ii) Consumer Grievance Redressal; and
iii) Enforcement of Regulations, directions and orders of the Authority (TRAI).

Thereafter, vide letter dated 04.08.2016, DoT sought further information on TRAI proposal which was furnished by TRAI on 05.09.2016. A meeting was held on 04.11.2016 in DoT with a view to strengthen TRAI to meet the emergent challenges in Telecom Sector. Consequent to aforesaid meeting, comments of TRAI on the proposed amendment in TRAI Act 1997 have been received on 27th June, 2017. The same are under examination/consideration."

Comments of the Committee

12. **The Committee had noted with concern that though TRAI has been set up with a mandate to protect the interests of consumers and service providers alike, it has not been vested with requisite powers to enforce its regulations and directions. Considering the fact that huge responsibility is cast on TRAI to protect the interest of service providers and consumers, the Committee had recommended that TRAI need to be vested with requisite powers to enforce the regulations and directions relating to quality of services. The Committee note from the action taken note submitted by the Department that TRAI had submitted a proposal to them on 03.06.2016 which *inter alia* related to enforcement of Regulations, directions and orders of the Authority. The Committee also note that further information and comments sought by DoT have also been duly furnished by TRAI and the same are under examination and consideration of DoT. The Committee feel that in the interest of the industry as a whole DoT need to act swiftly in the matter and bring in suitable amendments in the TRAI Act so as to empower TRAI to effectively regulate the sector. The Committee desire that the proposal submitted by TRAI should be considered in a positive and time bound manner and Committee be apprised of the conclusive action taken in the matter.**

Setting up of Towers in Government buildings

(Recommendation Sl. No. 13)

13. The Committee, in their original Report, had recommended as under:-

"The Committee note it has been agreed in-principle that Ministry of Urban Development (MoUD) shall permit installation of mobile towers/in-building solutions in the Government buildings under their control subject to structural safety and payment of appropriate Licence fee by the TSP. Such mobile towers/in-building solution shall be a shared facility for all TSPs. In this regard, Government have taken initiatives by allowing Central Government Buildings/ Estate, NDMC Buildings/ Estate in Lutyens Zone, Delhi, as well as allowing Defence Estate and Postal Buildings for installation of mobile towers/ BTSs in order to address the issue of call drops and quality of services. Department of Defence have issued the detailed Policy Guidelines for installation of Cell-On-Wheels (CoW) in Cantonment Areas. 61 locations in Delhi Cantonment Area have been identified in the joint survey conducted by DoT/ Defence Estate/ Service providers and Defence authorities. Tender has already been opened on 04/01/2017 and under evaluation. Department of Defence have initiated a Cabinet Note for leasing out defence land for installation of mobile towers on all-India basis to improve the quality of service and address the problem of call drops. Department of Posts (DoP) have also issued Guidelines on 21.07.2016 for use of postal buildings for BTS-installations. Service providers have raised certain concerns and held a meeting on 05/01/2017 for certain modifications which are under consideration by DoP. The Committee note that setting up towers in Government buildings would definitely prove to be of considerable help in improving network performance further, as in many cities, Government buildings and Defence areas are the only places where towers can be set up. The Committee, however, note that a majority of Government Departments do not allow the installation of BTS as a matter of policy and some due to security concerns. The Committee note that achievements made so far in this regard have been negligible. The Committee are of the view that when Government Department/Agencies themselves are resisting setting up of towers in their premises or building due to various reasons, it leaves little scope by way of setting an example for the Resident Welfare Associations to allow setting up of towers in the residential

areas. The Committee note that setting up of towers in Government building helps a lot in network planning and site addition, especially in congested areas is good from EMF perspective, which eventually leads to better quality of service. The Committee recommend that the Department should urgently pursue with the Department of Defence, Department of Posts and other Ministries/Departments so as to enable the telecom operators to speedily set up towers in their buildings and areas."

14. The Department of Telecommunications, in the action taken note, have stated as under:-

"DoT is constantly pursuing with various Government departments for grant of permission to install BTS in their buildings/estate. BTS on multi-sharing basis have already been installed on 10 Government buildings in Central Delhi. Approval from Delhi Urban Arts Commission has also been obtained for 28 locations in New Delhi Municipal Council (NDMC) area and work at six sites is in progress.

Tender-bids for 59 Cell-On-Wheels (C-o-W) sites in Delhi Cantonment area is under-evaluation and likely to be finalised shortly. Department of Posts has also issued certain modifications to their policy on 07.04.2017 for facilitating installation of BTSs in post office premises/buildings."

Comments of the Committee

15. **The Committee had noted that to address the issue of lack of space for setting up the towers, it had been agreed in principle that Ministry of Urban Development shall permit installation of tower/in building solutions in the Government buildings under their control subject to structural safety and payment of appropriate license fee by the TSPs. Noting that a majority of Government Departments had not been allowing installation of BTS, the Committee had recommended that the Department should pursue with the concerned Department so as to enable telecom operators to speedily set up towers in their buildings and areas. The Committee note from the action taken note furnished by the Department that Government Departments/Ministries are still not forthcoming in allowing the Telecom Service Providers (TSPs) to install**

BTSs on their buildings/estate as BTS on multi-sharing basis have been installed so far only on 10 Government Buildings in Central Delhi. To address the issue of closing down of towers by Local/Municipal bodies and resistance from Resident Welfare Associations, the Government Departments need to take proactive steps to install BTSs of various TSPs on their buildings/estates. This will not only effectively address the issues of poor network connectivity due to lack of space for installing towers, but will also set an example for RWAs to allay their health concerns and thus reduce resistance in setting up of towers in their areas. The Committee, therefore, stress that setting up of towers at 28 locations in NDMC area for which approval has been obtained from Delhi Urban Arts Commission (DUAC) and work at six sites which are in progress should be completed at the earliest. Tender-bids for 59 cell-on-wheels sites in Delhi Cantonment area which is under-evaluation should also be finalized at the earliest. The Committee also note that the Department of Posts have issued certain modifications to their policy on 07/04/2017 for facilitating installation of BTS in post office premises/buildings. The Committee may be kept apprised of the follow up and overall impact of the policy change.

Grievance Redressal Mechanism

(Recommendation Sl. No. 16)

16. The Committee, in their original Report, had recommended as under:-

> "The Committee note that two-tier redressal mechanism has been laid down by TRAI for a comprehensive grievance redressal mechanism through its regulation "Telecom Consumer Complaint Redressal Regulation." As per this regulation the first level of grievance redressal is at the call centre and the second level is at the Appellate Authority. In addition to the above, the consumers can also register their grievances through Centralized Public Grievances Redressal and Monitoring System (CPGRAMS) portal of Government of India. The Committee note that since TRAI Act, 1997 does not envisage handling of individual consumer complaints by TRAI, all

complaints received in TRAI are forwarded to the concerned TSPs for seeking appropriate action. To strengthen the grievance redressal mechanism, the Committee have been informed that TRAI had made a recommendation for an Ombudsman before 2004. Earlier, the Consumers Protection Act was applicable on telecom cases. However, Hon'ble Supreme Court decided that consumers of telecom sector will not be a part of it. The Committee note that now the Department had made a recommendation to amend the Consumer Protection Act so that telecom consumer complaints will come under it. Another suggestion is setting up of e-court for addressing consumer grievance in telecom sector which will take e-evidence and give e-judgements. The Committee are of the view that the existing telecom grievance redressal mechanism is woefully inadequate and there is an urgent need to strengthen the Consumer grievance redressal mechanism. This problem has been further compounded by the fact that consumers are not aware of the little existing grievance redressal mechanism put in place both at TSPs and at the Government levels. The Committee feel that since telecom is one of the sector having maximum customers, there is a need to set up robust mechanism to protect the interests of the consumer. The Committee recommend that urgent step should be taken to amend the Consumer Protection Act so as to bring telecom consumers complaint under Consumer Protection Act. Since telecom complaints are largely in nature of small items with large numbers, the Committee also recommend early setting up of e-courts which will not only address telecom complaints but will as well cater to large e-commerce complaints also. The Committee also recommend that telecom operators should also be made to conduct more customers workshops and customer satisfaction surveys in every circle to effectively address customers complaints."

17. The Department of Telecommunications, in the action taken note, have stated as under:-

It is informed that TRAI suo-moto issued a Consultation Paper on "Complaints/ Grievance Redressal in the Telecom Sector" on 28th July, 2016. The consultation process was undertaken with the objectives of improving the existing grievance redressal mechanism to make it feasible to address consumer complaints more efficiently and in a more cost effective manner making use of technology to the extent possible.

After extensive consultation with the stake holders, on 10th March 2017, TRAI recommended to Government various measures to improve the existing grievance redressal mechanism for the consumers. It has been inter alia recommended to set up an institution of Telecom Ombudsman, as an independent mechanism offering technology based resolution for complaint redressal. TRAI has also recommended that the Ombudsman shall have power to award compensation to consumers and levy penalties on the TSPs.

The said recommendations are under consideration of the Competent Authority in Department of Telecommunications.

As regards the recommendations relating to workshops by telecom operators, TRAI has issued advisory to TSPs to conduct such workshops involving CAGs and consumers at District level. This advisory envisages around 1300 workshops to be conducted by the TSPs in an year across the country."

Comments of the Committee

18. **Taking note of the fact that the existing grievance redressal mechanism was grossly inadequate in the telecom sector and there was a need for setting up robust mechanism to protect the interests of the consumers, the Committee had *inter alia* suggested for amendment of Consumer Protection Act to bring telecom consumer complaints under Consumer Protection Act, early setting up e-Courts and conducting more consumer workshops and satisfaction survey. The Committee are, however, concerned to note that even though TRAI had recommended for an Ombudsman before the year 2004, the same has not been put in place till date. The Department have now informed that TRAI after consultation with stakeholders have again in 2017 recommended for setting up of an institution of Ombudsman as an independent mechanism offering technology based resolution for complaint redressal which are under consideration of DoT. The Committee, while expressing concern over the way the matter has been delayed, desire that the Department and TRAI need to act with concrete plan for setting up of the mechanism of Ombudsman in telecom sector in a definite and clear timeframe. The**

Committee also note that the Department have not furnished any information regarding the steps taken by them to amend the Consumer Protection Act so as to bring telecom consumers complaint under Consumer Protection Act and also for setting up of e-courts to address telecom consumers complaints. In order to improve the efficiency and quality of service of the TSPs, there is an urgent need for setting of an effective grievance redressal mechanism which will not only address consumer grievances, but will also act as a platform for receiving feedbacks from the customers, and thus help the TSPs to evaluate and improve their services. The Committee reiterate their earlier recommendations and emphasize that urgent steps be taken to amend the Consumer Protection Act so as to bring telecom consumers complaints including the financial claims of the customers under Consumer Protection Act and also steps be taken for setting up of e-Courts to address telecom complaints. The Committee may be apprised of the steps taken in this regard.

Introduction of Green Energy

(Recommendation Sl. No. 19)

19. The Committee, in their original Report, had recommended as under:-

> "The Committee note that 24/7 power backup is an essential pre-requisite for delivery of non-stop services by telecom service providers. Several feasible options are being looked into for ceaseless power supply to telecom towers. The Committee note that solar deployment is a continuous process and wherever feasible solar deployments are done. The Committee are given to understand that Solar power generation is not a remedy for power outage at Telecom Sites. This is mainly because solar generation is possible only for about Eight hours a day which is only one third of the requirement. As per COAI, the average Solar capacity deployed in Telecom Sites (in present deployments) is about 4.5 KW, which occupies about 45 Sq.mtrs. and amount of space is available only in few Ground Based Sites and such kind of space availability is almost impossible in Roof Top Sites. About 7.4% of Sites are

working with renewable hybrid systems in India and many of those Sites have Solar Plants deployed to meet partial power requirements of the Site. The Committee note that Industry has done extensive trials for generating power at Telecom Sites using other identified renewable energy sources namely Wind, Hydrogen, Methanol & Biomass and the inferences are wind power generation is location specific and unreliable and not suitable for most of the telecom Sites, Hydrogen and Methanol are renewable only when these are available as a bi-product of some other manufacturing process and there is no ecosystem existing in India for production and operation & maintenance of such Fuel Cells. Bio-Mass is very much localized. In light of the above, COAI have submitted that there is need to make Grid Power available to telecom sector on priority basis at industrial /favourable rates. Further, an exemption from scheduled power load shedding be granted to telecom sector. COAI have also submitted that grid power to Operational Telecom Sites should not be disconnected without hearing the Operator first. So far as deploying solar and other renewable resources is concerned, the availability of adequate space and techno-financial feasibility continues to be the real challenge. In view of this, TSPs have adopted state-of-art storage battery technology and energy management and monitoring system for a cleaner and greener solution for powering sites where 24x7 power availability is a challenge. The Committee note that in order to look into deployment of clean and renewable energy, TRAI has issued the consultation paper on 'Approach towards sustainable telecommunications' on 16.01.2017. TRAI had also recommended that to address the issue of lack of space for installations of towers and supply of electricity, utilization of tower space of various power corporations for installation of antenna or BTS of the telecom operators. The Committee note with concern that no substantial progress has been made with regard to adoption of green and renewable energy and setting up of towers by using the transmission towers of various power corporations. Consequently, given the poor availability of electricity in rural areas, call drop due to lack of electricity supply in the rural areas still remains a practical reality. The Committee desire that the above submission made by COAI may be considered favourably by the Department and process of consultation through consultation paper floated by TRAI to look into introduction of Green Energy for telecom services should be expedited and completed at the earliest. The Committee also note that Blood

Banks in rural areas could not be set up due to lack of adequate power supply. With availability of 24x7 electricity, the Committee are of the view that around 25,000 BSNL exchanges in rural areas which have secured facilities and air condition environments may also be operated as Blood Banks. Since lack of electricity is one of the main reasons due to which Blood Banks could not be set up in rural areas, the Committee recommend that the Department should explore this possibility which will help in saving many lives. The Committee further recommend that the issue relating to utilizing the relay towers of various power corporations may be taken up with them. The Committee are of the view that utilizing the transmission towers of the power companies will help in building more sites required for coverage and automatically improve quality of service. The Committee may be apprised of the progress made with regard to the above suggestions of the Committee."

20. The Department of Telecommunications, in the action taken note, have stated as under:-

"TRAI had issued a consultation Paper on "Approach towards Sustainable Telecommunications" on 16.01.2017. The Open House Discussion (OHD) for this has been held on 05.07.2017. Subsequent to the OHD and the detailed analysis of comments/counter-comments, TRAI would be finalizing its Recommendations and submitting them to DoT by the end of September 2017."

Comments of the Committee

21. **Observing that call drop due to lack of electricity supply especially in the rural areas still remains a practical reality, the Committee had recommended that the consultation paper floated by TRAI to look into introduction of Green Energy for telecom services should be expedited and completed at the earliest. Concurrently, the Committee had also recommended that Blood Banks may be opened at around 25,000 BSNL exchanges and also to make efforts for utilizing transmission towers of power corporations for building more sites to increase coverage and quality of service. The Committee note that Open House Discussion had been held on the Consultation Paper floated and TRAI would be finalizing the recommendations and the same would be submitted to DoT by the end**

of September, 2017. The Department have, however, not furnished any reply relating to other two recommendations of the Committee on setting up of Blood Banks and use of transmission tower of the power corporations for building sites. The Committee does not appreciate the lack of seriousness on the part of the Department on the above two recommendations of the Committee. The Committee are of the view that non-availability of Blood Banks in rural areas is a cause of concern and hope that if Blood Banks can be opened in 25000 BSNL Exchanges in rural areas, it will go a long way in addressing this shortage and help in saving many precious lives in rural areas. Since BSNL Exchanges have several facilities and air conditioned environment with 24x7 power supply, the Committee are of the view that they will be ideal for opening Blood Banks. The Committee stress that efforts should be made by the Department to use transmission towers so that TSPs can install BTS on the towers which will help in addressing the twin issues of lack of power supply and adequate space. This will ultimately lead to improvement in quality of service. The Committee once again urge the Department to explore the feasibility of setting up of Blood Bank in BSNL exchanges. The Committee may also be apprised of the status of the Consultation Paper on 'Approach towards sustainable Telecommunications' and the progress with regard to other suggestions of the Committee.

<u>Issues relating to Points of Interconnection (PoI)</u>

(Recommendation Sl. No. 21)

22. The Committee, in their original Report, had recommended as under:-

> "Reliance Jio in their submission before the Committee had expressed concern that leading operators like Vodafone, Idea and Airtel have been virtually blocking calls from Jio to their networks by denying adequate interconnection. 740 crore outgoing calls have been blocked from the Jio network. 12-15 crore calls are blocked every day. As per their submission, the problem is of alarming proportion and the total call drops due to call blocking from Jio network alone is of the order of total call drops in the country. Over

55-60 percent of calls from Jio network to Vodafone, Idea and Airtel continue to get blocked. Reliance Jio had also stated that augmentation of PoIs by Vodafone, Idea and Airtel is highly inadequate. However, all the operators have strongly countered the submission given by RJIO that call blocking is happening due to denial of adequate interconnections. Vodafone India Limited had submitted that Vodafone have provided Jio all the PoIs they have asked for and sufficient for 75mn subscribers, even when they have lesser number of subscribers. It further stated that RJio had sought 9314 E1s for Access & 2184 E1s for NLD by 21st March 2017 (i.e. 9 months from the date of its letter dated 21 June 2016), considering 80% of these E1s for RJio's outgoing traffic, these were provided/exceeded by 25.11.2016. These E1s were required to cater to a subscriber base of 100 million – as of date almost double the required number of E1s have been provided and the subscriber base is believed to be around 72 million. Idea Cellular Limited had also submitted that its PoI allocation to Jio is much in excess of Jio's PoI demand. Idea has provided POI E1s more than RJIO's own forecasted demand. While, RJIO had forecasted a requirement of 10,070 POIs (8,140 for Access, 1,930 for NLD) for a base of 100 million subscribers by March 2017 (as per its communication to Idea via its letter dated 21.06.0216), Idea Cellular had completely met this requirement by second week of November 2016, i.e. well before the RJIO projected timeline of March 2017 despite the fact that RJIO was yet to attain subscriber base of 100 million subscribers. Bharti Airtel had further submitted before the Committee that Points of interconnect they have provided is four times ahead of comparable operators. As on 1st Feb 2017, Bharti Airtel have provided 27,719 number of E1s which is higher than RJIL demand for 100 million subscribers forecasted for 12 months and is sufficient for 190 million subscribers. These operators have gone to the extent of blaming that connectivity issue and call failures are due to Jio's own 'under-preparedness', insufficient testing efforts and acquiring a large number of customers at the pre-launch stage by Reliance Jio. However, as per TRAI it cannot be conclusively established that the Reliance Jio's network connectivity issue and call failure are due to Jio's own under-preparedness, insufficient testing efforts etc. During the meetings held by TRAI with the service providers, it was observed that most of the problems of Reliance Jio network connectivity stem from the lack of communication between the service providers. The Committee are

given to understand that amidst TSPs at loggerhead and consumers hue and cry relating to quality of services, TRAI conducted several meetings with the representatives of Bharti Airtel Ltd., Vodafone India Ltd., Idea Cellular Ltd. and RJIL on 09.09.2016, 01.11.2016, 24.11.2016 and 16.12.2016 urging them to ensure that the customers should not suffer due to delay in augmentation of PoIs. On 27.09.2016, TRAI issued Show Cause Notices to the concerned telecom service providers for violation of Standards of Quality of service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009, dated 20.03.2009 and the provisions of Licenses. TRAI informed the Committee that on perusal of the information furnished by Airtel, Idea and Vodafone, the Authority, prima-facie it was noted that in most of the licensed areas, the percentage of failed call attempts during busy hour with RJIL is exorbitantly high. Thus, these telecom service providers have failed to meet the benchmark for PoI congestion prescribed in the Standard of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009 at the PoIs with RJIL and relevant provisions of the license. The Authority, on examination of the reply to the Show Cause Notices and after giving sufficient time and opportunity to the above Telecom Service Providers, recommended Department of Telecommunications (DoT) on 21.10.2016, a penal action of Rs.50 crore per licensed service areas (LSAs) against Airtel, Idea and Vodafone each, in all LSAs where PoI congestion exceeds the allowable limit of 0.5 percent. The Department have informed that a Committee set up to examine the issue has also submitted its Report which inter-alia included the arguments forwarded by M/s RJIO, M/s Bharti Airtel, M/s Vodaone and M/s Idea Cellular Ltd., which is under consideration. With regard to updated status on the issue the Department have informed that M/s Vodafone India Ltd. and M/s Idea Cellular Ltd. have filed a writ petition in Delhi High Court against the above said recommendations of TRAI and the matter is sub- judice. Going deep into the claims and counter claims made by the TSPs, the Committee are inclined to conclude that there are considerable policy gaps which have ultimately put consumers into tremendous hardship for no fault of their own. Consumer interest is the supreme guiding factor for any service industry. The matter has dragged on so much without any amicable resolution points to the fact that under the present circumstances no mechanism is in place by the Department/TRAI to address such impasse. Since most of the

problems of Reliance Jio network connectivity stem from the lack of communication between the service providers, the Committee recommend that appropriate mechanism should be put in place for proper coordination and resolution of such issue. The Committee may be apprised of all the initiatives taken in this regard."

(Recommendation No.21)

Issues relating to Interconnection Agreement

(Recommendation Sl. No. 22)

23. The Committee, in their original Report, had recommended as under:-

"Reliance Jio, through their submission made before the Committee have alleged that in clear breach of Interconnection Agreement and sign of collusion major Telecom Service Providers Vodafone, Idea and Airtel have insisted for One-Way E1s from Jio, without traffic consideration. QoS has not improved as half of the E1s were heavily congested while the other half remained underutilized (less than 20 percent utilization) resulting in wastage of interconnect resources and, therefore, both-Way E1 is the only efficient way for resource utilization. Only Vodafone, Idea and Airtel have both-way E1s among themselves. Barring these three operators, all other operators have only both-way E1s with Jio. Reliance Jio further submitted that they have entered into Interconnection Agreements with all the telecom licensees and as per the provision in the Interconnection Agreements parties are obligated to maintain 0.2 percent Grade of Service and 70 percent utilization of POIs. All the licensees are also obligated to meet QoS parameters specified by TRAI as per which congestion at interconnection points should not be more than 5 calls per 1,000 call attempts. Operators are required to provide both-way E1s at least for the first two years as per the Interconnection Agreement in order to ensure optimum utilization of interconnection resources. Bharti Airtel have, however, submitted that both-way TGs are mostly used in the initial stages of interconnection when the traffic is low. Oneway TGs are used when traffic increases between networks, hence justifying the creation of separate trunk groups. Having separate trunk groups increases PoI efficiency and reduces the chances of call failure. Having one-way TGs is a well established practice in the industry. In fact, more than 96% of Airtel's total working PoIs with other operators have one-way trunk groups. Idea Cellular have also stated that one-way E1s would provide additional capacity to RJio, compared to the capacity offered by Two-way PoIs. Idea has provided One-way E1s (for RJIO subscribers calling to Idea) more than the total RJIO demand of Two-way E1s. As per Vodafone Limited, conversion to one-way E1s

are not a violation since it has been specifically provided for in the mutually agreed and executed Interconnect agreement. As per mutually agreed and executed interconnect agreement with RJio and most private operators, new operator acts as seeker and is responsible to bring transmission media and equipment set up at provider operator's location, for first 2 years from date of commercial traffic. The Committee note that in case there is a breach of Interconnection Agreement by any of the Parties to the agreement, the other party can file an application in the Telecom Dispute Settlement and Appellate Tribunal (TDSAT). As per TRAI Act, 1997, the Authority is also mandated to discharge the functions to ensure compliance of terms and conditions of licence; fix the terms and conditions of inter-connectivity between the service providers; and ensure technical compatibility and effective inter-connection between different service providers. Accordingly, TRAI is constantly monitoring the situation of congestion on POIs and issues Show Cause Notices and Directions to the concerned service providers to protect consumer interest. TRAI have further stated that through the Telecommunication Interconnection (reference Interconnect Offer) Regulation, 2002, the Authority has mandated publishing of Reference Interconnect Offer (RIO) by the telecommunication service providers holding significant market power based on the Model RIO. The Model RIO provides a broad framework for arriving at a bilateral Interconnection Agreement. The Committee note that TRAI has undertaken a review of the present framework for interconnection by way of issuing a Consultation Paper on 'Review of Regulatory Framework for Interconnection' on 21.10.2016. The last dates for furnishing comments and counter-comments on this Consultation Paper were 12.12.2016 and 26.12.2016 respectively. The Committee observe that when Reliance Jio are demanding for more E-Is, TSPs like Idea, Vodafone and Bharti Airtel are allocating more One-way E1s on the ground that it will increase PoI efficiency and reduces the chances of call failure. The Committee are of the view that some of the reasons for the contradictory views taken by the TSPs may be due to lack of well defined Interconnection Agreement. The Committee, therefore recommend that the consultation paper on 'Review of Regulatory Framework for Interconnection' should be completed at the earliest. In view of the contradictory view taken by various TSPs, the Committee would like the Department/TRAI to go into the depth of the matter and accordingly apprise the Committee of the actual reasons for POI congestion between them and the remedial measures taken thereon."

24. The Department of Telecommunications, in the action taken note, have stated as under:-

> "Having recognized the need for review of the present regulatory framework for interconnection in the country, TRAI has already undertaken a comprehensive consultation process by way of issuing a Consultation Paper on 'Review of Regulatory Framework for interconnection' on 21.10.2016 for stakeholders' consultation. On the basis of the stakeholders' comments and counter-comments and further analysis on the matter, TRAI will shortly formulate regulations with a view to ensure effective and expeditious interconnection on the basis of Fair, Reasonable and Non-Discriminatory Principles.
>
> The matter of resolution of interconnection issues by way of improving coordination amongst service providers was also raised for stakeholders' consultation in the afore-mentioned Consultation Paper. TRAI is considering various options including setting up a Coordination Committee for proper coordination among the TSPs and resolution of interconnection related issues.
>
> **(Reply to Recommendation No.21)**
>
> As already stated in response to the recommendations of the Committee in Para-21, TRAI will shortly formulate the regulations for ensuring effective and expeditious interconnection. TRAI is considering devising regulatory principles for interconnection apart from prescribing a Standard Interconnection Agreement (SIA) to be signed by the service providers in case they fail to arrive at a mutually agreeable interconnection agreement.
>
> Further, in order to ascertain the actual reasons for congestion of POIs of RJIL with M/s Airtel, M/s Idea and M/s Vodafone, the matter has been examined and it has been noted that there was a dispute/ disagreement between RJIL and the existing operators, which related to the following points:

(i) Augmentation of existing POIs to be undertaken as per the process within the framework of Interconnect Agreement and TRAI Regulations on the subject providing 90 days' timeframe for augmentation as against RJIL's demand for augmentation to be completed within 7 days of receipt of requisite charges;
(ii) Calculations and provisioning of E1 links required at POIs on the basis of subscriber base vis-à-vis other operators to bring the utilization to around 40% to 50% and the POI capacity can be enhanced when the traffic picks up;
(iii) Test traffic being disproportionate to any test use i.e. the test traffic is not only high but is abysmally imbalanced;

(iv) Traffic trends highly skewed with almost 90% of the total traffic terminating into existing operator's network while merely 10% is being directed towards RJIL network;

(v) Abnormal traffic utilization on account of free voice offerings by RJIL during test phase;

(vi) Issue demand notes for augmenting POIs as per RJIL projections; etc.

As per Clause 9.1 & 9.2 of the Interconnect Agreement between RJIL and existing operators, the time period prescribed for augmentation of POIs is 4 weeks' notice period plus 90 days on receipt of requisite charges. So the total time for provisioning of POIs from date of firm demand as per Interconnect Agreement works out to 118 days. However, on analysis of delay in providing POIs beyond 90 days on receipt of requisite charges by either party, as per reports from RJIL, it has been noted that POIs have been provided by existing operators namely, M/s Airtel, M/s Idea and M/s Vodafone within the stipulated timeframe in terms of Interconnect Agreement. Further, it has also been observed that M/s Airtel, M/s Idea and M/s Vodafone have provided additional POI capacities (in small numbers) at much shorter notices compared to 118 days' time period allowed in the Interconnect Agreement and TRAI Regulations after the launch of services by M/s RJIL. Therefore, since the POIs have been provisioned by existing operators within the stipulated period of 118 days (4 weeks plus 90 days) from the date of initial demand vide letter dated 21.06.2016, the situation would not have arisen, if RJIL would have projected demand for POIs as well as informed other operators about its intention to launch services on 5th September 2016 well in time (118 days ahead) keeping in view the provision of interconnect agreement or otherwise would have planned its launch date 118 days after their initial demand dated 21.06.2016.

As TRAI is likely to formulate the regulations for ensuring effective and expeditious interconnection and devising regulatory principles for interconnection apart from prescribing a Standard Interconnection Agreement (SIA) to be signed by the service providers in case they fail to arrive at a mutually agreeable interconnection agreement, it is expected that such impasse would not be repeated in future.

(Reply to Recommendation No.22)

Comments of the Committee

25. **Observing that most of the problems between Reliance Jio and incumbent operators, such as Vodafone, Idea and Airtel on Interconnection issues stemmed from lack of communication and well defined Interconnection Agreements, the Committee had recommended**

that adequate mechanism be put in place for proper coordination and resolution of such issues. The Committee are glad to note that TRAI has already undertaken a comprehensive consultation process by way of issuing a Consultation Paper on 'Review of Regulatory Framework for Interconnection' on 21.10.2016 for stakeholders' consultation. On the basis of the stakeholders' comments and counter-comments and further analysis on the matter, TRAI is going to formulate regulations with a view to ensure effective and expeditious interconnection on the basis of Fair, Reasonable and Non-Discriminatory Principles. TRAI is considering various options including setting up a Coordination Committee for proper coordination among the TSPs and resolution of interconnection related issues. The Committee are of the view that as more and more TSPs are offering free voice calls, putting in place an effective and expeditious interconnection agreement is the need of the hour. The Committee desire that Regulations on Interconnection Agreement be formulated at the earliest in order to fill the present policy gap without compromising with the interests of consumers and also to avoid any confusion as it happened in case of Reliance Jio and other service providers.

CHAPTER II

OBSERVATIONS/RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

(Recommendation Sl. No. 1)

Evolution of Quality of Service Regulations

Telecom Regulatory Authority of India Act, 1997 (24 of 1997) mandates the Telecom Regulatory Authority of India (TRAI) to lay down the standards of quality of service to be provided by the service providers and ensure the quality of service and also conduct the periodical survey of such service provided by the service providers so as to protect the interests of the consumers of telecommunication services. The Committee note that TRAI, in exercise of its functions under the above provisions had notified the "Regulation on Quality of Services (QoS) of Basic and Cellular Mobile Telephone Services, 2000". This was reviewed in the year 2005 according to which the parameters for basic service (wireless) and Cellular Mobile Telephone Service were combined as the Quality of Service aspects associated with wireless medium common for both the services. TRAI undertook review of the parameters and notified "The Standards of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009." These regulations are still in force for basic service and cellular mobile service. The Regulations of 2009 were first amended on 7th May 2012 and through these amendment regulations TRAI had notified the Quality of Service standards for 3G services. TRAI further issued "The Standards of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service (Second Amendment) Regulations, 2012" which provides for financial disincentives for delay in submission of compliance reports, non-compliance with the benchmarks for Quality of Service Parameters and for wrong reporting of QoS performance. Subsequently, TRAI reviewed the Quality of Service parameters for basic service (Wireline) keeping in view the practical difficulties expressed by the service providers in meeting the benchmarks and issued "The Standards of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service (Third Amendment) Regulations, 2014" after rationalizing the benchmark for some of the parameters. At the same time TRAI had tightened the benchmark for some of the parameters concerning call centres so as to protect the interest of the consumers in both basic and cellular services. To create further deterrent against consecutive noncompliance with the benchmarks, TRAI have very recently notified "The Standards of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone

Service (Fourth Amendment) Regulations, 2015" on 15th October 2015, providing for increased financial disincentives in cases of repetitive non-compliance. The Committee note that financial disincentives amounting to Rs. 12.09 crore has been imposed till 06.09.2016 on various service providers towards non-compliance of Quality of Service benchmarks and other violations out of which Rs. 12.02 crore have been deposited so far by the Service Providers. From the above chronology of events, the Committee find that the Regulations relating to Quality of Service have undergone amendments and review from time to time to improve the quality of service provided by the telecom service providers. However, the increase in the number of complaints regarding the deteriorating quality of service and call drops rates have shown that successive reviews of the regulations have not been adequate to address the issues relating to quality of service and protect the interests of the consumers of telecommunications services. Besides, TRAI has not been adequately empowered to enforce various Regulations it had issued over a period of time. It is disquieting to note that even imposition of financial disincentives which is considered to be one of the strongest measures to ensure compliance, has not been an effective deterrent. Taking due cognizance of the fact that the increasing complaints of the consumers about poor quality of services being provided by TSPs especially relating to call drops, has drawn the attention of all including legislators, policy makers, Government, consumers and people at large, the Committee took up the subject 'Issues related to Quality of Services and reported Call Drops' for detailed examination. Apart from hearing the views of Department of Telecommunications and TRAI, the Committee also heard the views of Cellular Operators Association of India (COAI) and also the TSPs such as Airtel, Vodafone, Idea, Reliance Jio, etc. The Committee examined the subject in the light of documents/information furnished by DoT, TRAI and the Telecom Service Providers, the Consultation Papers issued by TRAI from time to time and also the comments of stakeholders and consumers. All the issues relevant to the subject have been dealt with in the succeeding paragraphs.

Reply of the Government

This being a background information on the examination of the issue of call drop by the Hon'ble Committee, there is no specific action point.

(Recommendation Sl. No. 4)

Monitoring of quality of service

The Committee note that TRAI is monitoring the performance of service providers through quarterly Performance Monitoring Reports submitted by

service providers. TRAI also regularly conducts audit and assessment of the quality of service performance by service providers through independent agencies. The audit involves generation of performance monitoring report, audit of performance and drive test of the network. TRAI had undertaken extensive drive test of the network of service providers in many Secondary switching Areas (SSAs). The drive test reports have provided detailed information SSA-wise about the voice quality, coverage and network quality, including call drop. These reports have provided information about areas of insufficient coverage, where the service provider needs to improve quality of service. The Reports of Drive Tests were shared with service providers for improving Quality of Service. TRAI also assesses the Customer Perception of Service provided by service providers through getting the surveys undertaken by independent agencies. The reports submitted by the Audit agencies and results of these surveys are also published on TRAI website for information of all stakeholders and action by service providers. The Committee have learnt that TRAI will be conducting extensive drive tests in cities of more than one million population and in all state capitals through Independent agencies. Recently, the Department have established free four digit number 1955 through which they reach out to consumers randomly to find out whether they are suffering from poor quality or there are dark spots etc. TRAI has further informed the Committee that they are in the process of assessing customer perception of services through Survey using Interactive Voice Response System (IVRS) in the service areas of Delhi, Madhya Pradesh and Karnataka in Hindi and Kannada language. Based on the outcome of this survey, this method of Survey is proposed to be extended to other service areas of the country. While taking note of all the above measures, the Committee feel that the present system of monitoring of quality of services through Test Drive and network probing covers analysis of only limited usage period of network. A Drive Test done for a day of 160 kms. in a city will provide analysis of only marginal area of city geography (typically less than 5%) and limited calls (say 250) against millions of calls generated by all users in the city during the day. Moreover, TRAI Test Drive is limited to cities and urban areas. From the information given to the Committee, it appears that no efforts have been made so far to conduct Test Drives in rural areas which may give a completely different picture. The Committee strongly recommend that Test Drives should not be limited only to cities and urban areas but it should also be carried out in vast rural and hilly areas. The Committee are of the view that monitoring of QoS by relying on technological method alone will not give the complete picture of the ground situation. The most accurate and actual picture will come from the customers who are actually facing the problems on the ground. The Committee, therefore, recommend that apart from methods like test drive and audit assessment, efforts should be made by the

Department/TRAI for greater involvement of customers in monitoring of the QoS by taking their feedback into account. The Committee desire that the process of assessing customer perception of services through Survey using Interactive Voice Response System (IVRS) in the identified service areas should be initiated by TRAI at the earliest.

Reply of the Government

Regarding the recommendations of the Hon'ble Committee relating to drive test of mobile networks in rural and hilly areas, TRAI is in the process of engaging outside agencies to independently audit and assess the Quality of Service. As part of this exercise, TRAI will be undertaking Drive Tests in all the Secondary Switching Areas (SSAs) of the country and thereby the entire country will be covered over a period of one year. During these drive tests all the rural SSAs will be completely covered and also the rural and hilly areas of other SSAs will also be covered. These drive tests will be in addition to the Independent Drive Tests to be conducted through outside agencies in all the major cities of the country over a period of one year.

As regards involvement of customers in monitoring Quality of Service, TRAI has already taken action in this direction, in line with the observations/recommendations of the Hon'ble Committee. TRAI recognize the importance of reaching out to the consumers not only to inform them of the measures taken to safeguard their interest, but also to obtain feedback and to involve them in the decision making processes of the TRAI. In consonance with the vision of digital India, TRAI places greater reliance on technology to communicate with consumer base of over one billion spread across its vast geography.

To meet the above objective, TRAI has launched MyCall App on June 5, 2017 to measure the call quality through crowd sourcing. TRAI MyCall is an Android application for Crowd sourced Voice Call Quality Monitoring. The Application will help Mobile phone users rate their experience about voice call quality in real time and help TRAI gather customer experience data along with Network data. The App is available on Google Play Store: (https://play.google.com/store/apps/details?id=com.trai.mycall). The app is intuitive and user friendly. It allows rating of call quality immediately after the call terminates, thus bringing in comprehensive data about customer's perception, together with network related information. A popup requests the user to rate the call after it ends. The frequency of the popup can be configured by the users. Caller simply selects their rating in the form of stars and indicate if the calls were made in indoor, outdoor or while travelling. Callers can also provide additional details such as noise or audio delay or mark

a call – drop, if they believe that's how the call got terminated. The app would help collect the information from all areas, urban or rural, and thus provide unbiased information.

Further, to assess the download and upload speed of wireless data through feedback from consumers, TRAI had earlier launched an App (TRAI MySpeed App) through which the customers can report the download and upload speed to the TRAI. Thus, the App provides download and upload speeds experience in actual user tests The crowd sourced data so collected is depicted on the integrated map-based portal www.myspeed.trai.gov.in . The portal gives aggregated results of different service providers in the country as well as the results at a particular place. A new version of the TRAI MySpeed App was launched on 5th June, 2017. This app has been upgraded to allow TRAI to collect greater volume of random, anonymised data for better analysis and comparison. This new version of the App will enable TRAI to obtain test data from users in all service areas, without any action by the users. These tests would be brief, very infrequent for a specific device, free to the user and anonymous. The user may also do a test and submit the results, as before.

Regarding assessment of customer perception of service through survey using Interactive Voice Response (IVRS), TRAI has already undertaken IVRS survey as a pilot project in Delhi, Karnataka and Madhya Pradesh service areas. The results of these surveys are likely to be published shortly. TRAI may take a decision on conducting similar surveys using IVRS, after considering the effectiveness of IVRS surveys during pilot project.

(Recommendation Sl. No. 5)

Reasons for call drop

The Department and TRAI have informed the Committee that Call drop in any Mobile network may be due to variety of reasons, which, inter-alia, include poor radio coverage due to non-availability of suitable tower-locations, sealing of towers by local authorities/RWA/Owners due to EMF/ Other issues, radio interference due to unauthorized use of repeaters/ Wi-Max frequencies/ at international borders, change in pattern of traffic due to exponential growth in data traffic due to more use of smart phones which results in shrinkage of 3G/ 4G cell size, loading of available spectrum due to limited spectrum with very high users, non availability of 24x7 power resulting in shutdown of tower/BTS, poor RF optimization efforts, inadequate investment in network causing capacity constraints, interference due to unauthorised installation of signal

boosters by users, etc. During the course of evidence, Cellular Operators Association of India (COAI) also submitted that there are several factors responsible for the Call Drops in the networks and most of these are beyond TSP's control. The Committee take note of the short term and long term measures being taken by the Department, TSPs and TRAI to address the issue of call drops. At the policy front, the Department have taken initiatives which include allocation of 965 MHz spectrum during 2016, permitting sharing and trading of allocated spectrum, permitting active and passive infrastructure sharing, notifying Indian Telegraph Right of Way Rules 2016, waiving off the necessity of Wireless Operating License (WOL) for each radio station, facilitating the permissions for using the Government buildings and estates for setting up of mobile service towers, etc. TSPs on their part are also taking measures such as installation of new BTS sites, expansion of existing sites by adding additional hardware, use of self-optimizing network technology, regular monitoring of QoS on area-based clusters etc. TRAI being mandated to regulate the telecom services are also taking measures like close monitoring of performance of service providers, meeting with the service providers at CMD/CEO level to evaluate the performance, imposition of financial disincentive for non-compliance with the benchmark, launching of TRAI analytics portal which provides a geographical view on the map of India, undertaking regular test drive of mobile services in select cities, highways and railway routes, conducting awareness campaigns about EMF radiation so as to allay the fear of Resident Welfare Associations, etc. Since call drop takes place due to several factors and no single isolated reason can be attributed to call drop, there is an urgent need for all stakeholders, the Department, the Telecom Authority, TSPs and consumers at large to act together in unison on various issues so as to address the problems. All stakeholders need to have a constructive partnership for resolution of issues relating to quality of services and call drop. The Committee, therefore, recommend that DoT should review the status at regular intervals and take corrective/remedial measures in consultation with all stakeholders. The Committee hope that this will not only facilitate speedier implementation of various policies and plans of the Department/TRAI/TSPs but also help avoid any conflict of interest among them.

Reply of the Government

The Department of Telecommunications (DoT) has been interacting with the stakeholders on regular basis for taking-up planned actions as well as remedial measures for resolution of issues relating to quality of services such as call drops. Such review sessions with Senior Management of Telecom

Service Providers (TSPs) have been held on 10.06.2016, 01.11.2016 and 24.04.2017. Similarly, DoT have held joint meetings with Government Agencies on 28.06.2016 and 08.11.2016. Regular follow-up meetings with TSPs and Government Agencies at operational levels have continued as well. This has facilitated the achievement of following results:

(i) Infrastructure augmentation: Keeping in view the customers' demand for mobile connectivity and the Government initiatives towards 'Digital India', the aggregate number of Base Transceiver Stations (BTS) across the country has reached up to 15.27 lakhs approximately, of which around 3.13 lakh BTS has been installed during June, 2016 to June, 2017. While augmenting the networks, the Service Providers have been making use of the additional spectrum they have been allotted after the auctions.

(ii) Network improvements: Around 4.15 lakh 2G/3G Cells have been rectified/optimised by TSPs on all-India basis from 01.07.2016 to 15.05.2017. Over 13 thousand BTS/repeaters have also been installed during this period.

(iii)Improvements reported in Quality of Services: As per Telecom Regulatory Authority of India (TRAI) Performance Indicator Reports, published quarterly, all TSPs providing 2G and 3G services have been consistently complying to Call drop rate of <= 2% since first quarter of 2016-17 i.e. April to June, 2016.

Further, the compliance towards another call drop benchmark, Worst Cell (Traffic Channel) Drop Rate (benchmark <=3%), has also shown consistent improvement. While the non-complying TSPs for 2G services against this benchmark were as high as 54 for quarter July to September 2015, this has come down to 16 as per latest report published in April 2017 for quarter October to December, 2016. For 3G services, it has reduced from 20 to 10 during the corresponding period.

(iv)Launch of Interactive Voice Response Service (IVRS) on call drop:

In order to obtain direct feedback from subscribers, an IVRS system, has been launched by DoT on 23.12.2016 in Delhi, Mumbai, Uttar Pradesh, Uttarakhand, Maharashtra and Goa. The services have been extended to other States on 12.01.2017 and 16.03.2017.

The system automatically calls the subscribers, with calling Line Identification (CLI) number 1955 on representative sampling basis (all TSPs across the country) to get feedback about problem of call drop and its location. During the period 23.12.2016 to 31.05.2017, around 46.84 lakh subscribers have been

individually reached via IVRS. While 6.30 lakh subscribers participated in the survey, 3.74 lakh subscribers have reported call drops, mostly in indoors.

The feedback is shared with TSPs to take corrective action in a time bound manner and submit the action taken report (ATR) to DoT Task Force every fortnight. TSPs contact each subscriber, who has reported frequent call drop, through telephonic calls and SMS in English / local languages to collect further details required for resolution of the complaint. DoT Task Force is also meeting with the TSPs once every month to discuss various issues related to the IVRS system.

Since the launch of IVRS, TSPs have resolved around 23,727 cases, on cumulative basis, in relation to call drop issue and also resolved another 14,881 cases which were reported as frequent call drop problem but were found to be having other issues related to data, roaming, billing, MNP, mobile device etc. 358 BTS/Boosters have been installed and commissioned to resolve the reported cases.

The results obtained through IVRS platform and follow up efforts of DoT and TSPs are quite encouraging so far. The call drops reported by individual subscribers have shown a drop of nearly 7% in the last 5 months.

(v) Launch of 'Tarang Sanchar' Web-portal: DoT has launched Tarang Sanchar, a public web portal for information sharing on mobile towers and EMF emission compliances to clear misconceptions, myth and dispel fear. Any of the residents may transparently find out the location of nearby telecom towers nearby and their compliance status. In order to boost public confidence, the portal may also be used for taking-in request for checking EMF compliance of a BTS at the unit cost of Rs. 4000/- only.

(Recommendation Sl. No. 6)

Measures to educate the consumers

As per the 'Technical Paper on Call Drops in Cellular Network' issued by TRAI call drop can take place due to a variety of reasons. It was pointed out that Electromagnetic cause (RF related), the single largest cause, is responsible for 51.4 per cent call drop whereas 36.9 per cent of call drop, the second largest cause, is attributable to consumer's fault. The Committee note that while drawing such a conclusion TRAI has not undertaken any specific study to identify the factors that are attributable to consumers fault for call drop. On the other hand, the Technical Paper has drawn reference to a paper published in International Journal for Research in Applied Science and Engineering Technology (IJRASCT). In this regard the submission of Idea Cellular Limited

that call drop takes place due to consumer behaviour like battery drain, entering into no or poor coverage area, (life, basement, deep indoors) is very normal scenario and is applicable to every wireless network by default. That being the case educating the consumers and creating consumer awareness through elaborate dissemination of information becomes very important. This also calls for greater insight into the factors which may lead to call drop due to consumer fault. Since TRAI had also not issued any guidelines to educate consumers about irregular user behaviour that can cause call drop, the Committee recommend that necessary information may be compiled in both the national and major regional languages for the benefit of the consumers. The Committee feel that consumer's fault is mainly due to ignorance and they can be made aware of the faults through proper awareness campaigns.

Reply of the Government

It is a fact that apart from network problems for which the service provider is responsible, call drop can occur due to reasons attributable to consumer or due to the environment in which the consumer is using the mobile. The reasons which can be attributable to the consumer could be mobile handset issues such as poor handset quality and sensitivity, battery drain issues etc. Regarding reasons due to the environment in which the consumer is using the mobile handset, these reasons mostly relate to poor coverage or no-coverage such as the subscriber being located in or entering areas such as lifts, basement, deep indoors, where network coverage is poor/ Nil. Although the license does not mandate 100% coverage in all areas, these reasons can be overcome by providing in-building solutions with the cooperation and permission of the building owners. TRAI conduct consumer outreach programmes for educating the consumers and also publishes educational material from time to time in English, Hindi and other regional languages. The reason for call drop and the action that consumer can take to mitigate the problem shall be prominently included in future in these efforts.

(Recommendation Sl. No. 10)

Public awareness regarding EMF radiation

The Committee note that objections and protests by resident welfare associations against installation of mobile towers is one of the factors which is impacting the quality of services leading to frequent call drop in the country. The Department had stated that this is mainly because of the imagined fear of health risks of electro-magnetic radiations. The Committee note that the Minister himself through outreach efforts including workshops in State headquarters is trying to ensure that telecom towers are not closed due to

these reasons. Efforts are also being made by the Department to educate people that the radiations are not ionizing radiations and do not have an impact on human health as proven by 25,000 articles which the WHO has analyzed and looked at. The Department have further informed the Committee that the norms for electromagnetic radiation in India are ten times stricter than in USA, Japan and other countries and robust monitoring systems have been put in place to ensure that these norms are adhered to. TRAI proposes to interact with the consumers and with Consumer Advocacy Groups through Workshops, Seminars and Consumer Outreach Programmes about EMF Radiation to allay the fears of consumers and Residence Welfare Associations (RWAs) about EMF Radiation. The Committee have examined the subject 'Norms for setting up of telecom towers, its harmful effects and setting up security standards in expansion of telecom facilities' and submitted the Report wherein the issues related to EMF radiation and public fear have been dealt with extensively. The Committee have given a set of recommendations on which the Department are already working on. While appreciating the ongoing efforts of the Department/TRAI, the Committee feel that the aforesaid efforts are still inadequate to dispel the fear from the minds of the consumers of the ill effects of EMF radiations from BTS of mobile towers as is clear from the submission of TSPs who have cited this for poor service quality. The Committee in this regard suggest that massive advertising campaigns in print, electronic and digital media involving various public figures, cine actors, artistes both at national and regional levels should be started by the Department/TRAI. The Committee feel that collaborative efforts by all TSPs in this regard will have a greater impact on the ground since they have greater appeal to the masses.

Reply of the Government

TRAI in the past had undertaken extensive public relations campaign to dispel the apprehension that EMF radiations from the mobile towers are harmful to them. TRAI had organized four consumer outreach programme exclusively to create public awareness on the issue in 2016. These programmes had wide participation from DoT, TSPs, Industry Associations, Consumer Organisations, Medical Experts, Resident Welfare Associations (RWA), and Educational Institutions etc. Separate detailed presentations on the subject were also included in the Consumers Outreach Programs organized by the Regional Offices of TRAI. Leaflets were printed and distributed in these outreach programmes. Advertisements were released in English, Hindi and other regional languages across the country to dispel the concerns regarding EMF radiation from mobile towers. In the meanwhile, Hon'ble Supreme Court had taken up a Petition for hearing on the issue and it was considered appropriate to put the campaign on hold.

Telecom Regulatory Authority of India (TRAI) has also been carrying out Public Awareness Programmes with the objective of correcting misperceptions and dispelling of myths surrounding EMF emissions from antennae on mobile towers etc. Through their consumer outreach program, TRAI has been giving presentation on EMF in various cities to the consumers.

DoT has taken following steps for Public awareness regarding EMF radiation:-

(i) DoT has launched "Tarang Sanchar", a web portal for Information sharing on Mobile Towers and EMF Emission Compliances, with a view to generate confidence and conviction with regard to safety and harmlessness from mobile towers, clearing any myths and misconceptions. Any of the residents may transparently find out the location of nearby telecom towers nearby and their compliance status. In order to boost public confidence, the portal may also be used for taking-in request for checking EMF compliance of a BTS at the unit cost of Rs. 4000/- only. The portal also hosts numerous articles, booklets, videos, various leaflets and Frequently Asked Questions to further educate the citizens about EMF and coverage of telecom services. In addition, DoT has issued Broad guidelines to all State Governments, which, inter-alia, mentions formation of State Level Telecom Committee (STC) and District Level Telecom Committee (DTC) with representatives of various stake holders to effectively address issues related to telecom infrastructure including Public Concerns.

(ii) DoT has initiated a nation-wide Awareness Programme on EMF Emissions and Telecom Towers to build a direct bridge of engagement between different stakeholders and to fill the information gap with scientific evidence. Six such programmes are held in Dehradun on 30 June, 2016, in Hyderabad on 13 July, 2016, in Mumbai on 23 August, 2016, in Chandigarh on 21 October, 2016 in Jaipur on 17 December, 2016 and in Guwahati on 24 January, 2017, helped in bringing lot of clarity on this issue and were appreciated by all participants including the Chief Secretaries of these States and representatives of local bodies and RWAs. The programme held in Jaipur is also attended by Hon'ble Minister of Communication.

(iii) Detailed information on EMF related issues and steps taken by Government of India in this regard have been made available on DoT website www.dot.gov.in in section "A Journey for EMF". DoT has issued an informative guide on 'Mobile Communications-Radio Waves and Safety'. Pamphlets/ Information Brochures on various topics related to EMF have been published and distributed in various regional languages.

Media coverage about safety of EMF emission has also been published in National & Regional Newspapers.

(iv) DoT has been continuously engaging with Telecom Service Providers' (TSPs) associations for organizing workshops/seminars to create awareness on this issue. Renowned international speakers have participated in International workshops held at New Delhi and Kochi. In addition, during EMF audit also officers of TERM Cells (field units of DoT) have been interacting with local residents of societies/localities and educating them about Mobile phone/Tower emission.

These efforts of engagement between general public at large, DoT and other stakeholders of the Telecom Sector has helped to bridge the information gap by bringing forth the right scientific facts on the issue of health effects of EMF emission.

(Recommendation Sl. No. 11)

Investment on Network Expansion

The Committee note that Idea Cellular Limited has made an overall investment of Rs.1.2 lakh crore by March, 2017. Vodafone is the largest FDI investor in the country and has brought largest equity infusion of Rs.48,000 crore is FY, 2017, this is in addition to Rs.1,15,000 crore already invested in India prior to and after 2007-08. Vodafone have further stated that a predictable and stable policy and regulatory regime is a necessary to encourage investments in the sector. Bharti Airtel had made cumulative investment of Rs.2,14,800 crore and also committed to investing Rs.60,000 crore over the next three years to upgrade better quality services. With regard to Reliance Jio, an amount of Rs.1,60,000 crore has been invested and installed 2,82,000 BTS. They are now in the process of installing an additional 1 lakh BTS by March, 2017. The Committee have been informed that in the meeting chaired by Secretary (T) on 10.06.2016 with CEOs/MDs of the service providers to seek their full participation in resolving the issue of call drops in national interest, TSPs have indicated a target of around 60,000 additional BTS equipment to be installed in different parts of the country. They have also assured to make use of the latest available technology to assess the position and carry out optimization on regular basis with finer granularity. As per the information provided by the Department, the Committee note that during the period from June 2016 to October 2016, 1,29,000 BTS have been added. During the review done on 1st November 2016, addition of around 156,000 BTS, on aggregate basis, by March 2017 was further committed. Around 40,000 BTS on this account have already been added. The Committee feel that this is one of the

perfect example of how things can be improved if the Department and various TSPs work in close coordination. While appreciating the achievements made by the TSPs, the Committee feel that the investment in infrastructure made by TSPs does not correspond to their expansion and reach and overall revenue being generated by them. There is certainly more scopes for more investment in the country as large parts of the rural areas are bereft of qualitative service. Concerted action from Telecom Service Providers, stretching and fine tuning their infrastructure will help improve the situation. The Committee note that India and China have a comparable customer base. Considering that spectrum is provided without any cost in China and it has to be bought at huge price in India, it may not be fair to compare the investment made by telecom operators in the two countries, however, the difference in investment made during one year in telecom network which is 50 billion in China as compared to 5 billion in India speaks a lot about the lack of requisite investment in the country. Since lack of infrastructure due to poor investment has been cited as one of the reasons for poor connectivity especially in rural areas, the Committee recommend that the Department should take up the matter with the CEOs/MDs of TSPs and impress upon them to add more BTS by increasing their investment especially in rural areas. The Committee also recommend that telecom Infrastructure being core infrastructure, efforts should be made by the Department for speedier implementation of various initiatives being taken by the Government to fill the gaps in infrastructure in critical areas thereby helping the TSPs to invest more. The Committee may be apprised of the progress made in this regard.

Reply of the Government

Since November 2016 till May 2017, the TSPs have installed around 1.69 lakh BTS against the committed target of 1.56 lakh. In the month of June 2017, they have installed over 14,000 BTS. Besides, over 13 thousand BTS/repeaters have also been installed during this period.

DoT has been continuously monitoring the installation of additional infrastructure and it has been observed that TSPs have been investing in the network expansion on continuous basis.

(Recommendation Sl. No. 12)

Issues related to Spectrum

The Committee note that the TSPs have cited deficient availability of spectrum as one of the reasons causing call drop. Issues relating to allocation of spectrum is under the purview of the Department. In the recent spectrum

auctions conducted by the Government, the Department have been able to provide 965 megahertz of spectrum to telecom operators at a market determined price in a transparent manner. This volume of spectrum is more than the spectrum the TSPs have acquired cumulatively in the last four auctions of 2012, 2013, 2014 and 2015. The Committee note that this has resulted in additional spectrum availability of around 20 MHz to 84MHz in most Licensed Service Areas (LSAs). As a result, spectrum holding per Telecom Operator has increased by around 2 to 9 MHz in each LSA. However, spectrum holding per telecom operator in India is still very less when compared to other countries mainly because the total spectrum assigned to commercial telecom operators is less as compared to other countries and number of telecom operators in each LSA is 7 to 11 vis-à-vis 3 to 5 in other countries. The Committee note that there will be further improvement in the situation once the unsold spectrum rights mainly in 700 MHz, 2100 MHz and 2500 MHz bands are procured by telecom operators and consolidation in the Indian telecom operator will be beneficial as far as spectrum holding per operator is concerned. The Committee are hopeful that even though only 965 MHz spectrum out of 2300 MHz on offer has been acquired by TSPs after the recently held auction in 2016, with this additional 965 MHz spectrum there will definitely be an improvement in the quality of services once the equipments are deployed and spectrum is put into use. Shortage of spectrum can no more be cited by TSPs as a reason for poor quality of service. However, this is possible only when the roll-out obligations of the spectrum are adhered to by the TSPs. As per roll out obligations, operators have to roll out their services in 10 per cent of District headquarters and 90 per cent of Metros in the first year, 50 per cent of the District headquarters in the third year, and 30 per cent of Block headquarters has to be covered in five years. Considering that poor coverage may be due to non-fulfilment of roll-out obligations by TSPs in the respective service areas, the Committee recommend that the Department should take all necessary measures to ensure that all TSPs strictly adhere to the roll-out obligations so that network coverage is substantially improved in the respective service areas. The Committee also desire that the latest status of compliance/non-compliance of roll-out obligations by TSPs along with the action taken by the Department against the TSPs not meeting the roll out obligations may be furnished to them.

Reply of the Government

As per conditions in the respective Access Services licenses regarding roll out obligations, the licensee has to cover at least 10 per cent of District headquarters in telecom circles/ 90 per cent area of Metros within one year, 50 per cent of the District headquarters in telecom circles within three years, and

cumulative up to 30 per cent of Block headquarters in telecom circles in five years from the date of allocation of Access Spectrum.

In case of delay beyond the stipulated period in fulfillment of the rollout obligations, the Licensor is entitled to recover Liquidated Damages (LD) @ Rs. 5 Lakh (Rupees: Five Lakhs) per week for first 13 weeks; @ Rs 10 lakhs for the next 13 weeks and thereafter @ Rs. 20 lakhs for 26 weeks subject to a maximum of Rs. 7 crore per Licensed Service Area (LSA).

There are 22 LSAs in the country and an operator having license in all the service areas can be imposed a maximum LD of Rs. 7 crore x 22 = Rs 154 crore.

Accordingly, the cases of delay in fulfillment of rollout obligation by the respective licensees are examined in the Department in coordination with its field units (TERM Cells) and WPC Wing in a routine manner and where ever applicable, appropriate LD is imposed after following due procedure.

The details of LD imposed on various telecom service providers for delay in fulfillment of rollout obligations during last 7 years is as below:

S. No.	Service Provider	Amount of LD recovered (in Rs crore)
1	Aircel	74.25
2	Sistema Shyam	73.54
3	Etisalat	46.65
4	Loop	7.80
5	S Tel	10.52
6	Unitech	57.81
7	Idea	16.71
8	Vodafone	3.70
9	Videocon	41.93

Action taken by the Department for recovery of LD from TSPs compels them to ensure compliance of rollout obligations within the stipulated timeframe.

(Recommendation Sl. No. 14)

Shutting down of towers by Local agencies

The Committee note that sealing of towers by Local/Municipal Bodies of States/UTs is acting as one of the hindrances to uninterrupted services by TSPs leading to poor network coverage and call drop in the country. Hon'ble Minister in charge of the DoT have taken up the matter with Union Urban Development Minister and all Chief Ministers of States citing "Digital India"

and “m-governance” programs for providing single window clearances, space in Government buildings for mobile sites, and ensuring 24x7 power. Secretary (T) also chaired a meeting on 28.06.2016 with different Civil Agencies (in Delhi and Mumbai) which deal with grant of permission for mobile towers so that each of such Agency facilitates the augmentation of telecom infrastructure in their jurisdiction. Efforts are being made to address the issues relating to public fear due to EMF radiations, sealing of operating telecom sites by Municipal bodies and possibility of de-sealing them. The Committee also note that DoT had prescribed uniform advisory guidelines for tower installation vide its letter dated 1.8.2013 and Indian Telegraph Right of Way Rules, 2016 has been notified on 15.11.2016 to regulate underground infrastructure (optical fibre) and over-ground infrastructure (mobile towers) to facilitate timely permissions for installation of towers/optical fibre to enhance mobile coverage and capacity. The Committee note that TSPs are facing lot of challenges because different States have come up with their own tower policies, which are non-uniform and impose restrictions relating to the setting up of towers near schools, hospitals, colleges, jails, etc. The Committee feel that proper implementation of DoT Uniform Advisory Guidelines for tower installation and Rules and RoW which provides for a single window and time bound clearances, by all States, Municipal Bodies and Corporations will to a great extent address the issues relating to expansion of telecom infrastructure including timely setting up of towers. The Committee recommend that the Department should constantly pursue the matter with all the states/UTs to mandatorily implement these rules by States/UTs in their respective jurisdiction so that good quality telecommunication and broadband services are provided to the public.

Reply of the Government

In context of sealing of sites in Municipal Council Area(s) of Delhi, the matter is still under litigation at High Court of Delhi. This has been referred for the Mediation and formal agreement has been reached on 30.01.2017 at 8th proceeding. However, in view of re-constitution of the Bench at High Court, the matter may be taken-up during next date of hearing i.e. 28.08.2017.

Further, after the Notification of Indian Telegraph Right of Way Rules in November 2016, all the States / UTs were informed vide DO letter dated 23.11.2016 by Secretary, Telecom regarding the notification of the said rules and provisions contained therein. The States/UTs were simultaneously requested to nominate Dispute Resolution Officer as per rule 14(1) of the Indian Telegraph Right of Way Rules 2016. The States/UTs were sensitized about the provisions, benefits of the Indian Telegraph Right of Way rules, 2016 and also reminded to nominate Dispute Resolution officer through a Video

Conference chaired by Secretary, Telecom held on 03.01.2017. Subsequently, a Video Conference with various States/UTs was also chaired by Joint Secretary (T) on 28.02.2017. A letter reminding defaulting States to nominate Dispute Resolution Officer was sent on 18.05.2017 by Joint Secretary (T). Another notification with names of Dispute Redressal Officers of 30 States / UTs has also been issued in June 2017.

(Recommendation Sl. No. 15)

Initiatives taken by TRAI for ensuring accuracy of metering and billing

The Committee note that TRAI had prescribed the standards for metering and billing through the Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulations, 2006. These regulations contain a Code of Practice for Metering and Billing Accuracy, which every service provider has to comply with. The regulations provide for Audit of the Metering and Billing system of the service providers by the service provider every year through any one of the auditors from the panel notified by TRAI. The service providers have to submit the Audit Report to TRAI by 31st July every year. Also they have to take action on the audit observations and Action Taken Reports have to be submitted to TRAI by 15th November every year. The Committee note with satisfaction that the audit of metering and billing system has helped in identifying systemic issues and rectifying the problems in a timely manner. Some of the systemic issues identified in the audit report which have been addressed by TRAI are wrong configuration of tariff plans in the billing system, delay in configuration/opening of new codes and number services in the network leading to wrong charging of consumers, wrong charging of calls due to wrong configuration in the billing system of the type of calls, large instances of wrong dialing, etc. In fact, the whole issue of call drop came to fora due to the increasing complaints by consumers on mobile billing and other irregularities. However, the TRAI Act, 1997 does not envisage handling of individual complaints by TRAI, though TRAI suo moto looks into issues affecting large number of consumers or practices adopted by service providers which are against the interest of consumers. With regard to method of billing viz. per minute or per second billing, the Committee have been informed that while per minute billing is the preferred mode of billing internationally due to post paid customers forming the bulk of subscribers, however, in India since majority of the customers are on prepaid platform, per second billing has become prevalent across all operators in the last four years. The Committee note that per second billing brings more transparency and customers have greater control over their spend as they have to pay for the exact duration used. TSPs resorting to over billing and other practices have been proved by

the fact that during the audit of the metering and billing system of service providers during the financial 2014-15, 83 cases of overcharging involving customer base of 3704510 were detected. The amount refunded was Rs.1.53 crore (approx) and an amount of Rs.19.17 lakh which cannot be refunded to the customers was deposited in the Telecom Consumers Education and Protection Fund maintained by TRAI for educating consumers and for creating awareness about consumer issues. Since millions of people are using mobile phones, it is of utmost importance that TSPs strictly adopt accurate billing method. The Committee recommend that the Department/TRAI should ensure strict monitoring to ensure accuracy of metering and billing by the TSPs so that the service providers are forced to identify systemic issues and rectify the problems in a timely manner. This assumes importance particularly because very few avenues are available with consumers to address their grievances when it comes to billing related irregularities. The Committee also recommend that TSPs should be instructed to provide relevant information regarding billing method to subscribers at the time of giving connections itself.

Reply of the Government

TRAI has been monitoring implementation of the audit of the metering and billing system of service providers through quarterly reports from auditors. To ensure strict monitoring of metering and billing by the TSPs, as suggested by the Committee, TRAI will also send their teams of officers to visit the billing centres to verify and inspect the audit. During these inspections some of the billing complaints received in TRAI will also be examined by the TRAI team along with the TSPs and the billing auditors to identify systemic issues in billing.

Regarding the suggestions of the Committee that TSPs should be instructed to provide relevant information regarding billing method to subscribers at the time of giving connections itself, it may be mentioned that as per Clause 1.2 of the Code of Practice for Metering and Billing Accuracy prescribed under the "Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulation 2006", before a customer is enrolled for any telecommunication service, he shall be provided the detailed information relating to the tariff applicable for that service not later than one week after the activation of service, about ----

(i) the tariff plan subscribed by him;
(ii) quantity related charges such as the charge for each SMS message, or kilobyte of data etc.;
(iii) accuracy of measurement of time, duration and of quantity, and also the resolution and rounding rules, including the underlying units,

used when calculating the charges for an individual event or an aggregation of event; and

(iv) contractual terms and conditions for provision, restriction and termination of service.

Further, the directions dated 04.05.2007 issued by TRAI on information to be included in the bills issued to consumers mandate TSPs, inter alia, to provide in the bills the name of applicable Tariff Plan and methodology applied for calculations of amount mentioned in the telephone bills, details of pulse rates and charges, particularly mentioning local, subscriber trunk dialling, International subscriber trunk dialling, short messages service (also referred to in the telephone bills as STD, ISD and SMS respectively) charges and monthly fixed charges. As such the suggestions of the Hon'ble Committee are already being taken care of by TRAI.

(Recommendation Sl. No. 18)

Development of Applications

The Committee note that TRAI has recently launched TRAI analytical portal which has three sub-portals viz. TRAI QoS Analytic Portal, TRAI Myspeed Portal and TRAI Drive Test Portal. The Portal allows a user to check the call drop rate of all the 2G networks of any particular telecom operator on all India level, service area level, district level and BTS level. The Committee also note that TRAI had also developed 'MySpeed' App, which can be downloaded from mobile sewa app store. This App allows users to measure their data speed experience and send the results to this portal. The customers can view the data experience of all TSPs from the TRAI MySpeed Portal. The Committee note that TRAI analytical portal provides useful information regarding the performance of 2G services and data speed experience of various TSPs. However, it provides little scope through which customers can engage themselves with the service providers and provide their feedback like the Grameen Vidyutikaran App developed by Ministry of Power to provide real time data on electrification of all villages in the country. Moreover, QoS Analytical Portal is limited only to 2G services and does not cover services like 3G and 4G voices. Though it is a good initiative, the TRAI analytical portal will not go far in addressing the concerns of the consumers unless the lacunae and limitations pointed out by the Committee are suitably addressed. The Committee, therefore, recommend that analytical portal developed by TRAI should be upgraded in the line of Ministry of Power which will not only provide comprehensive pictures of 2G, 3G and 4G BTS but will also feature a citizen engagement window so that consumers can engage with TRAI/TSPs through positive feedbacks.

Reply of the Government

As already mentioned in response to the recommendations at para 4, in line with the observations/recommendations of the Hon'ble Committee, TRAI has already taken action in the direction of citizen engagement by way of taking feedback from consumers and provide information to consumers in a comprehensive and transparent manner through graphical depiction of Quality of Service. The newly launched Apps will be capturing the feedback of consumers on Voice Quality, Data Speed of 2G, 3G and 4G networks and the results would be displayed in the Analytics portal. TRAI is also in the process of updating the data on Call Drop and Network Utilization in the TRAI analytics portal to cover 3G networks.

(Recommendation Sl. No. 20)

Installation of unauthorized signal boosters

As per the submission of TRAI, TSPs have expressed concern regarding interference due to unauthorised installation of signal boosters by users which is also one of the reasons for call drop. From the submission made by COAI, the Committee note that the interference from repeaters/boosters/jammers and faulty/leaky cable TV equipment have become so prominent that it prevents the licensees from providing flawless telecom services and launching of services. On the other hand, the Department are of the view that the problem is not with the boosters provided the boosters are made to operate in the correct frequency with the correct power. The Committee note that the Department are trying to encourage some of the telcos to choose their own outlets, sell authorised boosters and issue licence as an interim measure but ultimately consumer networks have to be improved especially for indoors where more boosters are used. Till there is an improvement in the telecom network, it will not be possible to completely ban the use of boosters and repeaters. However, TSPs have desired easy availability of these illegal repeaters/boosters/jammers in the local open market and online portals need to be regulated at the earliest and law enacted to make the sale, possession or use of jammers as "illegal". They have also desired that adequate authority should also be granted to TERM/WMO wings for seizure/confiscation of illegal Repeaters, Boosters, Jammers and faulty/leaky cable TV equipment causing interference. The Committee need not emphasize that interference issues related to out of band emissions as well as illegal repeaters, boosters and jammers have increased manifold. While taking note of the submission that use of boosters cannot be stopped till the quality of services are satisfactory, the Committee feel that Department may look into the option of allowing only authorized boosters and strict action should be taken against the use of illegal

repeaters, boosters and jammers so as to provide flawless services. The Committee recommend that TERM/WMO Wings of DoT should be adequately empowered and necessary authority given so as to enable them to confiscate sale or use of illegal repeaters, boosters, jammers and faulty/leaky Cable TV equipment causing interference.

Reply of the Government

Radio Monitoring, a regulatory requirement is carried out by the Wireless Monitoring Organisation (WMO) of Wireless Planning and Coordination (WPC) Wing, Ministry of Communications in India. During monitoring of interference complaints received from Telecom Service Providers (TSPs), it has been observed that in most of the cases, interference was due to boosters/repeaters/jammers/faulty or leaky cable TV equipments.

The need of the boosters primarily arose to compensate the inadequate signal strength of mobile networks, and this finding is in perfect agreement with the observation made by the Standing Committee that the use of the boosters cannot be stopped till the quality of services are satisfactory.

It may further be mentioned that for online business of boosters/repeaters, instructions have already been issued to various online e-retailers to comply with the existing rules and regulations issued by WPC Wing regarding possession and/or sale of wireless equipments.

Another common cause of interference to cellular networks is unauthorized use of jammers.

For the deployment of jammers, Cabinet Secretariat has issued Guidelines wherein it is mentioned that jammers can be procured only by some selected Government agencies including jail authorities. Further, for seeking prior permission from Secretary (Security), Cabinet Secretariat, for installation of jammers in jails, total number of jammers required for installation in prisons need to be assessed by Jail authorities in consultation with the local office of DoT.

In addition, the field units of DoT (TERM Cells/ erstwhile VTM Cells) have been assigned the vigilance functions to file FIR against the culprits, pursue the cases, issuance of notices indicating violation of conditions of Indian Telegraph Act, 1885 and other Acts/ Rules relating to telecommunications in force from time to time.

(Recommendation Sl. No. 21)

Issues relating to Points of Interconnection (PoI)

Reliance Jio in their submission before the Committee had expressed concern that leading operators like Vodafone, Idea and Airtel have been virtually blocking calls from Jio to their networks by denying adequate interconnection. 740 crore outgoing calls have been blocked from the Jio network. 12-15 crore calls are blocked every day. As per their submission, the problem is of alarming proportion and the total call drops due to call blocking from Jio network alone is of the order of total call drops in the country. Over 55-60 percent of calls from Jio network to Vodafone, Idea and Airtel continue to get blocked. Reliance Jio had also stated that augmentation of PoIs by Vodafone, Idea and Airtel is highly inadequate. However, all the operators have strongly countered the submission given by RJIO that call blocking is happening due to denial of adequate interconnections. Vodafone India Limited had submitted that Vodafone have provided Jio all the PoIs they have asked for and sufficient for 75mn subscribers, even when they have lesser number of subscribers. It further stated that RJio had sought 9314 E1s for Access & 2184 E1s for NLD by 21st March 2017 (i.e. 9 months from the date of its letter dated 21 June 2016), considering 80% of these E1s for RJio's outgoing traffic, these were provided/exceeded by 25.11.2016. These E1s were required to cater to a subscriber base of 100 million – as of date almost double the required number of E1s have been provided and the subscriber base is believed to be around 72 million. Idea Cellular Limited had also submitted that its PoI allocation to Jio is much in excess of Jio's PoI demand. Idea has provided POI E1s more than RJIO's own forecasted demand. While, RJIO had forecasted a requirement of 10,070 POIs (8,140 for Access, 1,930 for NLD) for a base of 100 million subscribers by March 2017 (as per its communication to Idea via its letter dated 21.06.0216), Idea Cellular had completely met this requirement by second week of November 2016, i.e. well before the RJIO projected timeline of March 2017 despite the fact that RJIO was yet to attain subscriber base of 100 million subscribers. Bharti Airtel had further submitted before the Committee that Points of interconnect they have provided is four times ahead of comparable operators. As on 1st Feb 2017, Bharti Airtel have provided 27,719 number of E1s which is higher than RJIL demand for 100 million subscribers forecasted for 12 months and is sufficient for 190 million subscribers. These operators have gone to the extent of blaming that connectivity issue and call failures are due to Jio's own 'under-preparedness', insufficient testing efforts and acquiring a large number of customers at the pre-launch stage by Reliance Jio. However, as per TRAI it cannot be conclusively established that the Reliance Jio's network connectivity issue and call failure are due to Jio's own

under-preparedness, insufficient testing efforts etc. During the meetings held by TRAI with the service providers, it was observed that most of the problems of Reliance Jio network connectivity stem from the lack of communication between the service providers. The Committee are given to understand that amidst TSPs at loggerhead and consumers hue and cry relating to quality of services, TRAI conducted several meetings with the representatives of Bharti Airtel Ltd., Vodafone India Ltd., Idea Cellular Ltd. and RJIL on 09.09.2016, 01.11.2016, 24.11.2016 and 16.12.2016 urging them to ensure that the customers should not suffer due to delay in augmentation of PoIs. On 27.09.2016, TRAI issued Show Cause Notices to the concerned telecom service providers for violation of Standards of Quality of service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009, dated 20.03.2009 and the provisions of Licenses. TRAI informed the Committee that on perusal of the information furnished by Airtel, Idea and Vodafone, the Authority, prima-facie it was noted that in most of the licensed areas, the percentage of failed call attempts during busy hour with RJIL is exorbitantly high. Thus, these telecom service providers have failed to meet the benchmark for PoI congestion prescribed in the Standard of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009 at the PoIs with RJIL and relevant provisions of the license. The Authority, on examination of the reply to the Show Cause Notices and after giving sufficient time and opportunity to the above Telecom Service Providers, recommended Department of Telecommunications (DoT) on 21.10.2016, a penal action of Rs.50 crore per licensed service areas (LSAs) against Airtel, Idea and Vodafone each, in all LSAs where PoI congestion exceeds the allowable limit of 0.5 percent. The Department have informed that a Committee set up to examine the issue has also submitted its Report which inter-alia included the arguments forwarded by M/s RJIO, M/s Bharti Airtel, M/s Vodaone and M/s Idea Cellular Ltd., which is under consideration. With regard to updated status on the issue the Department have informed that M/s Vodafone India Ltd. and M/s Idea Cellular Ltd. have filed a writ petition in Delhi High Court against the above said recommendations of TRAI and the matter is sub- judice. Going deep into the claims and counter claims made by the TSPs, the Committee are inclined to conclude that there are considerable policy gaps which have ultimately put consumers into tremendous hardship for no fault of their own. Consumer interest is the supreme guiding factor for any service industry. The matter has dragged on so much without any amicable resolution points to the fact that under the present circumstances no mechanism is in place by the Department/TRAI to address such impasse. Since most of the problems of Reliance Jio network connectivity stem from the lack of communication between the service providers, the Committee recommend that appropriate

mechanism should be put in place for proper coordination and resolution of such issue. The Committee may be apprised of all the initiatives taken in this regard.

Reply of the Government

Having recognized the need for review of the present regulatory framework for interconnection in the country, TRAI has already undertaken a comprehensive consultation process by way of issuing a Consultation Paper on 'Review of Regulatory Framework for interconnection' on 21.10.2016 for stakeholders' consultation. On the basis of the stakeholders' comments and counter-comments and further analysis on the matter, TRAI will shortly formulate regulations with a view to ensure effective and expeditious interconnection on the basis of Fair, Reasonable and Non-Discriminatory Principles.

The matter of resolution of interconnection issues by way of improving coordination amongst service providers was also raised for stakeholders' consultation in the afore-mentioned Consultation Paper. TRAI is considering various options including setting up a Coordination Committee for proper coordination among the TSPs and resolution of interconnection related issues.

Comments of the Committee
(Please see Para No. 25 of Chapter I)

(Recommendation Sl. No. 22)

Issues relating to Interconnection Agreement

Reliance Jio, through their submission made before the Committee have alleged that in clear breach of Interconnection Agreement and sign of collusion major Telecom Service Providers Vodafone, Idea and Airtel have insisted for One-Way E1s from Jio, without traffic consideration. QoS has not improved as half of the E1s were heavily congested while the other half remained underutilized (less than 20 percent utilization) resulting in wastage of interconnect resources and, therefore, both-Way E1 is the only efficient way for resource utilization. Only Vodafone, Idea and Airtel have both-way E1s among themselves. Barring these three operators, all other operators have only both-way E1s with Jio. Reliance Jio further submitted that they have entered into Interconnection Agreements with all the telecom licensees and as per the provision in the Interconnection Agreements parties are obligated to maintain 0.2 percent Grade of Service and 70 percent utilization of POIs. All the licensees are also obligated to meet QoS parameters specified by TRAI as per which congestion at interconnection points should not be more than 5 calls per

1,000 call attempts. Operators are required to provide both-way E1s at least for the first two years as per the Interconnection Agreement in order to ensure optimum utilization of interconnection resources. Bharti Airtel have, however, submitted that both-way TGs are mostly used in the initial stages of interconnection when the traffic is low. Oneway TGs are used when traffic increases between networks, hence justifying the creation of separate trunk groups. Having separate trunk groups increases PoI efficiency and reduces the chances of call failure. Having one-way TGs is a well established practice in the industry. In fact, more than 96% of Airtel's total working PoIs with other operators have one-way trunk groups. Idea Cellular have also stated that one-way E1s would provide additional capacity to RJio, compared to the capacity offered by Two-way PoIs. Idea has provided One-way E1s (for RJIO subscribers calling to Idea) more than the total RJIO demand of Two-way E1s. As per Vodafone Limited, conversion to one-way E1s are not a violation since it has been specifically provided for in the mutually agreed and executed Interconnect agreement. As per mutually agreed and executed interconnect agreement with RJio and most private operators, new operator acts as seeker and is responsible to bring transmission media and equipment set up at provider operator's location, for first 2 years from date of commercial traffic. The Committee note that in case there is a breach of Interconnection Agreement by any of the Parties to the agreement, the other party can file an application in the Telecom Dispute Settlement and Appellate Tribunal (TDSAT). As per TRAI Act, 1997, the Authority is also mandated to discharge the functions to ensure compliance of terms and conditions of licence; fix the terms and conditions of inter-connectivity between the service providers; and ensure technical compatibility and effective inter-connection between different service providers. Accordingly, TRAI is constantly monitoring the situation of congestion on POIs and issues Show Cause Notices and Directions to the concerned service providers to protect consumer interest. TRAI have further stated that through the Telecommunication Interconnection (reference Interconnect Offer) Regulation, 2002, the Authority has mandated publishing of Reference Interconnect Offer (RIO) by the telecommunication service providers holding significant market power based on the Model RIO. The Model RIO provides a broad framework for arriving at a bilateral Interconnection Agreement. The Committee note that TRAI has undertaken a review of the present framework for interconnection by way of issuing a Consultation Paper on 'Review of Regulatory Framework for Interconnection' on 21.10.2016. The last dates for furnishing comments and counter-comments on this Consultation Paper were 12.12.2016 and 26.12.2016 respectively. The Committee observe that when Reliance Jio are demanding for more E-Is, TSPs like Idea, Vodafone and Bharti Airtel are allocating more One-way E1s on the ground that it will increase PoI

efficiency and reduces the chances of call failure. The Committee are of the view that some of the reasons for the contradictory views taken by the TSPs may be due to lack of well defined Interconnection Agreement. The Committee, therefore recommend that the consultation paper on 'Review of Regulatory Framework for Interconnection' should be completed at the earliest. In view of the contradictory view taken by various TSPs, the Committee would like the Department/TRAI to go into the depth of the matter and accordingly apprise the Committee of the actual reasons for POI congestion between them and the remedial measures taken thereon.

Reply of the Government

As already stated in response to the recommendations of the Committee in Para-21, TRAI will shortly formulate the regulations for ensuring effective and expeditious interconnection. TRAI is considering devising regulatory principles for interconnection apart from prescribing a Standard Interconnection Agreement (SIA) to be signed by the service providers in case they fail to arrive at a mutually agreeable interconnection agreement.

Further, in order to ascertain the actual reasons for congestion of POIs of RJIL with M/s Airtel, M/s Idea and M/s Vodafone, the matter has been examined and it has been noted that there was a dispute/ disagreement between RJIL and the existing operators, which related to the following points:

(i) Augmentation of existing POIs to be undertaken as per the process within the framework of Interconnect Agreement and TRAI Regulations on the subject providing 90 days' timeframe for augmentation as against RJIL's demand for augmentation to be completed within 7 days of receipt of requisite charges;

(ii) Calculations and provisioning of E1 links required at POIs on the basis of subscriber base vis-à-vis other operators to bring the utilization to around 40% to 50% and the POI capacity can be enhanced when the traffic picks up;

(iii) Test traffic being disproportionate to any test use i.e. the test traffic is not only high but is abysmally imbalanced;

(iv) Traffic trends highly skewed with almost 90% of the total traffic terminating into existing operator's network while merely 10% is being directed towards RJIL network;

(v) Abnormal traffic utilization on account of free voice offerings by RJIL during test phase;

(vi) Issue demand notes for augmenting POIs as per RJIL projections; etc.

As per Clause 9.1 & 9.2 of the Interconnect Agreement between RJIL and existing operators, the time period prescribed for augmentation of POIs is 4 weeks' notice period plus 90 days on receipt of requisite charges. So the total time for provisioning of POIs from date of firm demand as per Interconnect Agreement works out to 118 days. However, on analysis of delay in providing POIs beyond 90 days on receipt of requisite charges by either party, as per reports from RJIL, it has been noted that POIs have been provided by existing operators namely, M/s Airtel, M/s Idea and M/s Vodafone within the stipulated timeframe in terms of Interconnect Agreement. Further, it has also been observed that M/s Airtel, M/s Idea and M/s Vodafone have provided additional POI capacities (in small numbers) at much shorter notices compared to 118 days' time period allowed in the Interconnect Agreement and TRAI Regulations after the launch of services by M/s RJIL. Therefore, since the POIs have been provisioned by existing operators within the stipulated period of 118 days (4 weeks plus 90 days) from the date of initial demand vide letter dated 21.06.2016, the situation would not have arisen, if RJIL would have projected demand for POIs as well as informed other operators about its intention to launch services on 5th September 2016 well in time (118 days ahead) keeping in view the provision of interconnect agreement or otherwise would have planned its launch date 118 days after their initial demand dated 21.06.2016.

As TRAI is likely to formulate the regulations for ensuring effective and expeditious interconnection and devising regulatory principles for interconnection apart from prescribing a Standard Interconnection Agreement (SIA) to be signed by the service providers in case they fail to arrive at a mutually agreeable interconnection agreement, it is expected that such impasse would not be repeated in future.

Comments of the Committee
(Please see Para No. 25 of Chapter I)

(Recommendation Sl. No. 23)

Free Services and Predatory Tariff Structure

As per the submission made by Idea Cellular Limited, RJIO's free pricing offer is clearly predatory and as a result of RJIO's free services, the Indian wireless sector is facing massive revenue decline. With costs remaining largely fixed and the necessary revenues to support these costs shrinking, operators may be forced to scale back their operations /completely exit markets/curtail new investments, etc. which will render them uncompetitive in near future. The Committee have been further informed that natural outcome will be a

monopolistic/oligopolistic market structure resulting in limited consumer choice. Vodafone India Limited have pleaded that free services provided by RJio is a case of IUC non-compliant tariffs, which stifles competition and will impact entire telecom industry and the IUC non-compliant tariffs of RJio has dented the growth, in terms of decrease in revenues and eventual payments of statutory levies and regulatory charges to National Exchequer. Further, the financial performance of Vodafone India Limited has significantly deteriorated since the offer of free services by RJio. Under pressure, Vodafone India Limited had to also launch competitive offers, which will further impact financial condition. The Committee also note that Vodafone India Limited are also pursuing legal recourses before Court of Law against the non-compliant tariff offers of RJio. Bharti Airtel have also submitted that RJIL has been providing free services, generating a tsunami of incoming voice traffic on Airtel's network, which has resulted in abnormal levels of asymmetric traffic, with 93% of the total traffic directed from RJIL towards Airtel. The huge asymmetry in traffic due to RJIL's free offers has led to the complete failure of the present IUC regime, which assumes nearly symmetric traffic while fixing the below cost termination charge. The present termination charge of 14 paise is already less than half of the actual cost of termination. Therefore, an asymmetry of such enormous magnitude is causing huge losses for Airtel. Further, it is submitted by Airtel that the free services provided by RJIL are predatory and in complete violation of TRAI's tariff orders, which require that their tariffs should be in compliance with the Interconnection Usage Charge (IUC) regime. However, TRAI termination charge of Re. 0.14 per minute for wireless to wireless calls on the basis of 'work-done principle' allows for recovery of full-cost to the terminating service providers. The Committee note that this was done after following a comprehensive consultation process with stakeholders and on the basis of cost information furnished by the service providers including Idea Cellular Limited. The Committee take note of the submission of Department that free service may be benefitting the consumers, at the same time it is having worrisome impact on the industry and during the last quarter of 2016, October to December, the revenue of major service providers in the private sector is likely to fall by 7 to 8 percent. This is the first quarter when the industry revenue has declined and for the next quarter it is expected to be 10 to 12 per cent. The Committee are of the considered view that TRAI as a sectoral regulator has an important role to play in development of telecom services in the country. Apart from protecting the interest of the consumers, it is the role of TRAI to provide an eco-system/environment which is fair and transparent, encourages competition, and promotes a level playing field for all the service providers. Since declining revenue earnings of the TSPs may have serious repercussions not only for telecom industries but also financial sector

as a whole, the Committee recommend that the Department/TRAI should work in tandem with the telecom service providers, consumers and industry as whole and the issues relating to pricing and tariff structure are addressed in such a way that all the stakeholders have a win-win situation and everyone reaps the benefit of telecom revolution.

Reply of the Government

It is reiterated that TRAI, in the year 2014-15, undertook a comprehensive consultation process with stakeholders to review the regulatory regime for Interconnection Usage Charges (IUC). On the basis of the stakeholders' comments and counter-comments, cost information furnished by the service providers, and further analysis, TRAI, in the year 2015, prescribed the termination charge of Re. 0.14 per minute for wireless to wireless calls on the basis of 'work-done principle' which allows for recovery of full-cost to the terminating service providers.

Further, the Recommendations/Observations given by the Hon'ble Committee on pricing and Tariff Structure are noted for future guidance.

CHAPTER III
OBSERVATIONS/RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE REPLIES OF THE GOVERNMENT

-NIL-

CHAPTER IV
OBSERVATIONS/RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE AND REQUIRE REITERATION

(Recommendation Sl. No. 2)

Quality of Service Benchmark for Call Drop

The Committee note that one of the major concerns raised by consumers regarding Quality of Service is Call Drop. The dropped call rate is an important measure for voice calls. The performance of Service Providers on call drop is assessed for both 2G and 3G services through two parameters viz. "call drop rate (benchmark ≤ 2%)" on monthly average basis for the licensed Service Area and "worst affected cells having more than 3% TCH drop (benchmark ≤ 3%)." Thus, any Cell with TCH drop/Circuit Switched Voice drop rate > 3% is treated as bad cell whose performance is to be improved. As per the information furnished by the Department all the service providers had met the benchmark for the parameter "call drop rate (benchmark ≤ 2%)" in respect of 2G and 3G. In case of the parameter, "Worst affected cells having more than 3% TCH drop", service providers did not meet the benchmark in 16 License Service Areas (LSAs) under 2G for the quarter ending in December, 2016 (M/s Aircel in 11, M/s BSNL-01, M/s TTSL (CDMA) -01, M/s Telenor-02, and M/s Vodafone in-01 Service Areas respectively). With regard to 3G also all the service providers had met the benchmark for the parameter "Call drop (Circuit Switch Voice drop) rate (benchmark ≤ 2%)". In case of the parameter, "Worst affected cells having more than 3% TCH drop", service providers did not meet the benchmark in 10 License Service Areas as on December, 2016 (M/s Aircel in 09 and M/s BSNL in 01). The Committee also note that call drop experience is worst during the busy hours defined as the one hour period when the maximum number of calls are handled. The Quality of Service benchmarks target the worst period for the LSA and the Cell Sites, and prescribe the limits that must not be exceeded. The performance of mobile operators on the both the above parameters are measured for the service area as a whole and averaged for a quarter. The major limitation of this mechanism of average assessment of QoS is that it does not provide information about disparities in performance among different areas or cities such as rural or urban areas. The Committee are of the view that parameters worst affected cells having more than 3% Traffic Channel (TCH) drop/circuit switched Voice Drop Rate (benchmark ≤3%) is the real measurement through which performance of each BTS can be analysed and ascertained. The fact that 16 Licensees are not meeting the benchmark in 2G and 10 Licensees are not meeting the benchmark in 3G service, in case of the

parameter, "Worst affected cells having more than 3% TCH drop", points to the existence of dark spots and area of poor performance of call drop. Thus the method of averaging the service area as a whole does not give the realistic picture of quality of service, as factors, such as, density of population, vehicular traffic, hilly terrain, etc. are not uniform across a License Service Area Level. This had been proved from the fact that in spite of claims made by telecom operators that their performance on call drop is well within the TRAI limit of 2% benchmark, increasing complaints on call drop have been confirmed by several test drives conducted by TRAI from time to time. The Committee feel that there are critical gaps in the quality of service parameters which need a review. Instead of assessing the performance of Service Providers on call drop by averaging the licensed Service Area as a whole, the quality of service should be measured at more micro granular level, such as at Secondary Switching Area (SSA) level or at district/city level or at Short Distance Charging Area (SDCA) level, BTS level, etc. This will not only give a more realistic assessment of call drop in the country, but also provide detailed information about areas/places where performance is poor, so that coordinated action can be taken for addressing such problem areas. As the Chairman, TRAI, candidly submitted before the Committee that this overall percentage of call drop over service area as a whole hides the variations which might have. The Committee recommend the TRAI to revise the QoS parameters and work on a whole new set of parameters taking the above factors into account.

Reply of the Government

At the time of the sitting of the Hon'ble Standing Committee, a review of the network related Quality of service standards for cellular mobile telephone service was underway by TRAI. In this regard, a consultation paper was issued on 5th August, 2016, seeking the comments of stakeholders on issues relating to measurement methodology for various network parameters, especially relating to call drop, and benchmark for these parameters. In response to the consultation paper, comments were received from 13 stakeholders and no counter comments were received from any stakeholders by the last date of 16.9.2016 and 23.9.2016 respectively. Open house discussions were held at Chennai on 21.12.2016.

Post interaction with the Hon'ble Committee, TRAI has undertaken detailed analysis of data pertaining to call drop by different granularity or geographical region, over a period of time and by operator. These analysis indicates the need to give higher weightage to (a) poorly performing BTS's and

(b) those that continue to perform poorly over a period of time. Revised benchmarks for Quality of Service are likely be notified soon by TRAI.

Comments of the Committee
(Please see Para No. 9 of Chapter I)

(Recommendation Sl. No. 3)

The Committee also note that to provide good insight within service area, TRAI had invited a Consultation Paper on "Review of network related Quality of Service standards for Cellular Mobile Telephone Service" on 5th August, 2016, seeking comments on review of the quality of service standards for call drop and other parameters, including measurement methodology, so as to enhance the "Quality of Experience" for consumers. The consultation paper has sought comments on review of the granularity of measurement of Quality of Service standards i.e. whether QoS should be measured at Secondary Switching Area (SSA) level or at district/city level or at Short Distance Charging Area (SDCA) level. The Committee note that during the consultation process regarding measurement of call drop, Service Providers in general were not in favour of shifting the measurement from service area to sub-service area level and have cited numerous reasons, such as factors beyond TSPs control, no international reference of sub-service area level benchmarking in geographical comparable to India, network architecture for a service area and not designed and built on LDCA or District basis, lack of availability of digital maps with clearly defined towns, etc. The Committee recommend the Department/TRAI to examine the method of measurement of call drop carefully so that better measurement parameters are adopted which besides giving a good insight will lead to improvement in quality of services provided by the TSPs. The Committee desire that the process of consultation on measurement of call drop be completed in a time bound manner and Committee be apprised of the outcome.

Reply of the Government

As already mentioned in response to recommendations at para 2, the review of measurement of call drops is also being considered by TRAI and appropriate decision in the matter will be taken at the earliest. The Hon'ble Committee will also be apprised of the decision taken in the matter.

Comments of the Committee
(Please see Para No. 9 of Chapter I)

(Recommendation Sl. No. 9)

TRAI proposal for Amendments in the TRAI Act

One of the important measures taken by TRAI in the direction of quality of service and call drop was the Regulation issued by TRAI in October, 2015 to provide for compensation to consumers in the event of call drop. These regulations mandated originating CMTSPs to credit one Rupee for a dropped call to the calling consumers as notional compensation, limited to three dropped calls in a day. However, the Committee were informed that TRAI's punitive compensation for call drop was termed as arbitrary and unreasonable. Hon'ble Supreme Court held the Regulation to be ultra vires the TRAI Act which pronounced its verdict in Telecom Service Provider's favour, quashing the regulations. Consequently, TRAI have now proposed certain additional amendments in TRAI Act seeking (i) insertion of specific provision in TRAI Act under Section 11 conferring power upon TRAI to take measures to protect the interest of the consumers including award of compensation and mechanism for complaint redressal; and (ii) conferring power upon the Authority to impose fine and power upon the court to award imprisonment and fine for violation of the direction of the Authority and also for furnishing false report. These provisions are akin to those existing under the Reserve Bank of India Act, 1934, the Competition Act, 2002 and the Electricity Act, 2003. TRAI have requested the Government to amend the existing TRAI Act and tightening of the existing QoS regulation to monitor the network performance more effectively. The Committee note with concern that while on the one had TRAI has been given the sole responsibility to ensure Quality of Service, Interconnection etc., on the other the requisite powers have not been vested with TRAI to enforce its regulations and directions. The Committee strongly feel that making suitable amendments to the Telecom Regulatory Authority of India Act, 1997, in order to statutorily empower TRAI to carry out its functions effectively and proactively is the need of the hour. TRAI should have penal powers including powers to impose financial penalties. More so, this has to be accorded top most priority since the thrust of the Government is on Digital India, broadband penetration and expansion of telecom services in rural and remote areas. These power may be along the lines of similar penal power available to other sectoral regulators. TRAI also needs to be empowered to strictly enforce the quality parameters. Further, as pleaded by Secretary, DoT, and Chairman, TRAI on many issues TRAI has only recommendatory role and it has no say in the acceptance of its recommendations. The Committee note that TRAI is mandated to protect the interest of Service Providers and Consumers. Considering that huge responsibility has been cast on TRAI and in view of the growing consumer complaints against poor quality of service, the Committee feel that TRAI should

be vested with required powers to enforce its regulations and directions. At the same time, the Committee desire that revision in the TRAI Act for empowering TRAI with punitive powers should not act as a hindrance to the ease of doing business for telecom service providers also. There needs to be harmonious balance between the authority of the regulator and the business interest of the TSPs. While formulating necessary provisions for arresting call drop, it is essential to take into consideration the business environment of service providers because it is they who are instrumental in the much needed growth of this sector.

Reply of the Government

The Hon'ble Supreme Court passed the judgment dated 11.05.2016 in the case of Cellular Operator Association of India Vs. Telecom Regulatory Authority of India in the matter of WP(C) No. 6521/2016 against TRAI's regulations for providing compensation to consumers in the event of call drop. In this connection, a proposal was submitted by TRAI to DoT on 03.06.2016 addressing issues such as :-

i) Protection of interest of consumers;

ii) Consumer Grievance Redressal; and

iii) Enforcement of Regulations, directions and orders of the Authority (TRAI).

Thereafter, vide letter dated 04.08.2016, DoT sought further information on TRAI proposal which was furnished by TRAI on 05.09.2016. A meeting was held on 04.11.2016 in DoT with a view to strengthen TRAI to meet the emergent challenges in Telecom Sector. Consequent to aforesaid meeting, comments of TRAI on the proposed amendment in TRAI Act 1997 have been received on 27th June, 2017. The same are under examination/ consideration.

Comments of the Committee
(Please see Para No. 12 of Chapter I)

(Recommendation Sl. No. 13)

Setting up of Towers in Government buildings

The Committee note it has been agreed in-principle that Ministry of Urban Development (MoUD) shall permit installation of mobile towers/in-building solutions in the Government buildings under their control subject to structural safety and payment of appropriate Licence fee by the TSP. Such mobile towers/in-building solution shall be a shared facility for all TSPs. In this regard, Government have taken initiatives by allowing Central Government

Buildings/ Estate, NDMC Buildings/ Estate in Lutyens Zone, Delhi, as well as allowing Defence Estate and Postal Buildings for installation of mobile towers/ BTSs in order to address the issue of call drops and quality of services. Department of Defence have issued the detailed Policy Guidelines for installation of Cell-On-Wheels (CoW) in Cantonment Areas. 61 locations in Delhi Cantonment Area have been identified in the joint survey conducted by DoT/ Defence Estate/ Service providers and Defence authorities. Tender has already been opened on 04/01/2017 and under evaluation. Department of Defence have initiated a Cabinet Note for leasing out defence land for installation of mobile towers on all-India basis to improve the quality of service and address the problem of call drops. Department of Posts (DoP) have also issued Guidelines on 21.07.2016 for use of postal buildings for BTS-installations. Service providers have raised certain concerns and held a meeting on 05/01/2017 for certain modifications which are under consideration by DoP. The Committee note that setting up towers in Government buildings would definitely prove to be of considerable help in improving network performance further, as in many cities, Government buildings and Defence areas are the only places where towers can be set up. The Committee, however, note that a majority of Government Departments do not allow the installation of BTS as a matter of policy and some due to security concerns. The Committee note that achievements made so far in this regard have been negligible. The Committee are of the view that when Government Department/Agencies themselves are resisting setting up of towers in their premises or building due to various reasons, it leaves little scope by way of setting an example for the Resident Welfare Associations to allow setting up of towers in the residential areas. The Committee note that setting up of towers in Government building helps a lot in network planning and site addition, especially in congested areas is good from EMF perspective, which eventually leads to better quality of service. The Committee recommend that the Department should urgently pursue with the Department of Defence, Department of Posts and other Ministries/Departments so as to enable the telecom operators to speedily set up towers in their buildings and areas.

Reply of the Government

DoT is constantly pursuing with various Government departments for grant of permission to install BTS in their buildings/estate. BTS on multi-sharing basis have already been installed on 10 Government buildings in Central Delhi. Approval from Delhi Urban Arts Commission has also been obtained for 28 locations in New Delhi Municipal Council (NDMC) area and work at six sites is in progress.

Tender-bids for 59 Cell-On-Wheels (C-o-W) sites in Delhi Cantonment area is under-evaluation and likely to be finalised shortly. Department of Posts has also issued certain modifications to their policy on 07.04.2017 for facilitating installation of BTSs in post office premises/ buildings.

Comments of the Committee
(Please see Para No. 15 of Chapter I)

(Recommendation Sl. No. 16)

Grievance Redressal Mechanism

The Committee note that two-tier redressal mechanism has been laid down by TRAI for a comprehensive grievance redressal mechanism through its regulation "Telecom Consumer Complaint Redressal Regulation." As per this regulation the first level of grievance redressal is at the call centre and the second level is at the Appellate Authority. In addition to the above, the consumers can also register their grievances through Centralized Public Grievances Redressal and Monitoring System (CPGRAMS) portal of Government of India. The Committee note that since TRAI Act, 1997 does not envisage handling of individual consumer complaints by TRAI, all complaints received in TRAI are forwarded to the concerned TSPs for seeking appropriate action. To strengthen the grievance redressal mechanism, the Committee have been informed that TRAI had made a recommendation for an ombudsman before 2004. Earlier, the Consumers Protection Act was applicable on telecom cases. However, Hon'ble Supreme Court decided that consumers of telecom sector will not be a part of it. The Committee note that now the Department had made a recommendation to amend the Consumer Protection Act so that telecom consumer complaints will come under it. Another suggestion is setting up of e-court for addressing consumer grievance in telecom sector which will take e-evidence and give e-judgements. The Committee are of the view that the existing telecom grievance redressal mechanism is woefully inadequate and there is an urgent need to strengthen the Consumer grievance redressal mechanism. This problem has been further compounded by the fact that consumers are not aware of the little existing grievance redressal mechanism put in place both at TSPs and at the Government levels. The Committee feel that since telecom is one of the sector having maximum customers, there is a need to set up robust mechanism to protect the interests of the consumer. The Committee recommend that urgent step should be taken to amend the Consumer Protection Act so as to bring telecom consumers complaint under Consumer Protection Act. Since telecom complaints are largely in nature of small items with large numbers, the Committee also recommend early setting up of e-courts which will not only address telecom complaints but will as well

cater to large e-commerce complaints also. The Committee also recommend that telecom operators should also be made to conduct more customers workshops and customer satisfaction surveys in every circle to effectively address customers complaints.

Reply of the Government

It is informed that TRAI suo-moto issued a Consultation Paper on "Complaints/ Grievance Redressal in the Telecom Sector" on 28th July, 2016. The consultation process was undertaken with the objectives of improving the existing grievance redressal mechanism to make it feasible to address consumer complaints more efficiently and in a more cost effective manner making use of technology to the extent possible.

After extensive consultation with the stake holders, on 10th March 2017, TRAI recommended to Government various measures to improve the existing grievance redressal mechanism for the consumers. It has been inter alia recommended to set up an institution of Telecom Ombudsman, as an independent mechanism offering technology based resolution for complaint redressal. TRAI has also recommended that the Ombudsman shall have power to award compensation to consumers and levy penalties on the TSPs.

The said recommendations are under consideration of the Competent Authority in Department of Telecommunications.

As regards the recommendations relating to workshops by telecom operators, TRAI has issued advisory to TSPs to conduct such workshops involving CAGs and consumers at District level. This advisory envisages around 1300 workshops to be conducted by the TSPs in an year across the country.

Comments of the Committee
(Please see Para No. 18 of Chapter I)

(Recommendation Sl. No. 19)

Introduction of Green Energy

The Committee note that 24/7 power backup is an essential pre-requite for delivery of non-stop services by telecom service providers. Several feasible options are being looked into for ceaseless power supply to telecom towers. The Committee note that solar deployment is a continuous process and wherever feasible solar deployments are done. The Committee are given to understand

that Solar power generation is not a remedy for power outage at Telecom Sites. This is mainly because solar generation is possible only for about Eight hours a day which is only one third of the requirement. As per COAI, the average Solar capacity deployed in Telecom Sites (in present deployments) is about 4.5 KW, which occupies about 45 Sq.mtrs. and amount of space is available only in few Ground Based Sites and such kind of space availability is almost impossible in Roof Top Sites. About 7.4% of Sites are working with renewable hybrid systems in India and many of those Sites have Solar Plants deployed to meet partial power requirements of the Site. The Committee note that Industry has done extensive trials for generating power at Telecom Sites using other identified renewable energy sources namely Wind, Hydrogen, Methanol & Biomass and the inferences are wind power generation is location specific and unreliable and not suitable for most of the telecom Sites, Hydrogen and Methanol are renewable only when these are available as a bi-product of some other manufacturing process and there is no ecosystem existing in India for production and operation & maintenance of such Fuel Cells. Bio-Mass is very much localized. In light of the above, COAI have submitted that there is need to make Grid Power available to telecom sector on priority basis at industrial /favourable rates. Further, an exemption from scheduled power load shedding be granted to telecom sector. COAI have also submitted that grid power to Operational Telecom Sites should not be disconnected without hearing the Operator first. So far as deploying solar and other renewable resources is concerned, the availability of adequate space and techno-financial feasibility continues to be the real challenge. In view of this, TSPs have adopted state-of-art storage battery technology and energy management and monitoring system for a cleaner and greener solution for powering sites where 24x7 power availability is a challenge. The Committee note that in order to look into deployment of clean and renewable energy, TRAI has issued the consultation paper on 'Approach towards sustainable telecommunications' on 16.01.2017. TRAI had also recommended that to address the issue of lack of space for installations of towers and supply of electricity, utilization of tower space of various power corporations for installation of antenna or BTS of the telecom operators. The Committee note with concern that no substantial progress has been made with regard to adoption of green and renewable energy and setting up of towers by using the transmission towers of various power corporations. Consequently, given the poor availability of electricity in rural areas, call drop due to lack of electricity supply in the rural areas still remains a practical reality. The Committee desire that the above submission made by COAI may be considered favourably by the Department and process of consultation through consultation paper floated by TRAI to look into introduction of Green Energy for telecom services should be expedited and completed at the earliest. The

Committee also note that Blood Banks in rural areas could not be set up due to lack of adequate power supply. With availability of 24x7 electricity, the Committee are of the view that around 25,000 BSNL exchanges in rural areas which have secured facilities and air condition environments may also be operated as Blood Banks. Since lack of electricity is one of the main reasons due to which Blood Banks could not be set up in rural areas, the Committee recommend that the Department should explore this possibility which will help in saving many lives. The Committee further recommend that the issue relating to utilizing the relay towers of various power corporations may be taken up with them. The Committee are of the view that utilizing the transmission towers of the power companies will help in building more sites required for coverage and automatically improve quality of service. The Committee may be apprised of the progress made with regard to the above suggestions of the Committee.

Reply of the Government

TRAI had issued a consultation Paper on "Approach towards Sustainable Telecommunications" on 16.01.2017. The Open House Discussion (OHD) for this has been held on 05.07.2017. Subsequent to the OHD and the detailed analysis of comments/counter-comments, TRAI would be finalizing its Recommendations and submitting them to DoT by the end of September 2017.

Comments of the Committee
(Please see Para No. 21 of Chapter I)

CHAPTER V
OBSERVATIONS/RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT ARE INTERIM IN NATURE

(Recommendation Sl. No. 7)

Sub- standard mobile handsets

The Committee note that sub-standard mobile handsets are also responsible for poor Quality of service including call drop in the country. In order to ensure continuous improvement there is a need to continuously engage with device ecosystem for better voice and data experience getting pre certification of devices for sensitivity and network performance. These devices are mainly imported from China and they tend to have poor quality of antenna and poor quality of radio equipment. The Committee note that though the Telecom Engineering Centre has set a handset interface requirement, these requirements have not been enforced strictly. The Ministry of Electronics and Information Technology have mandated that there should be BIS standards which should be applicable to all consumer electronic items including handsets and all electronic items which are imported or otherwise. The Committee are aware of the fact that though there is a progressive development of domestic electronic hardware manufacturing, the telecom equipment requirement in the country are still met to a large extent through substantial quantity of import. Considering the fact that the telecom equipments are vulnerable to security risks if not tested properly, DoT in co-ordination with Ministry of Electronics and Information Technology should ensure that BIS standards are strictly enforced. The Committee recommend that all consumer electronic items including handsets which are imported or otherwise should strictly conform to BIS standards. The Committee may be apprised about the steps taken in this direction.

Reply of the Government

International Mobile Equipment Identity (IMEI) is an identification number to uniquely identifying the mobile handset. To stop the import of Handsets with Non-genuine, illegal and cloned IMEI into the country a mechanism called the IMEI Cloning and Duplication Restriction (ICDR) system has been setup linking all the ports of entry. This enables the customs clearance of genuine IMEI Mobile Handsets into the country by the brand owner or the importer.

To further plug the holes, India is in the process of formulating Mobile Phone Equipment Identification Tampering Rules. The draft rules are under

process. Once operative it would be unlawful to intentionally remove, obliterate, tamper with, or alter the unique mobile device equipment identification number.

A project for the establishment of Central Equipment Identity Register is under implementation to address the issue of mobile sets with fake or duplicate IMEIs in the telecom networks. This project seeks to prevent the use of mobiles with fake, duplicate or non-genuine IMEIs in the telecom networks.

(Recommendation Sl. No. 8)

QoS Benchmark for 4G and Data Services

The Committee note that TRAI has not laid down any Quality of Service standards for 4G data services separately and the existing Quality of Service Regulations for wireless data prescribed by TRAI in December, 2012 also covers 4G data services. The service providers are reporting their performance on data services, against the quality of service standards laid down in these regulations through quality performance monitoring reports. Further, TRAI has launched a portal – 'Myspeed' Portal for capturing the download and upload speed of wireless data through crowd sourcing. The Committee also note that Reliance Jio Limited is the only TSP providing voice service in 4G and TRAI will be laying down the quality of service for 4G VOLTE services. The Committee are given to understand that the quality of wireless data service depends on various factors such as number of users, traffic handled by the call being served to the customer, the mobile equipment of the users, etc. In view of the shift from voice to data services at a rapid speed and hyper data consumption with introduction of 4G services, the Committee feel that there is a need to upgrade the QoS parameters keeping in view the issues in data and 4G service. Therefore, the Committee recommend that QoS for 4G voice services should be laid down at the earliest taking into account all the parameters required in these services. The Committee are also of the view that data services being provided by TSPs need considerable improvement in terms of its proliferation and increase in broadband speed. In this regard, the Committee desire that the QoS parameters for wireless data services be reviewed urgently and stringent regulations laid down so that data services provided by TSPs improve in terms of speed, quality and performance.

Reply of the Government

As already mentioned in response to para no. 2, TRAI has undertaken public consultation on Network related parameters for Cellular Mobile Services.

Parameters and Benchmarks for 4G services shall be included in the revised regulations to be issued.

Further, TRAI has issued a Consultation Paper on 'Data Speed Under Wireless Broadband Plans' on 01.06.2017. The stakeholders have been asked to provide comments on the issue raised in the Consultation Paper by 29th June 2017 and Counter Comments by 13th July, 2017. This consultation paper has *inter alia* sought the comments of stakeholders on review of the Quality of Service parameters.

A comprehensive consultation process in TRAI takes about 6-8 months time and appropriate Regulations/ Directions/ Orders will be issued by TRAI once the consultation process is completed.

(Recommendation Sl. No. 17)

Technology to mask call drop

The Committee note that Radio Linked Timeout is the parameter which is set in the telecom service provider's network. It is a technical parameter that decides how long a call can last if the signal quality plunges below a certain threshold. All operators have fixed this value within the range prescribed by GSM standards i.e. 4- 64. The Committee also note that RLT is very important in case of emergencies, such as natural calamities, that lead to massive outages in the network. In such cases, the outage of a large number of base stations hamper the consistency of radio connectivity and RLT helps to hold the calls in such difficult conditions. The Committee note that during the test by TRAI, it was observed that in some service areas the service providers had set a higher volume for RLT, because of which customers had faced bad quality of call for short duration without the call being dropped. Since there is no benchmark for the RLT volumes at present, TRAI has not taken any action against service providers in the matter. The Committee note as per submission of Department that RLT which is a useful technology at time such as emergency, can also be misused as it can 'mask' call drop by showing a call remaining 'connected' even when the network connection is lost and the caller is unable to hear the voice from the other side. Given the current situation of call drop and absence of any benchmark for RLT, the Committee are apprehensive that RLT can be a convenient tool in the hands of TSPs to manipulate it in their favour. The Committee recommend that appropriate monitoring mechanism should be put in place at the earliest so that misuse of RLT by TSPs in the name of traffic management may be checked appropriately.

Reply of the Government

TRAI had already undertaken public consultations on the issue of setting of RLT values by TSPs. TRAI is examining the comments of stakeholders and appropriate decision will be taken, keeping in view the feasibility of prescribing the value and to protect the interest of the consumers.

New Delhi;
30 November, 2017
09 Agrahayana, 1939 (Saka)

ANURAG SINGH THAKUR,
Chairperson,
Standing Committee on
Information Technology.

Annexure-I

STANDING COMMITTEE ON INFORMATION TECHNOLOGY (2017-18)

MINUTES OF THE FIFTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 30 November, 2017 from 1500 hours to 1730 hours in Committee Room No. '53', First Floor, Parliament House, New Delhi.

PRESENT

Shri Anurag Singh Thakur - Chairperson

MEMBERS

Lok Sabha

2. Shri Lal Krishna Advani
3. Shri Prasun Banerjee
4. Dr. Sunil Baliram Gaikwad
5. Shri Hemant Tukaram Godse
6. Dr. Anupam Hazra
7. Shri P. Karunakaran
8. Shri Virender Kashyap
9. Shri Harinder Singh Khalsa
10. Smt. R. Vanaroja

Rajya Sabha

11. Shri Raj Babbar
12. Shri Suresh Gopi
13. Shri K.G. Kenye
14. Shri Santiuse Kujur
15. Smt. Kahkashan Perween
16. Dr. K.V.P. Ramachandra Rao

SECRETARIAT

1.	Sh. R.C. Tiwari	-	Joint Secretary
2.	Shri Y.M. Kandpal	-	Director
3.	Dr. Sagarika Dash	-	Additional Director
4.	Smt. Geeta Parmar	-	Deputy Secretary

2. At the outset, the Committee took up for consideration the following two Action Taken Reports and adopted the same without any modifications:

(i) ....xxxx....xxxx...xxxx...xxxx...

(ii) Draft Report on action taken by the Government on the Observations/Recommendations of the Committee contained in their Thirty-Eighth Report (Sixteenth Lok Sabha) on "Issues related to Quality of Services and Reported Call Drops" related to Department of Telecommunications.

3. ....xxxx....xxxx...xxxx... xxxx..

4. ....xxxx....xxxx...xxxx... xxxx...

5. ....xxxx....xxxx...xxxx... xxxx...

6. ....xxxx....xxxx...xxxx... xxxx...

The Committee, then, adjourned.

*****

....xxxx....Matters not related to Report

Annexure-II

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE OBSERVATIONS/ RECOMMENDATIONS CONTAINED IN THEIR THIRTY-EIGHTH REPORT

(SIXTEENTH LOK SABHA)

[Vide Paragraph No. 5 of Introduction]

(i) Observations/Recommendations which have been accepted by the Government
Rec. Sl. Nos.:-1,4,5,6,10,11,12,14,15,18,20,21,22 and 23

Total 14

Percentage 66.88

(ii) Observations/Recommendations which the Committee do not desire to pursue in view of the replies of the Government
Rec. Sl. Nos.:-Nil

Total Nil

Percentage 0.00

(iii) Observations/Recommendations in respect of which replies of the Government have not been accepted by the Committee and require reiteration
Rec. Sl. Nos. 2,3,9,13,16 and 19

Total 06

Percentage 26.08

(iv) Observations/Recommendations in respect of which the replies of the Government are of interim in nature
Rec. Sl. Nos. 7, 8 and 17

Total 03

Percentage 13.04