

**Implementation of USOF project (Phase 1) to provide  
mobile services in areas affected by Left Wing  
Extremism**

**MINISTRY OF COMMUNICATIONS**

**PUBLIC ACCOUNTS COMMITTEE  
(2023-24)**

**SEVENTY-FIRST REPORT**

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**SEVENTEENTH LOK SABHA**



**LOK SABHA SECRETARIAT  
NEW DELHI**

PAC NO. 2300

# SEVENTY-FIRST REPORT

## PUBLIC ACCOUNTS COMMITTEE (2023-24)

(SEVENTEENTH LOK SABHA)

**Implementation of USOF project (Phase 1) to  
provide mobile services in areas affected by  
Left Wing Extremism**

MINISTRY OF COMMUNICATIONS



*Presented to Lok Sabha on:* 10.08.2023

*Laid in Rajya Sabha on:* 10.08.2023

LOK SABHA SECRETARIAT  
NEW DELHI

August, 2023 / Sravana 1945 (Saka)

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**Composition of the Public Accounts Committee (2023-24)**

**Shri Adhir Ranjan Chowdhury - Chairperson**

**MEMBERS**

**LOK SABHA**

2. Shri Thalikkottai Rajuthevar Baalu
3. Shri Subhash Chandra Baheria
4. Shri Bhartruhari Mahtab
5. Shri Jagdambika Pal
6. Shri Vishnu Dayal Ram
7. Shri Pratap Chandra Sarangi
8. Shri Rahul Ramesh Shewale
9. Shri Gowdar Mallikarjunappa Siddeshwara
10. Shri Brijendra Singh
11. Shri Rajiv Ranjan Singh *alias* Lalan Singh
12. Dr. Satya Pal Singh
13. Shri Jayant Sinha
14. Shri Balashowry Vallabbhaneni
15. Shri Ram Kripal Yadav

**RAJYA SABHA**

16. Shri Shaktisinh Gohli
17. Dr. K. Laxman
18. Shri Sukhendu Sekhar Ray
19. Shri Tiruchi Siva
20. Dr. M. Thambidurai
21. Shri Ghanshyam Tiwari
22. Dr. Sudhanshu Trivedi

**Secretariat**

1. Shri T.G. Chandrasekhar - Additional Secretary
2. Smt. Bharti S. Tuteja - Director
3. Dr. Faiz Ahmad - Under Secretary

**COMPOSITION OF THE PUBLIC ACCOUNTS COMMITTEE (2022-23)**

**Shri Adhir Ranjan Chowdhury - Chairperson**

**M E M B E R S**

**L O K S A B H A**

2. Shri T. R. Baalu
3. Shri Subhash Chandra Baheria
4. Shri Bhartruhari Mahtab
5. Shri Jagdambika Pal
6. Shri Pratap Chandra Sarangi
7. Shri Vishnu Dayal Ram
8. Shri Rahul Ramesh Shewale
9. Shri Gowdar Mallikarjunappa Siddeshwara
10. Dr. Satya Pal Singh
11. Shri Brijendra Singh
12. Shri Jayant Sinha
13. Shri Balashowry Vallabhaneni
14. Shri Ram Kripal Yadav
15. Shri Shyam Singh Yadav

**R A J Y A S A B H A**

16. Shri Shaktisinh Gohil
17. Shri Bhubaneswar Kalita
18. Dr. Amar Patnaik
19. Shri C. M. Ramesh
20. Vacant \*
21. Dr. M. Thambidurai
22. Dr. Sudhanshu Trivedi

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\* Due to retirement of Shri V. Vijayasai Reddy on 21.06.2022.

**COMPOSITION OF THE SUB COMMITTEE-I OF PAC**

- |    |                                    |   |                    |
|----|------------------------------------|---|--------------------|
| 1. | <b>Shri Adhir Ranjan Chowdhury</b> | - | <b>Chairperson</b> |
| 2. | Shri Bhartruhari Mahtab            | - | Convenor           |
| 3. | Shri Subhash Chandra Baheria       | - | Member             |
| 4. | Dr. C.M. Ramesh                    | - | Member             |
| 5. | Dr. M. Thambidurai                 | - | Member             |
| 6. | Shri V. Vijayasai Reddy            | - | Member             |

## INTRODUCTION

I, the Chairperson, Public Accounts Committee (2023-24) having been authorized by the Committee, do present this Seventy-first Report (Seventeenth Lok Sabha) on "Implementation of USOF project (Phase 1) to provide mobile services in areas affected by Left Wing Extremism" based on C&AG Report No. 3 of 2021 relating to the Ministry of Communications.

2. The C&AG Report No. 3 of 2021 was laid on the Table of the House on **08.07.2019 ?**.

3. Public Accounts Committee (2021-2022) selected the aforesaid subject and allocated the same to Sub-Committee — I for examination and Report.

4. The Sub-Committee-I of Public Accounts Committee (2022-23) took briefing by Audit on 03.01.2023. Thereafter, Sub-Committee took oral evidence of the representatives of the Ministry of Communications on the aforementioned subject on 13.01.2023, 18.04.2023 and 28.04.2023 respectively.

5. The Sub-Committee-I of PAC (2022-23) first considered and adopted the Draft Report on the aforementioned subject at their Sitting held on 28.04.2022. Then the Draft Report was placed before the Public Accounts Committee (2023-2024) for consideration and adoption. The Committee adopted the same at their Sitting held on 9.8.2023. The Minutes of the Sittings are appended to the Report.

6. For facility of reference and convenience, the Observations and Recommendations of the Committee have been printed in thick type and form Part- II of the Report.

7. The Committee thank the predecessor Committee for taking oral evidence and obtaining information on the subject.

8. The Committee would like to express their thanks to the representatives of the Department of Telecommunications under Ministry of Communications for tendering evidence before them and furnishing the requisite information to the Sub-Committee-I of Public Accounts Committee (2022-2023) in connection with the examination of the subject.

9. The Committee also place on record their appreciation of the assistance rendered to them in the matter by the Committee Secretariat and the Office of the Comptroller and Auditor General of India.

**NEW DELHI**  
**August, 2023**  
**Sravana, 1945 (Saka)**

**ADHIR RANJAN CHOWDHURY**  
**Chairperson,**  
**Public Accounts Committee**

## PART-I

### **Introduction**

The Universal Service Obligation Fund (USOF) aims to provide for quality and affordable mobile and digital services across the rural and remote areas of the country; allowing non-discriminatory access to mobile and network services along with equitable access to knowledge and information dissemination, leading to rapid socio-economic development with improved standard of living. The Universal Service Obligation (USO) Fund is headed by the Administrator, USO Fund who is appointed by the Central Government, for the administration of the fund. It is an attached office of the Department of Telecommunications (DoT), Ministry of Communications.

### **GENESIS OF UNIVERSAL SERVICE OBLIGATION FUND (USOF)**

2. The genesis of USOF is almost 200 years old, with the concept of Universal Service Obligation having been introduced by Rowland Hill in 1837 with his postal reforms. The postal reforms included uniform rates across the United Kingdoms (UK) and prepayment by sender via postage stamps. Universal Service was the key objective of the Universal Postal Union. In India, the Universal Service Obligation (USO) Fund was established initially with the fundamental objective of providing access to "Basic" telegraph services to people in remote and rural areas at affordable and reasonable prices. Subsequently, the Indian Telegraph (Amendment) Act, 2006 was notified on 29.12.2006 to repeal the term "Basic" wherein the scope of USO Fund was widened to provide access to telegraph services (including mobile services, broadband connectivity and ICT infrastructure creation) in rural and remote areas. To give impetus to rural telephony, Government of India (GoI) constituted Universal Service Obligation Fund (USOF) by an Act of Parliament with effect from 01 April 2002. The resources for meeting Universal Service Obligation (USO) were to be raised through a Universal Access Levy (UAL) as a percentage of revenue earned by all telecom operators under various licenses. As per Para 9B of the Indian Telegraph Act, 2003, the sums of money received towards USOF shall be first credited to Consolidated Fund of India and the Central Government may, if the Parliament by appropriation on this behalf so provides, credit such proceeds to the fund from time to time for being utilized exclusively for meeting USO. Department of Telecommunications (DoT), Ministry of Communication has a pivotal role here as it is responsible for policy formulation, performance review, monitoring, international cooperation and Research & Development in telecommunication sector. The Department also allocates frequency and manages radio communications in close coordination with international bodies. It is also responsible for enforcing wireless regulatory measures and monitoring the wireless transmission of all users in the country. The Department is also responsible for grant of licenses to



operators for providing basic and value-added services in various telecom circles as per the approved policy of the Government.

3. The C&AG Report No. 3 of 2021 for the year that ended in March 2021 contains significant results of the performance audit of Implementation of USOF project (Phase 1) to provide mobile services in areas affected by Left Wing Extremism by the Department of Telecommunications of the Union Government from 2013-14 to 2022-23.
4. Public Accounts Committee (2022-2023), selected the aforesaid C&AG Report and allocated the same to one of their Sub-Committees viz. Sub-Committee – I for examination and report.
5. The Sub-Committee - I of the Public Accounts Committee (2022-23) considered the subject for detailed examination, took oral evidences of the representatives of Ministry of Communications (Department of Telecommunications) on 13.01.2023, 18.04.2023 and 28.04.2023 respectively and obtained written replies on the same. Based on the oral evidence and written replies, the Sub-Committee examined the subject in detail.

#### **Project Planning (PARA 2.1.4.1)**

##### **A. Imprudent selection of low power BTS using 2G technology (2.1.4.1) (a)**

6. Audit expressed the view that the choice of a limited use 2G technology, when more advanced and versatile technologies were available, was not efficacious as future upgradation would be at a cost. Further, as funds for the project were not a constraint, *ab-initio* adoption of latest available technology would have improved outcomes and made the project future proof. Besides, adopting a solution suggested by a private company which later participated in the bid for the project as a vendor, instead of a neutral and competitive process for selection of technology, deprived USOF of the opportunity of making an optimum technological choice with respect to coverage, scope and scalability of the project while tapping possible cost benefits.

7. In their background note, the Ministry have stated as under:

"It is submitted that the Cabinet approval of the project was accorded only in 2014 to be given on nomination basis to BSNL and 2G technology in 2/2/2 configurations for the 3 sectors of mobile BTS tower was as per the voice communications needs in the Left-Wing Extremism areas with low data connectivity as available in 2G technology with GPRS/EDGE enhancements. The

BTS installed were of 10-watt systems for each of the 2/2/2 configuration which is not low power.

II. Further, the range of network also depends on number of factors including terrain, height of tower and spectrum used. In case of BSNL 40-meter height tower were used which is the standard height and further spectrum used for 2G was in the range of 900 Mhz which gives larger coverage as compared to higher spectrums such as 1800, 2100 and 2300 Mhz.

III. As per TEC GR category-I and category-II both are for rural requirements and in terms of power of BTS, category-I are traditional high power systems while category-II is for low power systems for rural applications where availability of grid power may not be sufficient and utilization of DG may be a costly expenditure apart from maintenance and other issues. The reliance on solar systems is therefore kept in the project. It needs to state here that the solar systems being renewable source of green energy are deployed in all such areas as per requirement and also as per Green Telecom Policy of the Department. Grid power is made available as per connectivity from electricity boards.

IV. In addition, the design of the low powered equipment is modular and scalable and as per the latest Generic Requirements of TEC GR NO. GR/WS/BSS-002/01 Dec 2009 and GoI Order letter no. 16-6/2011-CS- III dated 04.01.2012 issued to all service providers.

V. It may be appreciated that the demand of MHA was to provide voice communication for security forces in LWE affected areas. BSNL had submitted multiple times the DPR based on traditional mobile equipment which was only on 2G. The estimate was to the tune of Rs. 6000 Crs and was having major component as High speed Diesel (HSD) for O&M without considering the price escalation of HSD Diesel and manpower. The coverage radius for mobile communication was envisaged as 3 KMs around the cell site.

VI. The object of the scheme was to provide voice connectivity to Security forces and was incidental on the scattered population around the tower. It was well established that only 2G technology was able to provide coverage to large area whereas any other technology having focus on data speed provides much less coverage especially when the new technologies like 3G were just rolled out. Thus to serve large population from a tower 2G was the best know option on that time (2012-13).

VII. In addition, the Government of India had decided to adopt measures to green the telecommunication sector setting broad directions and goals to achieve the desired reduction in carbon emission through the use of Renewable Energy Technologies and energy efficient equipments vide letter no. 16-6/2011-CS-TII dated 04.01.2012 in accordance with the guidelines principle of NTP 2012.

VIII. DOT high powered technical committee consisting of highest level technical expertise in India decided to go ahead with Solar based towers as per government policies. TEC GR for those types of towers was in existence since 2009. A solution based on that TEC GR was proposed as BSNL had experience of towers being blown by Naxalites using diesel available on sites. 24x7 electricity infra. was not available which is considered a basic requirement for mobile communication uptime and traditional high powered BTS. The committee weighed all pros and

cons and selected TEC GR based product fully workable Solar solution for these areas.

IX. The equipment has been supplied after TSEC Certificate, which indicates that equipment complies all clauses of GR including clause 8.1.4 on expansion techniques. Although IIT Bombay has not made any adverse comment on the technology or equipment deployed in this project except indicating that there is heavy call congestion in VSAT sites which was due to insufficient VSAT bandwidth. To overcome this issue, BSNL has increased VSAT bandwidth from 512 kbps to 2 Mbps with the approval of DoT by augmentations of satellite bandwidth of all VSAT sites. All the VSAT sites had been augmented to 2Mbps. After augmentation of satellite bandwidth, call traffic of such sites has increased to 150% and now there is no call congestion and no further complaints. Further it also needs to state here that call congestion was never reported on sites working on MW/Radio, hence equipment as such is having optimum capacity and coverage as envisaged in the scheme.

X. Configuration of 2+2+2 was selected to be deployed as the population in target area was very less. It is to note that the currently deployed solution can be added further if traffic is increased. There is no traffic congestion as at most of these sites. Hence the decision of high level technical committee seems appropriate to deploy 2+2+2 configuration in sparsely population Naxal affected areas. Regarding Coverage around site, the system deployed by BSNL is as per TEC GR, which provides mobile coverage of more than 4 Kms around the cell site and 100% sites were tested for RF coverage by BSNL and TERM Cell of DoT.

XI. As per TRAI report, the total subscriber base of wireless services has grown from 391.76 million in March 2009 to 904.51million in March 2014: Out of 904.51 million subscribers at the end of financial year 2013-14, 847.41 million (93.69%) were GSM Subscribers wherein 2G subscriber base was accounted over 70% at that time. It needs to state here that 2G Handset was affordable and cheaper for the common people of the rural & remote areas at the time of project execution. However Focus Audit was conducted in circumference during 2017-18 & review audit in 2020-21.

XII. Regarding lowpower system is used, that is a misconception. The selection of the technology was to use Energy efficient systems as mentioned in the GR. These are low power consumption systems which can be used on Solar power technology.

XIII. As GSM is global standards and products were procured as per TEC GRs, the GR was selected by high powered technical committee of DoT. It is to further state that the technology was best suitable for these security sensitive areas at that time for providing voice/SMS connectivity to security forces and locals.

XIV. The problems sighted regarding coverage and call drops were due to several reasons such as poor backhaul in case of VSAT sites and number of spectrum channels. This is not because of 10-watt power system primarily. Further, BSNL was free to deploy additional TXR units depending on traffic and user requirement.

XV. Accordingly, the review of Audit is not based on the time and space (2012-23) during which the project was conceived and implemented and audit has also not considered the reduction in heavy expenditure of 6000 crore to 3567 crore."

8. In reply to a question on the same subject, the Department of Telecommunication explained in a written reply stated as under:

"Regarding selection of technology, department adopted the prevailing technology at the time of project conceptualization which was suitable to rural & remote areas and also affordable to rural public in terms of handset ecosystem which also best suited for 2G. BSNL had called for an open competitive tender for project implementation since 2G based network was vast and already deployed by BSNL in its network, it was prevailing technology at that time for rural and remote area at reasonable and affordable rates."

9. In response to further query as to who approved 2G technology to be adopted for this project, and on what basis the technology was approved, the Ministry in their written reply stated as under:

"Union Cabinet had approved the proposal for deploying 2G services on 04th June 2013. The technology was adopted based on: a. 2G was widely accepted technology at that time. As per TRAI report of 2013-14, only 45.61 million mobile wireless broadband users were there in India out of 904.51 million mobile users i.e. only 5%. In rural India, these numbers were even lesser making it non-viable to plan 3G services at that time; b. Non-availability of affordable 3G Handset ecosystem due to high cost for 3G handsets at that time and especially in LWE area due to lower per capita income; c. 3G service has less geographical coverage as compared to 2G service reducing coverage area; d. 2G was the prevailing technology at the time in India and was cost effective; e. The initial estimated cost of the project was approx Rs 6000 crores. However, given the challenges on diesel and power availability in the dense forest, a considered decision was taken to deploy energy efficient solution based on TEC GR of 2009 which reduced the project cost to Rs 3567 crores (approx. 40% saving to public exchequer.)

10. When asked about the reason as to why was low power BTS chosen when BSNL had specifically mentioned that it was not proposing low power BTS as it would not provide adequate coverage due to the dense vegetation in the LWE areas, the Department of Telecommunication, in a written reply stated as under:

"The object of the scheme was to provide voice connectivity to Security forces. The department selected the prevailing technology which was 2G and handset ecosystem was also available for 2G at that time. Regarding Coverage around site, the system deployed by BSNL is as per TEC GR, which provides mobile coverage of more than 4 Kms around the cell site and 100% sites were tested for RF coverage by BSNL. The BTS installed were of 10-watt systems for each of the 2/2/2 configuration. Low power consumption BTS were deployed owing to limited power availability and high cost of diesel."

11. When enquired about the reasons as to when the DoT had 3G technology in 2009, why did they opt for 2G in 2014, the Department of Telecommunication explained in a written reply as under:

"Regarding selection of technology, department adopted the prevailing technology at the time of project conceptualization which is suitable to rural & remote area and also affordable to rural public in terms of handset ecosystem which also best suited for 2G."

12. When the Committee desired to know whether GPRS Service is available with 2G facility, the Department of Telecommunication in a written reply stated as under:

"Yes, GPRS service is available with 2G facility."

13. On being enquired that during evidence, Representatives of DoT informed that MHA had stated that 2G technology be adopted but the audit observed that MHA had not advised about any adoption of technology either 2G or 3G. What are your views in this regard, the Department of Telecommunication explained in a written reply as under:

"The proposal was based on provisioning of voice connectivity. No specific technology was recommended. The technology selection was based on prevailing technology in India as well as BSNL network at that time which is 2G. In addition, the handset system was also best suited for 2G at that point of time."

14. During the evidence before the Committee, when the Ministry representative was asked to clarify with regard to the procedure followed by the Department to select the 2G technology, the representative replied as under:

"The technology was selected based on TEC GRs keeping in view the sensitive area for providing the voice connectivity. The Department follows the TEC GR standards."

15. When the Committee cross questioned about the selection of 2G technology and stated that the MHA had not asked for 2G technology and was rather silent on it, the representative replied as under:

"Sir, their comment was 'voice services'. At that time, in voice services, as we talk about data, our preferred technology is 4G but when we talk about voice, it is 2G technology. If we look at the development of technology, we find that it developed during 2011-2014 and not before. The maturity of thought process and maturity of technology came about only thereafter. A very important factor in the choice of any technology is the handset ecosystem. If we bring 5G technology today, 90 percent of the mobiles will go down because the handset is not 5G compatible in rural areas."

16. During evidence before the Committee, the Secretary made submissions regarding the question of selection of 2G technology in response to the queries made by the Committee and the submission reads as under:

"Sir, the whole process was carried out through an open tender under the banner of the preferential market access circulars which have been issued by the Department of Telecommunications in 2012. On 5<sup>th</sup> October, 2012, the Department came out with a policy to domestically manufacture telecom products in procurement due to security considerations in Government procurement. Though it was an open tender and subject to the 2012 Preferential Market Access order. It is very clearly said that the procurement would be subject to condition that the product shall have a minimum value addition. At that point of time, there are a very few companies which were operating in India and it was rightly so because there was a need to promote manufacturing within the country. So, at that point of time, the small size 2G or 3G based stations, in the year 2012-13, they had a preferential market access and the value addition has to be, at least, 35 per cent in the country. There was a table indicating that by 2014, it would become 100 per cent market access and 40 per cent value addition and to going up to 55 per cent by 2017-18. So, this tender was subject to that. Therefore, it was very clear that only a certain companies of domestic nature had the manufacturing facilities."

17. On being asked as to who had suggested these conditions, the Secretary responded as under:

"Sir, this was the part of a Government Gazette Notification issued by the Department on 5<sup>th</sup> October, 2012. So, based on that, open tenders were called for. I will request CMD to also give some details about it. But I would like to say that the tender was done in a transparent manner following these conditions and with an idea to promote local companies. As of today, Sir, if you look at the outcomes, 2343 sites are functional and 12 lakh subscribers have been there on to the system. Each base station is earning roughly about Rs. 83 lakh per month. The talk time is about 4500 hours per BTS per month."

18. When the Committee pointed out that main purpose was to provide these services to police forces that are deployed in those areas but they were not getting connectivity and instead they themselves were complaining that they were not able to use it, the Secretary replied as under:

"Sir, unlike the VHF sets, which will operate at 300 mega hertz etc., these radios will cover a radius of only four kilometres and most of these villages and towers are in scattered areas. Therefore, there will be coverage gaps because the towers were not provided at every road. The towers are meant for citizens of the country under the USOF. So, it has to be established near a village. Incidentally, it may cover some part of the road but there will be many pockets in the dense forest which will not be covered because that will not be the design

of the project. So, I will also request CMD, BSNL to answer specifically with respect to the police force."

19. During further illustration of the reason for selection of 2G technology, the representative stated before the Committee as under:

"Sir, this technology was chosen because of the two reasons. First one was handset ecosystem was not matured for 3G. Secondly, it was able to provide the cost-effective power efficient technology and the overall cost was lower. There are three very important which I would like to submit. This is a solar-powered BTS system. If we look at ten years before, the power availability in the country was not very very good. Even in the deep rural areas and deep forest areas, the power infrastructure was not available. I will give you one example. In 4G saturation project which we are doing today, we find that average cost of taking the power to the site is coming more than Rs. 10 lakh. In some of the places like Arunachal Pradesh, average cost is coming more than Rs. 70 lakh. The discom is saying that you will have to make payment for extending electric lines, transformers everything for a distance of 15 or 20 kilometers then only they can provide electric connections, and that is for the on-grid connection. So, the decision was taken the power efficient technology to be utilized, so that requirement of generators should not be there. Secondly, the availability of power was continued to be a challenge in deep forest areas. But at the same time, it was able to give me a similar kind of radiation and it is able to give me coverage of four kilometer. Sir, now I come to outcome-based. On an average, the availability of network is around ninety-three per cent from the date of commissioning of network till January, 2023. That means five years' average of network, which has been there, is the ninety-three per cent average uptime of the network. On an average, every BTS is giving 4500 erlangs of traffic as well. So, it is nearly Rs. 83 lakh of revenue and ninety-three per cent average uptime with an erlang traffic of 4500, and 12 lakh customers are connected every month. So, it is a very successful project in very difficult areas. The choice of technology was based on the prevailing circumstances, and it is able to meet the objective which is required to be met. The second issue is about security solution. I would like to mention one thing very candidly. When the estimate was prepared, a provision was made for a security guard. So, what the audit has pointed out is correct that there was a provision of a security guard at the time of an estimate. The Cabinet has given the approval and said that you will float a tender and whatever the cost will be, that will be the only cost which will be reimbursed. At the time of floating of a tender, BSNL had taken an innovative way because we thought that electronic surveillance through Network Management Centre will be a much better option, rather than posting a security guard at each of the location, because life of the people, at that particular place, was not considered to be safe, and secondly, we also find that in many of the cases, Naxalite felt that they could be agents of the Government."

**B. Failure of USOF to review and Upgrade technology used in project (PARA 2.1.4.1) (b).**

20. The audit observed that technological solution for the project based on 2G was selected by DoT/ USOF in December 2012. However, the sites under the project were commissioned over a prolonged period i.e. from July 2015 to November 2018 and the project period including O&M was extended till 2022. As mentioned earlier, in June 2016, approval was also given for establishing an additional 156 towers. However, the same 2G based solution was retained. Thus, though both the project size and period was increased no technology reviews were undertaken despite Telecom technologies evolving rapidly and becoming more efficient with multifarious capabilities. In addition, over this period user requirement had also undergone changes. Audit is of the view that technology reviews for large and critical projects were important and should have been undertaken. DoT in its reply (May 2019) stated that for high speed data Wi-Fi / LTE can be overlaid at any time utilising the infrastructure created through the project. It intimated that the State Government of Jharkhand had separately funded and got this equipment installed by BSNL at all 816 towers set up under the Project in the state. However, this upgradation was at the initiative of the State Government using its own funds and not part of any centralized USOF funded exercise for upgradation. Records of USOF show that it had belatedly asked BSNL for a proposal for 4G upgradation for existing sites and that the same is under consideration. However, the exercise was yet to be approved and commenced on ground.

21. In response to the above, Department of Telecommunications explained in their background note as under:

"The observations of audit are not correct. USOF has reviewed the project from time to time and various steps were taken to ensure that adequate capacity is available at all sites. Few steps are augmentation of satellite backhaul to upto 2 Mbps per site in addition to approval given by DoT for conversion of all feasible VSAT sites to Microwave to ensure that adequate backhaul is available and the issues of call latency, call drops etc are resolved.

ii. Regarding upgradation from 2G to 4G, the department has considered the request of MHA and the DPR/cost estimates have been approved by Digital Communication Commission on 04.01.2022 utilizing the existing passive infrastructure created for 2G.

iii. In addition, Cabinet Note has also been circulated for Inter-Ministerial Consultation and work is expected to be completed within 12 months of approval of Union Cabinet."

22. The Ministry in their written reply on the same subject stated as under:

"Based on feedback from various stakeholders, decision was taken for upgrading the existing 2343 LTE Phase-I sites during the meeting on



26.08.2019 under chairmanship of Hon'ble Home Minister and Central Ministers of LWE affected States.

b. Subsequently, DG (Telecom) was requested to provide the feedback regarding 4G services already available at these locations vide letter dated 10.12.2019. As per feedback received from DG(T) vide letter dated 17.02.2020, 4G coverage was found available at 1,720 sites out of 2,343 sites which are working.

c. In the meantime, MHA vide letter dated 04.09.2020 has recommended the continuation of Operation and Maintenance of existing LWE sites in view of security consideration on all sites.

d. Department accordingly sought inputs of Ministry of Home Affairs on the funding of O&M of these sites. As per reply received from MHA vide DO dated 01.04.2021; MHA indicated that "no additional liability on the State exchequer outside of USOF is envisaged" and requested for funding arrangement through USOF for extension of O&M of these sites.

e. The matter was re-examined in the department wherein it was decided to fund for O&M of the 2G services and also 4G upgradation of the LWE Phase-I towers.

f. Accordingly, Digital Communication Commission approved on 04.01.2022 the upgradation of existing LWE Phase-I sites from 2G to 4G utilizing the existing passive infrastructure created for 2G. Union Cabinet considered the same in its meeting dated 27.04.2022.

g. Decision of the Cabinet was communicated to the BSNL vide letter dated 09.05.2022 and Letter of Intent (LOI) has also been issued to the BSNL on 20.07.2022.

h. It is stated that the delay is administrative in nature given the cost and stakeholders involved and a considered decision was taken after seeking detailed inputs on the same."

23. On being enquired by the Committee whether the whole system of 2G technology based tower will have to be replaced because there is neither any compatibility nor there is any scope of upgradation, the representative replied as below:

"The way the tower has been made, the same tower will be used for the purpose of upgradation to 4G technology."

24. On being asked as to whether any technical enquiry has been conducted in regard to the complaint by the Chhattisgarh and Madhya Pradesh police about non-availability of connectivity in those areas and futility of the 2G based technology, representative replied that:

"When MHA handed over this project, their first objective was to give the voice connectivity to the Paramilitary Forces which are there in those particular areas. While going to the rural areas, despite having so many towers in vicinity of our eyesight, we do not get the coverage to those locations. There are nearly 35,000 villages in the country which do not have the mobile tower coverage. The first objective before us is that voice connectivity has been provided. SMS was provided. GPRS data service was provided. The coverage of any site is possible within the radius of four kilometres."

25. On being asked about the rationale for retaining the same (2G) low power BTS solution for 156 additional sites sanctioned in June 2016 enquired on the manner of ensuring that information so shared was appropriately taken into account by ITO units while undertaking scrutiny assessments, the Ministry in a written reply stated as under:

"The project adhered to TEC GR as suggested by high powered technical committee of DoT. The project was initially planned for 1836 new sites and 363 existing BSNL sites under Phase-I. Meanwhile MHA had recommended additional 156 sites as per security requirement. In this regard it is stated that LWE Phase-I project was under implementation during the 2015-17, hence based on the MHA urgent requirement and approval of Hon'ble MoC, 156 addl sites added in ongoing project with same terms and conditions of Agreement dated 30.09.2014 to avoid delay in implementation.

26. On being pointed out as to how the Ministry is going to address the issue in the light of proposed 4G upgradation as pointed out in IIT Bombay Report on '4G services with one or two Mbps backhaul are not meaningful', the Ministry stated as under:

"Department has already approved conversion of feasible VSAT sites (approx. 200) to MW. For 4G upgradation, at 331 VSAT based sites, media is being upgraded to Fiber/ Microwave by BSNL so that sufficient bandwidth is available and at balance VSAT sites, bandwidth is being increased to 8 Mbps."

27. When asked as to why was no technology review/upgradation undertaken when coverage and connectivity issues were reported as early as June 2015 and what was the rationale for retaining the same (2G) low power BTS solution for 156 additional sites, the Ministry in a written reply stated as under:

"Based on feedback from various stakeholders including State Govt, MHA regarding poor backhaul, Coverage issue related to latency etc were limited to sites with VSAT backhaul. Accordingly, Telecom Commission had decided to upgrade the VSAT backhaul from 512 Kbps to 2 Mbps in Dec 2017 and as such no further complaints were received subsequent to backhaul upgradation since 2018 in Department/USOF. Technology review was undertaken after a lot of deliberation and final approval was accorded by Union cabinet for upgradation of all sites to 4G on 27.04.2022. The same is in under implementation through BSNL.

28. When the Committee desired to know about specific measures taken by the DOT so as to ensure the completion of this project on time, i.e., by 31 December 2023, the Ministry in their written reply stated as under:

"As infrastructure/ 2G towers are already available at existing 2343 LWE Locations, there are no issues of land allocation/land availability and existing tower will be used which will also be a cost saving. Now Land allocation/Forest

issue and access related issues are not there which were the main cause of delay in earlier deployment. The requirements are to only provide passive upgradation like battery/additional solar solution and active infra upgradation. Tender for Passive infra has been awarded and for active infra, it is in final stages. All efforts are being made to complete the project by Dec 2023 as planned."

29. When enquired as to how many sites have since been upgraded to 4G and how many sites are still left, the Ministry replied as under:

"Tender of active Infra is in final stages and subsequently all sites will be upgraded to 4G by Dec. 2023.

30. When enquired as to how many LWE villages have been planned to be included in the mobile coverage under Aspirational Districts Projects and the 4G Saturation Project (PAN INDIA), the Ministry in their written reply stated as under:

"Around 6124 villages in the LWE affected States have been planned for provision of mobile services under Aspirational District Projects."

31. On being enquired as to in how many States, Optical-Fiber based connectivity is under implementation under Bharat Net Project, how can this project help in increasing the connectivity as well as voice quality in LWE areas, the Ministry in their written reply stated as under:

"Under Bharat Net Project around 2,50,000 Gram Panchayats spread over 6,600 Blocks and 641 Districts are to be covered by laying incremental fiber. Incremental fiber is being planned from existing BSNL/ BharatNet Fiber. As per the planning, 40% sites will be upgraded to Fiber based connectivity and around 58% on microwave. Further BharatNet provides required backhaul integration with the network with reliable connectivity. This will help in better quality of services, higher uptime and low latency and elimination of call congestion and better data services."

32. When asked to provide details as to whether the DoT has done any study regarding the extent of satisfactory users of these services as public Wi-Fi services were also given in some circles at 792 tower locations to improve the connectivity in LWE areas, the Department of Telecommunications stated as under:

"As the mobile infrastructure was built from scratch as well as other development activities were going in parallel in LWE areas including roads, Electric Power Supply, buildings and other developmental projects, it took some time to stabilize the transmission network. There was call congestion in VSAT sites which was due to limited VSAT bandwidth. To overcome this issue, VSAT bandwidth was increased from 512 kbps to 2 Mbps. Further it may be seen that call congestion

was never reported on sites working on Fiber/ Microwave connectivity. As far as Wi-Fi services at 792 locations are concerned, same have been provided by State Government and BSNL has shared only physical Infrastructure. Various social impact assessments were carried out in these areas in year 2019-20 and as per the reports available, the mostly have reported that the Project has helped improved telephonic connectivity in LWE areas. However, Quality of service needs to be improved considerably by introducing high speed internet facility such as 4G to enable people to use high speed data services for which decision has already been taken to upgrade the 4G."

33. On being asked about the measures taken to improve these services and the outcome of the steps taken in this regard, the Department of Telecommunications stated as under:

"Based on complaints received from various stakeholders, Ministry had reviewed the project from time to time and various steps were taken to ensure that adequate capacity is available at all sites. Few steps are: -

- a. Augmentation of satellite backhaul to upto 2 Mbps per site.
- b. Conversion of all feasible VSAT sites to Microwave to ensure that adequate backhaul is available and the issues of call latency, call drops etc. are resolved.
- c. Upgradation proposal for 4G services was approved to ensure uninterrupted data services in these areas as per requirement and demand of stakeholders including public."

34. On being enquired about the measures taken to increase the number of calls and whether the numbers of calls have since been improved, the Department of Telecommunications stated as under:

"There are total 2343 sites under LWE-I project. Total customer latched to BTSs are around 12 lakhs and total per month revenue for 2343 sites is around Rs. 83 lakhs. These figures are at par with BSNL Network for rural area. BSNL requested CRPF and other users to give their feedback. BSNL received more than 200 satisfactory services certificates for 2G services covering about 850 sites."

**C. Vendor guided selection of technology led to de-facto single vendor (PARA 2.1.4.1) (c)**

35. The DoT Committee recommended the solution based on a proposal made by a vendor viz. M/s VNL. BSNL accordingly floated tenders for the project with specifications approved by the DoT Committee which was in turn based on the presentation given by M/s VNL. As a result, only two vendors viz. M/s VNL and M/s HFCL-which had a Transfer of Technology (ToT) agreement with M/s VNL-participated in the tender. As there were only two participants -of which one, viz.

M/s HFCL had a ToT agreement with the other bidder i.e. M/s VNL- the tender was tantamount to a single vendor case despite the high value of the project. It was observed that the DoT committee on selection of technology, had mentioned in its report that TEC had indicated that "multi-vendor implementations" are available for the recommended technology. Besides, the committee itself had observed that other "cost effective technical solutions" that "support the generic requirements" could also be available. However, DoT/ USOF neither ascertained the vendor base for the recommended solution prior to tendering, nor did they review the specifications on account of the very limited participation in the tender to expand participation. Thus, both failures to follow a technology neutral approach and to assess vendor base for the selected technology led to limited participation which did not give any assurance that the price discovered was the most cost effective.

36. In reply to the above, the Ministry in their background note stated as under:

- i "Traditional 2G mobile technology was globally being made by major 4 companies across world i.e. Nokia-Siemens, Ericsson, ZTE and Huawei. Out of these 2 were Chinese companies.
- ii Due to security and sensitivity of the matter, the focus of the department and the government mandated preference to use of Indian manufactured products was given a filip. Though one Indian company could develop the technology as per Government standards i.e. TEC GR, 2 manufacturers got product TSEC approved as per open tender called by BSNL.
- iii. The choice of technology in mobile communication which has features such as roaming across networks is limited in terms of technology such as GSM, CDMA based networks such as 2G, 3G, 4G and now 5G which is being implemented. All these developments from 2G to 3G, 4G and 5G are as per availability of ecosystems, availability of devices and are driven from standard bodies such as ITU, 3GPP recommendations etc. Within the ambit of 2G as prevalent and in use technology in that period of approval. award and implementation, the technology was adopted as per the requirement. Specifications of power, frequency, height of tower etc. largely depend on the Telecom Service Provider such as BSNL within the license conditions. The committee may have decided some of these specifications as per prevalent standards and options as available keeping in view that tender will be floated by BSNL for procurement following the guidelines of DPIIT for the use of technology from domestic manufactures as applicable.

37. On being asked about the reason for not exploring "multi-vendor implementation" and other "cost effective technical solutions" via. Expression of Interest (Eoi) route for better competition and price discovery, the Ministry in their written reply stated as under:

"With respect to limited tender participation, it is submitted that this was an open tender based on TEC GR specifications of the prevalent technology at that time. In addition, 2G technology was well established not only in the country but was also deployed largely in BSNL existing network. The need for ascertaining the vendor base for prevalent technology does not arise. In addition, TEC GR is prepared with wide consultation including National and International OEMs and covers all standard products. M/s L&T, M/s Toshniwal, M/s ITI, M/s HFCL and M/s VNL showed interest in the tender. Work was awarded to M/s VNL & M/s HFCL by BSNL through open Tender. It may be appreciated that telecom technologies are based on high R&D done by the technology providers and there are limited technology vendors all over the world and not just in India. 2G was established technology in India and was also deployed largely in BSNL existing network."

38. On being further asked whether tendering was published appropriately, the representative replied as under:

"In the Indian Express, it was published. I have the paper cutting with me. It was published in *Dainik Jagran*; it was on the websites of TCIL, BSNL, and it was published in the Indian Trade Journal. Wide publicity has been given. The trade journals, which are accessible and are used by all the industries, and on the BSNL and TCL websites, so that everybody who is likely to participate should have the knowledge that a tender has been published. Cuttings of the tenders are available with us. We can share with the Committee. It was not a very hush-hush kind of tendering. It was an open tender. Anyone could have participated. There was sufficient technological availability for companies. There is no condition that we can say bars anybody from participating except that it has to be PMA compliant"

#### **Project Execution (PARA 2.1.4.2)**

##### **A. Delays in implementation status of LWE Project- Phase I (PARA 2.1.4.2) (a)**

39. The DoT Committee had recommended (December 2012) the solution based on 2G and renewable energy technologies as this was considered to be cheaper and quickly deployable. However, audit scrutiny disclosed delays at various stages stating that the Government approved the proposal for the project in June 2013. As per the approval, the installation and roll out of towers/sites was targeted to be completed in 12 months after signing of agreement with BSNL which would take about three months. Accordingly, the Agreement between USOF and BSNL should have been signed by September 2013 but Audit noticed that the Agreement was signed only in September 2014 i.e. after a delay of a year. Further, as per the agreement between USOF and BSNL, BSNL was to set up the infrastructure and commission the mobile network covering 1,836 mobile sites within 12 months from the effective date i.e. by 30 September 2015. Audit however, noticed that agreement was amended multiple times between December 2015 to January 2017 to extend the project period. By an amendment in December 2015, the roll out

period was extended upto 21 months, which was further extended to 27 months in July 2016. In December 2016, the total agreement period including O&M was fixed at six years *i.e.* up to September 2020 which was later extended June 2022. In January 2017, the date for commissioning the additional 156 sites was fixed as 21 July 2017. From the above it can be seen that initial delays in signing the agreement between USOF and BSNL and frequent amendments in the agreement allowing extension of time period for execution of the project added to the delays in completion of the LWE Phase I of the project.

40. On being asked about the reaction of the Ministry in the above matter, the Department of Telecommunications, in their written reply, stated as under:

"Project was executed in accordance with the terms and conditions of the Agreement. BSNL had started the mobile services in naxal affected areas which are in deep forest, and inaccessible to citizens and security agencies at the time when no private telecom operators could think to go in those areas. BSNL is providing 98% uptime of BTS in such difficult areas. Most of the sites are working with solar power solution (a Green Telecom Energy Efficient solution) where no commercial power supply is used. Mostly 95% work of the Project was completed in time except some sites which could not be completed in time due to following reasons:

- i. non-allocation of sites by state government in time;
- ii. Frequent naxal attacks in LWE areas. In some sites, Police had asked the vendor to stop work as police was not in position to provide protection;
- iii. Change in sites/location based on technical feasibility. These delays which came during roll out of LWE Project-I as the situation in LWE areas is very difficult and sensitive which was out of control of any agency. It is appreciable that LWE Project could be rolled out in such situations in naxal areas at the time when no one thinks to enter in those areas. Even electricity and proper roads were not there at that time in these areas."

**B. Agreement for award of work by BSNL prior to agreement between USOF and BSNL (PARA 2.1.4.2) (b)**

41. Audit observed that BSNL had been assigned the task of implementation of the project for setting up the infrastructure and commissioning of the mobile network covering 1,836 mobile sites in LWE areas on nomination basis. As per Government approval an agreement between USOF and BSNL for the project was to be signed by September 2013. BSNL instead first issued a tender for the work in August 2013 in which two vendors viz. M/s VNL and M/s HFCL participated. After opening of the bids a case was sent to USOF for approval. However, it was decided by DoT to retender the project which was done in April 2014. M/s VNL emerged as L-1 and M/s HFCL was L-2. The work was awarded on 05 September 2014 on turnkey basis

vide Advance Purchase Orders (APOs). to M/s VNL and M/s HFCL in ratio of 70:30 respectively. Audit noticed that the agreement between USOF and BSNL was executed only on 30 September 2014 i.e. subsequent to the finalization of the tender by BSNL and issue of APO to the vendors. Thus, BSNL had awarded the work to its vendors prior to the work being formally awarded to it by USOF. The work of add-on 156 LWE sites was also given to the same vendors in the same ratio in 2016. As BSNL had issued tenders prior to entering into an agreement with USOF, there were discrepancies between the terms and rates in the tender/ APOs issued to the vendors by BSNL and in the agreement between USOF and BSNL. It was noted that for several works the agreement between BSNL and vendors did not specify individual items of work and only provided a lump sum rate, the agreement between USOF and BSNL provided item wise details of the work including estimated costs. It was also noted that the agreement between BSNL and USOF required each item of work to be performed but the same obligation was not specified in the agreement between BSNL and the vendors. These discrepancies were not reviewed and corrected in the Purchase Orders (POs) issued to the vendors. This led to the vendors receiving payments for items of work which were not performed by them.

42. The Ministry in their written reply on the subject matter stated as under:

- "The line items for the USOF BSNL agreement were only for the cost estimations.
- The actual cost based on price discovery by BSNL was approved by Union Cabinet indicating that the process and the procedure adopted by BSNL was vetted by the department and Union Cabinet and payments are made according to BSNL tender."

43. On being asked as to why were the discrepancies between USOF agreement and vendors' agreement with BSNL not resolved before placing the Purchase Orders, the Ministry replied as under:

"As per USOF rules, agreement has to be signed for release on payment which is as per actual cost discovered in the tender. BSNL called open tender and based on price and terms & conditions of open tender, agreement was signed between BSNL and USOF."

44. When asked to clarify why BSNL had issued tenders prior to entering into an agreement with USOF, the Department of Telecommunications, in their written reply, stated as under:

"It is stated that the agreement was signed only in Sept 2014 since the agreement was based on price discovery by BSNL and the cost discovered by BSNL through its tender was to be paid to BSNL. It is also stated that as per ITR, the works are to be awarded from open bidding process. Since project was given



to BSNL on nomination basis, it was expected that BSNL shall carry out the work from an open competitive bidding procedure and the cost discovered through the procedure shall be funded by USOF. Though the APO were issued by BSNL prior to agreement, the final PO were issued only after the approval of tendered discovered cost, by DoT/Cabinet."

**C. Inadequate marketing of Telecom Products (PARA 2.1.4.2) (c)**

45. In accordance with the BSNL tender, the vendors of the project were responsible for setting up customer service centres for making BSNL mobile prepaid/ postpaid SIM cards, recharge coupons etc. available in the LWE areas. The vendor was required to provide mobile connections and retail services for telecom products at BTS sites in accordance with terms and conditions applicable to Direct Selling Agents (DSA). In terms of BSNL's Sales and Distribution policy, four retailers were to be appointed for each BTS. Audit however, observed that the vendors did not appoint the required numbers of retailers. It was noted that out of 5,259 retailers required to be appointed as per policy, only 232 retailers were appointed by the vendors in five Circles with circles like Chhattisgarh, Madhya Pradesh, Andhra Pradesh and Telangana having appointed only one dealer each. The situation was somewhat better in Bihar and Jharkhand where 35 and 193 dealers respectively were appointed. The limited availability of BSNL outlets was also pointed out by IIT, Bombay in its evaluation report, in the context of low level of awareness about BSNL schemes. Further, due to absence of outlets, even willing customers found it difficult to obtain BSNL SIM cards. Further, BSNL did not monitor fulfilment of the contractual obligation relating to opening of retail outlets and instruct them to make the required number of retailers available. DoT in their reply stated (August 2020) that as BSNL had directly appointed the vendors as rural distributors in LWE areas, they were being asked to justify the shortfall. Audit observed that better marketing and more outlets of BSNL would have resulted in BSNL products being more accessible to customers for whom the project had been implemented. This would also have increased utilization of the towers in the LWE areas.

46. The Ministry in their background report replied as under:

"i. In this regard, it may be appropriate to say that LWE Phase-I Project was planned for mobile connectivity to security forces/villagers in sensitive naxal areas.

ii. Accordingly, BSNL, in the tender document, made the provision that vendor will do the sales activity also as per DSA Policy of BSNL. It is submitted that provision of penalty is mentioned in DSA Policy for any deviation and same is also applicable in LWE Phase-I Project as stated by BSNL.

iii. Further, it needs to state here that, there is no exclusive sales territory for DSA. As per the DSA Policy, the DSA is not allowed to appoint retailer as

territory has not been allotted on exclusive basis to DSA. Only Franchisee is allowed to appoint retailer and has exclusive sales territory.

iv. However, BSNL shall be sensitized under various projects to ensure marketing is carried out in letter and spirit."

47. When asked as to why did neither BSNL nor USOF enforce respective agreement provisions for adequate marketing of telecom products in the LWE areas, the Ministry in their written reply stated as below:

"232 retailers were appointed in the sensitive situation in LWE areas. Peoples were not interested in the retailer work. Most of the retailer work was carried by BSNL staff in those areas. In some areas many customers opted for services and revenue earned is at par with normal BSNL network. It is pertinent to mention that services of this project is being utilized by around 10 lakh subscribers, with approximate revenue of Rs. 1 crore per month. Availability of network is about 90% and voice traffic per BTS is about 4500 erlang."

48. On being asked why is BSNL not taking part in the competition like 4G and 5G, it was stated in the written reply as under:

"BSNL is in the process of deployment of 4G for which EoI is in final stages. There are plans to upgrade the network to 5G."

49. When asked as to why BSNL stopped the existing services like ring tone record message and voice mail box divert service, the Ministry in the written reply stated as under:

"These are the value added services and decision is taken on all India basis as per techno-commercial feasibility and viability."

#### **Monitoring/ Evaluation of the project (PARA 2.1.4.3)**

##### **A. Evaluation of performance of LWE sites (PARA 2.1.4.3) (a)**

50. In terms of the Agreement for the project, the Administrator, USOF had the right to inspect the equipment installed at the sites and conduct service performance tests. It could carry out the performance tests either directly or through a designated monitoring agency, and evaluate "Quality of Service parameters" at any time during the tenure of the Agreement. Audit noted that in November 2015, MHA conveyed complaints received from the Chhattisgarh and Madhya Pradesh Police to USOF that the towers installed by BSNL in the LWE areas were largely non-functional. As a result, security forces deployed in the area were deprived of mobile connectivity. USOF passed on these complaints to BSNL but did not carry out any performance tests directly or through Designated Monitoring Agency (DMA). USOF designated CCAs who belong to the Finance wing of DoT, as DMAs for the project only in December 2016 with the responsibility only for "Inspection of sites for verification of claims submitted by BSNL and for ensuring proper utilization of funds". However,

even these instructions for carrying out limited/ non-technical checks, were issued to DMAs only in February 2017 i.e. 20 months after the commissioning of first LWE site in July 2015. By that time 1,668 sites i.e. 90 per cent of the LWE sites planned had already been commissioned. Ministry accepted (May 2019) the audit observation, but intimated that after installation of BTS sites, "coverage" testing would be done by the respective TERM cells of DoT. It also added that instructions had been issued to BSNL in April 2018, for undertaking measures for improving services in LWE areas and contended that the performance of LWE sites was gradually improving. Audit is of the view that instead of routinely assigning inspection work to CCAs who were not equipped in technical matters, USOF should have constituted a Project Monitoring Unit (PMU) to comprehensively monitor and assess performance of the whole project as this was a major project of National importance. This would have provided the required oversight over BSNL which would have assisted timely project implementation and helped address technical issues impacting on coverage and quality of services.

51. The Ministry in their background note replied to the above audit finding as under:

"Being a project of national importance, the roll out was monitored at the higher level including PRAGATI. In addition regular reviews at all levels in government i.e. Secretary- T, JS-T, USOF-A, CMD-BSNL and Director-CM were carried out from time to time during the whole duration of the project. BSNL CMD had also made Director level committee to resolve any issue faced in roll out on immediate basis so that mobile services to Security forces can be delivered in time. P&T audit teams as well as field audit teams done the evaluation of the tender as well as implementation along with various feedback's on continuous basis and all audit points raised in last 5-6 years by these agencies were well settled to their expectations and no open point is there as of now. Hence the project got continuous monitoring at highest government levels and was evaluation at each stage since inception till the completion of O&M of 5 years. The Operation and Maintenance of the sites under this project is being monitored through centralized NMS in Patna, Bihar which was integral part of the project and all components of sites are integrated to centralized NMS. As per Instructions/guidelines issued on 17-02-2017 the physical inspection of LWE sites has been conducted atleast once during the validity period of Agreement for all the LWE Sites except in states of Jharkhand and Chhattisgarh where 25% of the total sites in their circle were be randomly inspected. It needs to be appreciated that physical inspection can only be carried out after site installation and commissioning in order. Therefore issuance of guidelines in Feb 2017 had no adverse affect. In addition, evaluation study from IIT Bombay and Social Impact Assessment by Field Units were carried out for proper evaluation of the scheme. However, in future, specific PMUS as desired by Audit shall be constituted."

52. When asked about timely and proper testing and evaluation of LWE sites, periodic performance reviews not undertaken and corrective measures taken to ensure provision of reliable services to the customers in LWE areas, action for improving

mobile connectivity in LWE areas, improvement in performance of LWE sites, the Ministry in their written reply stated as below:

"Acceptance testing and subsequent monitoring of LWE sites was regularly done by BSNL as per prevailing norms. However regular reviews at all levels in government were undertaken for whole duration of the project. BSNL also made Director level committee to resolve any issue faced in roll out on immediate basis so that mobile services to Security forces can be delivered in time. P&T audit teams as well as field audit teams done the evaluation of the tender as well as implementation along with various feedbacks on continuous basis and all audit points raised in last 5-6 years by these agencies were well settled to their expectations and no open point is there as of now. Hence the project got continuous monitoring at highest government levels and was evaluation at each stage since inception till the completion of O&M of 5 years. In addition, based on various reviews under DoT, decision on upgradation of VSAT backhaul was also taken by DoT apart from conversion of VSAT sites to MW for better backhaul connectivity. Based on the said decisions, no further complaints were received regarding call congestion or poor coverage. In addition, LWE Phase II with 4G services was also launched which is under implementation."

**B. Quality of Service – Non-Compliance of terms and conditions of Agreement (PARA 2.1.4.3) (b)**

53. As per the Project Agreement, BSNL was required to ensure provision of reliable services to the customers as per the Quality of Service (QoS) prescribed by the TRAI from time to time. In this regard, audit noted that USOF had received complaints from MHA and the State Governments regarding poor voice quality, one-way communication, low signal strength, limited range, dropping of calls, call congestion, repeated un-serviceability of the towers and poor infrastructure, with respect to the sites commissioned by BSNL under the project for LWE areas. In addition, USOF's own analysis of performance of LWE towers for the quarter April-September 2017, disclosed low uptime of the towers. It was found that only in 19.56 per cent of the LWE sites i.e. 358 out of 1,831 sites, uptime was above the 98 per cent benchmark. In 1,398 sites uptime was in the range of 60-98 per cent and in 75 sites it was from 60 per cent and less. As uptime in the case of 80.44 per cent of towers at LWE sites was below the 98 per cent benchmark, BSNL was liable to be penalized through subsidy cuts. DoT contended (May 2019) that the BTS downtime for network equipment under the project, was less than two per cent (per site limit) as per data obtained from Network Operating Centre (NOC) since October 2017 and also claimed increased utilization of the sites in some states. However, DoT did not provide any authenticated supporting document for this. On the contrary, there was evidence of feedback from clients/customers about poor quality/ inadequate services by BSNL, and findings relating to low utilization, and technology and capacity constraints of its own study done by IIT Bombay. The IIT study had also pointed out that utilization was high only in states/ areas where other TSPs were not

available. In addition, data provided in the reply itself showed that the downtime was more than two per cent in over 53 per cent sites thereby contradicting the claim of downtime being less than two per cent since October 2017. Further, the status of performance during January 2019 to November 2020 shows that downtime was less than two per cent only in 21 per cent sites. Thus, as a result of the high downtime and BSNL's poor performance in maintaining medium of transmission and quality of mobile service, the very purpose of the project viz. "to provide mobile connectivity especially to the security forces in LWE area" was not met.

54. The Ministry in their written reply in the matter stated as under:

"• It is to note that uptime and QoS is not fully dependent on BTS equipment only but transmission media is also involved.

• As the mobile infrastructure was built from scratch as well as other development activities were going in parallel in LWE areas including roads, buildings and other developmental projects, it took many months to stabilize the transmission network as well as redundant network to meet the desired QOS and uptime.

• As per the project Agreement, the penalty would be calculated on monthly basis and deducted from tendered OPEX for the particular BTS which has been carried out by field units while settlement of the claims."

#### **Financial Issues (PARA 2.1.4.4)**

##### **A. Irregular payments of CAPEX and OPEX subsidy (PARA 2.1.4.4) (a)**

###### **(i) Irregular payments for electricity connections:**

55. Audit findings have reflected as under:

• USOF released CAPEX subsidy of ₹51.40 crore in advance for providing electricity connections for 1,028 mobile towers, whereas electricity connections were provided in only 152 towers. OPEX subsidy of ₹63.35 crore was also paid to the balance 876 non electrified sites. ₹58.07 crore disbursed to BSNL for sites where electricity connection was not planned. (Total ₹ 165.22 crore)

• USOF provided for deployment of security guards at all LWE sites and covered the cost of deploying two security guards per site. But security guards were not provided as per the Agreement. (₹ 165.24 crore)

• USOF had unduly released subsidy to BSNL. BSNL in turn passed this on to the vendors without ensuring the envisaged deliverables under the agreement.

• A flawed system of contracting appears to have been followed in the project. As a result, in this case the agreements between BSNL and the vendors show deviations

from the agreement between USOF and BSNL with respect to scope of services resulting in irregular excess payments to vendors.

56. The Ministry in their background note has commented on the matter as under:

“(i) Irregular payments for electricity connections:

i. BSNL has called a tender to get cost effective and efficient way to get the project implemented in line with cabinet approvals. A comprehensive scope has been defined including security guard deployment for site security, deployment of green energy solution to get rid of Commercial power supply.

ii. The sites have been installed in the Left-Wing Extremist affected areas. The sites were allocated by the State Governments. During the rollout of the sites, in many instances the sites were changed. It is submitted that the sites are located in LWE prone areas, where even security agencies are also being ambushed. Developmental works like road, telecom, electricity etc. in those areas also face resistance from the local populace in many instances and these developmental activities also get delayed for varying lengths of time. Also, for such far flung areas, which are not motorable, the electricity connections have not come through despite constant persuasion by the circles. In these circumstances it was not possible to have 100% survey in all respects in advance. The observation of the audit for proper advance survey is not practicable in those challenging areas and those specific times.

iii. Keeping in view the urgency of the project from the point of internal security, many sites were commissioned without electricity connection but with due commitment from vendors that without electric connection also, vendor would maintain uptime through its own resources. Subsequently, electric connections are being installed as and when it is made available by Electricity Board. However, there are many sites where electric connection has not yet been provided but is expected to be done in near future.

iv. However, despite efforts from BSNL, only 152 sites have been provided with electric connection so far and accordingly an amount of Rs.48.18 crore (including centage of Rs.4.38 crore) has been adjusted by USOF against the non-provision of electric connection at 876 no's of LWE sites from the BSNL's claim vide sanction memo no.30- 40/2018-USOF/LWE-VSAT B/W/ 5169-5173 dated 25.10.2021. Accordingly, the audit objections appear to be resolved.

v. Regarding audit observation of electricity supply, it is indicated that the same was for the purpose of estimation and the agreement between USOF and BSNL clearly specify the composite cost in Annexure IX. This has also been appreciated by Audit in its final conclusion that the BSNL floated the tender on turnkey basis where only composite cost was discovered and there was a difference between the agreement between USOF-BSNL and BSNL-vendor. No separate rate was called for electricity consumption in the tender; rather a single

comprehensive rate for Complete OPEX works per site for all OPEX related deliverable was called for, irrespective of EB site or non EB site.

- As per agreement between USOF-BSNL indicating cost values, there are mainly two components viz-a- viz Tendered and Non-Tendered. The Non-Tendered Components are paid to BSNL and no payment is paid subsequently to vendors.

- The tendered components and its cost calculations are arrived through the tendered discovered cost of BSNL tender arrived through an open and competitive process. The same has been communicated to USOF/DoT and approved by Union Cabinet. For tendered cost; BSNL is paid as per its tender conditions. The cost of Rs 132.77 cr. for OPEX subsidy of electricity connection is for estimation purpose only and approved cost is on the project is on the basis of tendered discovered cost of BSNL. Further, BSNL has floated the tender in which rates are based on composite comprehensive package and no component wise cost has been discovered by BSNL. Instead; being a turn-key project on cost plus basis; BSNL awarded the work on outcome based with all sub-summed components for OPEX and no component wise subsidy is mentioned in the tendered discovered prices.

- BSNL tender does not specify any category/ component wise cost and a lump cost has been identified for maintenance of the site in its tender and payments are made as per terms and conditions of approved tender. This tender discovered single comprehensive rate of Rs 1,20,734 lakh ( for all 5 type of sites) for OPEX for 1836 towers for 05 years approved by Telecom Commission has been mentioned against all five OPEX items mentioned in the estimate

- As such there is no irregular payment being made by USOF to BSNL or by BSNL to its vendor.”

(ii) Irregular payment of security costs:

57. Audit noted that a flawed system of contracting appears to have been followed in the project. DoT/USOF being project owners should have first entered into an agreement with the implementing agency i.e. BSNL which should after tendering, entered into back to back agreements with the selected vendors for execution and maintenance based on the main agreement. As a result, in this case the agreements between BSNL and the vendors show deviations from the agreement between USOF and BSNL with respect to scope of services resulting in irregular excess payments to vendors. The implication of the deviations can be that while USOF will recover excess payments from BSNL for services not given, BSNL may have to absorb these costs as vendors may not agree to any recoveries. It was also noted that though the work was awarded to the vendors on a turnkey basis, no bill of quantities appear to have been provided for so as to ensure that all items included in project estimates were actually provided/ supplied by the vendors.

58 The Ministry in their background note commented on the above issue as under:

i. The Union Cabinet approved the proposal to award the work to BSNL on nomination basis for providing and maintaining mobile services in LWE affected areas & Telecom commission considered the project cost discovered by BSNL through tender process. Accordingly, an agreement was signed between USOF and BSNL on dated 30.09.2014.

ii. Since Telecom Commission had approved rate for this project as discovered in the BSNL tender, the deliverables were also required to be as per the terms and condition of finalised tender document only of BSNL. Terms and conditions of tender document were drawn up along with the representatives from TEC as per Clause 2.5.2 of the BSNL/ USOF Agreement and Cabinet approval was communicated vide letter No. 30-156/2013-USF dated 25.06.2013.

iii. BSNL had floated the tender in which rates are based on Composite Comprehensive Package and no component wise cost has been discovered by BSNL. Instead; being a turn-key project; BSNL awarded the work on outcome based with all sub-summed components for OPEX and no component wise subsidy is mentioned in the tendered discovered prices. The same has also been reiterated in USOF reply to Audit during the exit conference.

iv. There are mainly two components viz-a-viz Tendered and Non-Tendered. The tendered components and its cost calculations are arrived through the tendered discovered cost of BSNL tender arrived through an open and competitive process. The same has been communicated to USOF/DOT and approved by Union Cabinet.

v. For tendered cost; BSNL is paid as per its tender conditions and approved cost on the project is on the basis of tendered discovered cost of BSNL.

vi. The tendered discovered cost (Tendered Components of both CAPEX/ OPEX) as communicated by BSNL was duly approved by Union Cabinet and hence the subsidy is released as per the Tendered OPEX Cost.

vii. The payments to vendors are paid by BSNL as per its tender conditions and not as per USOF agreement and vendors are bound to follow BSNL tender which is the responsibility of BSNL. In addition, BSNL tender does not specify any category/ component wise cost and a lump cost has been identified for maintenance of the site in its tender and payments are made as per the same to its vendors. The responsibility of ensuring that tender conditions are fulfilled are within the domain of BSNL and only the tendered cost passed onto vendors is supposed to be claimed by BSNL along with Centage for Tendered OPEX Component

viii. It is fact that providing and managing Mobile Services in Left Wing Extremism affected areas, which pose security threat to internal security of the country. Communication needs are paramount in these areas for security forces as well as general public. In this project, tower Locations were also identified by MHA



due to security concerns and mostly locations are situated in security forces campus or nearby. BSNL Tender did not ask for dedicated security guards to be provided on each site but the operation and maintenance including security of supplied equipment was the contractor / vendor's responsibility and desired Uptime as per TRAI QoS parameter and terms and conditions of the LWE Agreement dated 30-09-2014. The same is part of BSNL reply to Audit queries during Exit Conference.

ix. It is pertinent to mention here that now a day's security service has become deployment of modern technology rather than deployment of full time manpower. It is submitted that Infrastructure created under LWE project with advanced monitoring mechanism so as to cater to security needs in disturbed areas of LWE. Each equipment supplied on site is equipped with advanced sensors which can detect and send signals at centralized monitoring place which is located at nearby location. The sensors deployed include even door opening alarm for boxes deployed as well as can even tell if excessive dust is there on solar panels. All the equipment's including BTS, Radio as well as Solar Power system which can be monitored remotely through BSC locations as well as through centralized NOC. Any activity to damage the equipment or any tinkering with any site equipment gives alarm at centralized location. The information is immediately passed on to the nearby field maintenance staff who can access the site within 30 Minutes without giving any specific information to locals/Naxalites.

x. It needs to state here that all LWE Sites are covered under insurance to meet any exigencies and for which complete insurance premium is being paid by Vendor as per the tender requirement of BSNL. Till date around 180 sites were damaged by Naxalites which were made up by vendor without any additional costs and running smoothly after restoration.

xi. Thus, with intelligent mix of technology with centralized manpower at BSC/OMC locations coupled with field maintenance staff deployed at a distance security services are being provided by vendors at all these sites for last 4 years where even state police and paramilitary forces have problem to assert law and order.

xii. As per conclusion on above issue, only composite comprehensive package rate per site discovered through open tender and approved by Telecom Commission as OPEX subsidy was released to BSNL by USOF/CCA as per the agreement signed between BSNL and USOF to make eligible contractual payment to vendor as per terms and conditions. BSNL has informed that at no stage the security and upkeep of the sites have been compromised. Thus, the observation of Audit that security guard is to be deployed by vendor is not based on the tender documents of BSNL and spirit of USOF agreement and extant approvals of Union Cabinet."

59. The Ministry in their written reply on the same subject matter have stated as below:

"• USOF has deducted the balance amount of Rs. 43.80 Crores against non provision of electricity at 876 LWE sites.

• The provision for electricity supply cost, it is stated that the same is part of only the estimates.

• BSNL adopted a pragmatic approach and floated a tender on lump sum basis without compromising on delivery of required SLA.

• No separate rate was called for security guards in the tender; rather a single comprehensive rate for Complete OPEX works per site for all OPEX related deliverable was called for. Specific provisioning of security guards has not been called for in the tender.

• The cost of engaging security guards was taken for the purpose of estimates only since cost on engaging security guards is a variable component and changes with each year based on state specific rates."

60. When asked about usage of DG sets on mobile tower sites, the representative replied as under:

"It was one of the largest mobile tower projects which has been running on green telecom. The power backup that has been used is solar-based. Around 18 million people were connected through it, and about 1987 sites have been commissioned under this particular project. These all are new sites which have been commissioned in LWE areas. Its implementation took around 23 months. All those sites are 100 per cent solar powered. There is no usage of DG sets for running those sites."

**(B) Liquidated Damages recovered by BSNL from Contractors/ vendors not credited to USOF**

61. As per the agreement between USOF, BSNL was required to ensure recovery of Liquidated Damages (LD) from the vendors in accordance with the contract agreement and pass on the same to USOF. LD amounting to ₹ 29.09 crore in respect of 1,836 sites and ₹ 0.67 crore for additional 156 sites had been deducted by the CGMs, BSNL of the respective circles but was retained by BSNL. Audit noted that subsequently after a plea from the vendors, LD was reduced to ₹ 12.39 crore for 1,831 sites and to ₹ 19.11 lakhs for the additional 156 sites by the BSNL Corporate Office. However, retention of LD by BSNL was not compliant with provisions of the Agreement between USOF and BSNL. DoT had accepted the audit observation (May 2019) and stated that the issue had been taken up with BSNL. BSNL (August 2020), was yet to pass on the recovered LD to USOF nor has the latter adjusted the same.

62. The Ministry in their background report has replied to the above point as under:

"i. As per D.G. P&T audit; an LD of Rs 29.76 Cr. was required to be recovered. However, BSNL has indicated that the said LD amount of only provisional and finalization of LD is done on case to case basis after detailed review of each case by circles and in accordance with Clause 21. Section 5B of the BSNL tender document. BSNL has accordingly waived LD on vendors based on recommendations of various circle heads and the final figure of L.D. Rs 12.39 crores for 1836 sites scheme and an amount of Rs 19.10 lakh for Addl. 156 sites scheme was adjusted from utilization statement.

ii. As per Clause 4.9 of the agreement; it is the responsibility of the BSNL to pass on the LD recovered from its vendors as per terms of its tender and no separate LD is proposed under the agreement on BSNL.

iii. The net payment made to vendors after deducting or withholding provisional LD has been included in fund utilization certificate submitted by BSNL to USOF for adjustment of advance fund received from USOF. Thus, the LD deducted or withheld has not been retained by BSNL but has been properly passed over to USOF. The final payment of CAPEX was made to BSNL vide sanction memo no 30- 40/2018-USOF/LWE Phase-I Gen case/ 3142-48 dated 24.05.2021 based on Statutory Auditor certificate of utilization if funds clearly indicating LD damages adjusted."

#### **C. Non-Adjustment of CENVAT Credit by BSNL (PARA 2.1.4.4) (c)**

63. As per the agreement, CENVAT credit realized by BSNL was required to be adjusted against payments to be made by USOF as project cost. Audit observed that during the period 2015-16 to 2019-20, BSNL realized CENVAT credit relating to LWE project to the tune of 212.26 crore. Out of this amount USOF had adjusted and availed credit of only 118.45 crore upto March 2020. The balance credit amounting to 93.81 crore is yet to be passed on by BSNL to USOF or adjusted against payments made by USOF. Ministry confirmed the above fact and replied (September 2020) that remaining CENVAT credit would also be recovered as per LWE agreement.

64. In their written reply on the subject, the Ministry have stated as under:

"• As per Clause 6.8 of LWE Agreement dated 30.09.2014 'CENVAT Credit realized by BSNL will be adjusted in the payments to be made by USOF as project cost.

• As per Annexure IX of the agreement, the cost discovered in inclusive of taxes. Accordingly, while paying the claims to BSNL, tax component was also paid for which input credit was claimed by BSNL since the funding from BSNL was in the form of subsidy. The same was required to be recovered as per clause 6.8 of the agreement which states that "CENVAT Credit realized by BSNL will be adjusted in the payments to be made by USOF as project cost.

- The Cenvat Credit is accordingly recovered by CCAs from the OPEX claims and as per information available with USOF HQ from various CCAs, all Cenvat Credit has been recovered.

- Hence, action of the Department is in consonance with extant provision of the Indian Telegraph (Amendment) Act, 2003, Cabinet approval and LWE Agreement dated 30.09.2014 and its amendments."

65. When the Committee enquired about the adjustment particulars of the balance credit along with supporting documents and wanted to know whether the DoT have reconsigned discrepancies about adjustment particulars of the balance credit, the Ministry in their written reply stated as under:

"As per latest records, Rs. 237.48 cr. has been recovered/adjusted from BSNL's claim on account of realization of Cenvat as per clause 6.8 of the LWE Agreement dated 30.09.2014 for which final reconciliation is under process with BSNL."

66. On being asked as to how this cost which was earlier Rs. 6,000 crore is reduced to Rs. 3,567 crore, the Ministry representative replied as under:

"The Government reverted back to us that we should use energy-efficient technology. Then Department of Telecom formulated a committee which arrived at a low-power equipment so that solar power can be deployed instead of DG set. The majority of the cost was because of the AC requirement as well as diesel power generation. So, the revised cost was Rs. 3,567 crore based upon the low power consuming solution which drastically reduced the diesel cost and opex. Based upon that, the tender was floated. There were two broad components in the tender. There was a capex cost and then there was opex cost. The estimated value of the work was Rs. 2,258.47 crore against which the discovered price was Rs. 2,531 crore. So, it was 12 per cent higher. Earlier, in one of the meetings, it was mentioned that discovery of rate was 22 per cent higher. I would like to clarify that capex price discovery was 3 per cent higher than the estimate and the opex was 22 per cent since it was a single bid."

67. On being enquired as to whether sufficient advertisement was given to invite competitive bidding, the ministry stated as under:

"Sir, the tender was sufficiently advertised and there was sufficient interest by the people. Six bidders had shown the interest. The total project in terms of delivery was at 2,187 locations, out of which 1,836 were new sites and 363 were already installed sites by BSNL."

68. When asked as to why only four bidders participated in the bidding process, the Ministry replied as under:

"Sir, L&T gave us two letters on 21<sup>st</sup> of April and 25<sup>th</sup> of April in which extension was asked for and pre-bid queries were raised. When we do the bidding, everybody has a right to raise the query on tender for clarification. At that time, if

there is anything which is not done appropriately by us in any manner, it can be rectified. L&T raised the query twice; ITI raised the query on 22<sup>nd</sup> of April; HFCL raised the query on 24<sup>th</sup> of April; VNL raised the query on 24<sup>th</sup> of April; Tejas raised the query on 25<sup>th</sup> of April; and Toshniwal on 21<sup>st</sup> and 25<sup>th</sup> of April. The people who are among the probables can participate. It is not that they were not intimidated. It is a tough terrain, Sir. So, many of the people were not able to take the risk and work. Sir, ten years down the line, if we look at the kind of conditions which were prevailing in these districts, very few people were having the wherewithal to do it. Similarly, in the case of advertisement, we have published the advertisement in big newspapers. Indian Express is the first newspaper in which the advertisement was published and it is not a one liner advertisement.”

69. On being asked whether there was any Government website where you have advertised it, the Ministry replied as under:

“Sir, there are five places where we have published the advertisement. It was published in the Indian Express newspaper which is a big national daily. It is not like it was published in any advertisement magazine. Secondly, it was advertised in Dainik Jagran on 26.04.2014 and itn also has a very big following in the country. It was published on the BSNL website also. It was also published in TCL website. It was also published in India Trade Journal which is a Government entity. So, the advertisement was published in five places by the BSNL. As on date, even publishing the tender in newspaper is not required as per the new guidelines, but we have done it and it was published in two newspapers, two websites and India Trade Journal. So, it was widely published. The publicity has resulted into enough interests by the parties as six people have shown their interest to participate in the tender and they raised the queries. So, it is a transparent bidding process which was sufficiently advertised and it was not restrictive. Sir, the second query was raised about 2G versus 3G. We would like to submit two points here. Any technology matures over a period of time. Even today, 5G has been introduced in the country, but 5G in terms of numbers is very small. In the case of 2G and 3G technologies, at that time, 90 crore mobile customers were there in the country in March, 2014, and out of that, 4.5 crore were 3G customers. It means the numbers are even less than five per cent. If we see in rural areas, perhaps that number may be less than one per cent. if I put a 5G equipment in Dantewada, can a person afford a handset of Rs. 25,000 and avail the service. So, at that time, the 3G technology was as expensive as the 5G technology today is. So, we have to draw a similar analogy. So, non-availability of handset ecosystem was another constraining factor at that time. Thirdly, 3G service has a lesser site coverage in comparison to 2G due to the technological aspect.”

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## PART-II

### OBSERVATIONS / RECOMMENDATIONS OF THE COMMITTEE

#### Introductory

1. The project for providing mobile services in LWE affected areas with funding from USOF was a significant initiative in providing communication services in remote and difficult areas of the country. USOF/ DoT chose a technology for the project which was delivering sub-optimal performance with limited scope for augmentation impacting performance of the network. Further, though the project had been substantially commissioned, there were delays ranging from 3 to 18 months and the project duration was extended from September 2020 to June 2022. Audit also found that monitoring and evaluation of the project was inadequate. On account of the above there is limited assurance that the expected outcomes in terms of providing critical communications facilities in remote and disturbed areas would materialize despite incurring an expenditure of ₹ 3,112.32 crore on the project. Audit findings relating to project planning, execution, monitoring/ evaluation and financial aspects are discussed in subsequent paragraphs. Some of the issues contained in the Report have been examined by the Committee and commented upon suitably in the succeeding paragraphs.

#### Imprudent Selection of low power BTS using 2G technology

2. The Committee note from the Audit observation that both the options considered by USOF in 2012 were based on 2G technology even though BSNL had already launched 3G services in 2009. Besides, by the time USOF signed the agreement with BSNL, a further period of over 22 months had elapsed and the use of 3G had become common among Telecom Service Providers (TSPs). The Committee further note from the submission made by the Ministry during oral evidence that the choice of technology was based on the maturity of the technology and of the ecosystem of handset at that time. According to the Ministry, 2G was widely accepted technology at that time as in 2013-14 only 45.61 million out of 904.51 million mobile users in India were using mobile wireless broadband. Further, 3G service had lesser geographical coverage and 3G handsets were not affordable. The Committee further note that in December 2016, USOF continued with the same technology for the 156 additional towers, despite complaints being received relating to coverage and connectivity since June 2015. The Committee also note from the Annual Report of Telecom Regulatory Authority of India for the year 2016-17, that Telecom sector saw the advent and adaptation of 4G services in FY 2016-17; the tariffs reduced further and the data

usage proliferated; the number of mobile based stations also jumped during the year further improving coverage and reach and with increased availability of smart phones, there was a data revolution in the country; Telecom services providers in the country were building access networks using 4G mobile technology and world-over, Internet Telephony was beginning to emerge as a cost-effective mode of delivery of voice calls. The Committee while observing that the telecom sector had taken rapid strides and was moving on from 3G to 4G opine that approving additional towers with the same 2G technology in December 2016 indicates lack of foresightedness on part of the Ministry. The Committee are of the considered view that a reassessment/review of the existing technology would have enabled the USOF to either adopt better technology instantly or prepared them for upgradation of existing technology to the state-of-art-technology in a phased and timely manner.

#### Vendor guided selection of technology led to de-facto single vendor

3. From the audit observation, the Committee find that the DoT committee recommended the selection of technology to be used for the project based on a proposal made by a vendor viz. M/s VNL and the BSNL floated tenders for the project in August 2013 with specifications approved by the DoT Committee which was in turn based on the presentation given by the same vendor. The Committee note that the vendors viz. M/s VNL and M/s HFCL participated and only after opening of the bids, a case was sent to USOF for approval. However, it was decided by DoT to retender the project which was done in April 2014. M/s VNL emerged as L-1 and M/s HFCL was L-2. The work was awarded on 05 September 2014 to M/s VNL and M/s HFCL in ratio of 70:30 respectively. The Committee note that there were only two participants on both the occasions, one of which, viz. M/s HFCL had a Transfer of Technology agreement with the other bidder i.e., M/s VNL and thus, the tender was tantamount to a single vendor case despite the high value of the project. Audit observed that the DoT/USOF neither ascertained the vendor base for the recommended solution prior to tendering, nor did they review the specifications on account of the very limited participation in the tender to expand participation. The Committee, however, note from the written submission of the Ministry that it was an open tender and there was no condition for participating in the tender process except that it had to be 'PMA compliant'. From the submissions made by the Ministry during the oral evidence, the Committee further note that due to security and sensitivity of the matter, the focus of the department and the government mandated preference to use of Indian manufactured products was given a fillip. The Committee while noting the observations of DoT committee that "multi-vendor implementation" were available for the recommended technology and that other "cost effective

technical solutions” that supported generic requirements could be available were not given adequate emphasis by the Ministry are of the view that adopting an open approach would have not only promoted healthy competition but also encouraged indigenization of next generation technologies. Further, while noting that five vendors had shown interest and only one of them participated in the actual bidding process along with a bidder who had a ToT agreement with the selected vendor, the Committee opine that the Ministry should have reviewed the specifications, while going for rebidding, in view of the limited participation on the first occasion. The Committee opine that review of the specifications would have given a definite assurance as to the qualification criteria and the reasonability of prices offered by the selected vendor.

#### Delays in implementation status of LWE Project- Phase I

4. The Committee note from the audit observation that the agreement between USOF and BSNL should have been signed by September 2013 but the agreement was signed only in September 2014 i.e. after a delay of a year. The Committee also note that project agreement was amended multiple times between December 2015 to January 2017 to extend the project period. The Committee observe that the prolonged delay in commissioning of the towers led to non-achievement of the key objective of the project i.e., to quickly provide communication facilities to the security forces in sensitive areas. The Committee further note from the reply of the Ministry that 95% work of the project was completed in time except some sites which could not be completed in time due to non-allocation of sites by state government in time, frequent naxal attacks in LWE areas and additional work orders for 156 sites. The Committee are of the view that all the stakeholders were well aware of the aforesaid limitations in providing infrastructure in the LWE areas and desire that, henceforth, instead of resorting to subsequent extensions, all related issues should be accounted for while setting the initial timelines. While noting that the tender of active Infra is in final stages and subsequently all sites will be upgraded to 4G by Dec. 2023, the Committee hope that the project will be completed within the scheduled timeline.

#### Agreement for award of work by BSNL prior to agreement between USOF and BSNL

5. The Committee note from the audit observation that an agreement between USOF and BSNL for the project was to be signed by September 2013 but the BSNL issued tenders prior to entering into an agreement with USOF in August 2013 in which two vendors viz. M/s VNL and M/s HFCL participated. Besides, it was executed only on 30 September 2014 i.e. subsequent to the finalization of the tender by BSNL and issue of APOs to the vendors and that there were



discrepancies between the terms and rates in the tender/APOs issued to the vendors by BSNL and in the agreement between USOF and BSNL. The Committee also noted that for several works, the agreement between BSNL and vendors did not specify individual items of work and only provided a lump sum rate whereas, the agreement between USOF and BSNL provided for item wise details of the work including estimated costs. These discrepancies were not reviewed and corrected in the Purchase Orders (POs) issued to the vendors which led to the vendors receiving payments for items of work which were not performed by them. The Committee note from the submissions of the Ministry stating that the project was given to BSNL on nomination basis and it was expected that BSNL would carry out the work from an open competitive bidding procedure and the cost discovered through the procedure shall be funded by USOF. Besides, though the APOs were issued by BSNL prior to agreement, the final POs were issued only after the approval of tendered discovered cost by DoT/Cabinet. The Committee are of the opinion that if the cost discovered through the competitive bidding procedure was to be funded by USOF, the agreement between USOF and BSNL instead of being based on the cost estimations of line items should have been on the same basis as between the BSNL and the vendors. The Committee opine that instead of breaking up/ justifying the cost discovered by including estimations in respect of line items/ works which were not to be provided/ performed by the vendor, the Ministry should have amended the Purchase Orders issued subsequently to bring parity in the two agreements.

#### Inadequate marketing of Telecom Products

6. The Committee note from the audit observation that in accordance with the BSNL tender, the vendors of the project were responsible for setting up customer service centres for making BSNL mobile prepaid/postpaid SIM cards, recharge coupons etc. available in the LWE areas but the vendors did not appoint the required numbers of retailers. Besides, out of 5,259 retailers required to be appointed as per policy, only 232 retailers were appointed by the vendors in five Circles like Chhattisgarh, Madhya Pradesh, Andhra Pradesh and Telangana having appointed only one dealer each. The Committee also took note of the evaluation report of IIT, Bombay which highlighted limited availability of BSNL outlets in the context of low level of awareness about BSNL schemes. From the submissions made by the Ministry in their reply, the Committee further note that only 232 retailers were appointed due to the sensitive situation in LWE areas. Further, people were not interested in the retailer work and most of the retailer work was carried by BSNL staff in those areas and that several steps were taken by the BSNL to improve sales viz. Daily monitoring of SIM sales and interaction with low performing Circles etc. While noting that limited outlets were set up for

marketing of telecom products, the Committee believe that competitive as well as lucrative agreements with the local existing outlets could have been more effective in addressing the issues in marketing telecom products. Further, better marketing and innovative solutions could have resulted in BSNL products being more accessible to customers for whom the project was implemented.

#### Evaluation of performance of LWE sites

7. The Committee note that as per terms of the Agreement for the project, the Administrator, USOF had the right to inspect the equipment installed at the sites and conduct service performance tests either directly or through a Designated Monitoring Agency (DMA), and evaluate "Quality of Service parameters" at any time during the tenure of the Agreement. The Committee note with dismay that instructions for carrying out limited/Non-technical checks were issued to DMAs only in February 2017 i.e., 20 months after the commissioning of first LWE site in July 2015 and that by that time 1,668 sites i.e., 90 per cent of the LWE sites planned had already been commissioned. The Committee further note from the submissions of the Ministry that being a project of national importance, the roll out was monitored by none other than PM under PRAGATI. However regular reviews at all levels in government i.e. Secretary-T, JS-T, USOF-A, CMD-BSNL and Director-CM were carried out for whole duration of the project. Further, BSNL CMD also constituted a Director level committee to resolve any issue faced in roll out on immediate basis so that mobile services to Security forces could be delivered in time. While appreciating the recent measures taken for reviewing the progress, the Committee desire that Project Monitoring Unit as an independent vigilant body may be constituted for effective oversight and gauging the actual extent of coverage and quality of services being provided under this project.

#### Quality of Service- Non-Compliance of terms and conditions of Agreement

8. The Committee note from the audit observation that in November 2015, MHA conveyed complaints received from the Chhattisgarh and Madhya Pradesh Police to USOF that the towers installed by BSNL in the LWE areas were largely non-functional as a result of which security forces deployed in the area were deprived of mobile connectivity. Besides, USOF passed on these complaints to BSNL but did not carry out any performance test directly or through Designated Monitoring Agencies (DMA). The Committee note from the Audit observation that the downtime was more than two per cent in over 53 per cent sites due to which the very purpose of the project viz. "to provide mobile connectivity especially to the security forces in LWE area" was not met. The Committee further note from the submissions made by the Ministry that Mobile network setup in LWE affected areas under the scheme faced numerous problems related to naxal activities in

the starting of the project resulting in high downtime and that uptime and QoS is not fully dependent on BTS equipment only but multiple factors where Core network as well as transmission media is also involved. In addition, as per the project Agreement, penalty clause mentioned for downtime/interruption in mobile service from LWE sites was to be calculated on monthly basis and deducted from tendered OPEX for the particular BTS which had been carried out by field units while settlement of the claims. The Committee desire that concrete action regarding downtime/interruption in mobile service for LWE sites should be taken to strengthen the network services and further given the security considerations, stringent measures be taken to obviate contravention of terms and conditions of Agreement.

#### Irregular payments for electricity connections and security costs

9. The Committee note that as per clause 6.3 of the Agreement between USOF and BSNL, BSNL was required to ensure deliverables as stipulated by USOF/DoT in the Agreement. Hence, award of O&M by BSNL to the vendor based on a lump sum cost without specifying electricity supply as a deliverable was a violation of the agreement between USOF and BSNL. Further, separate items such as usage of DG sets on mobile tower sites, electricity charges specified in the agreement between USOF and BSNL have not been specified in the approved tender for the vendors and that the vendors were also meeting expenditure on the electricity charges from the same quantum of O&M subsidy in the case of 152 LWE sites where electricity connections were provided. The Committee further note from audit revelation that maintenance of electric connection and cost of electricity had to be borne by the vendor and the financial implications of the same were considered by BSNL while evaluating the tender but it was not separately specified and as a result, the vendor got payment towards electricity consumption for the sites which were never provided electric connection, i.e., for costs never incurred. The Committee note from the submission of the Ministry that BSNL called a tender to get cost effective and efficient way to get the project implemented in line with cabinet approvals and a comprehensive scope had been defined including security guard deployment for site security and deployment of green energy solution to get rid of Commercial power supply. Further, no separate rate was called for electricity consumption in the tender; rather a single comprehensive rate for Complete OPEX works per site for all OPEX related deliverable was called for, irrespective of EB site or non EB site. Likewise, Security cost was not separately specified and as a result the vendor got payment towards security at the sites which were never provided with any, like for sites within Police stations and CRPF Camps. The Committee while noting from GFR 204 that "*Lump-sum contracts should not be entered into except in*

*cases of absolute necessity; Where lump-sum contracts become unavoidable, full justification should be recorded; The contracting authority should ensure that conditions in the lump-sum contract absolutely safeguard and protect the interests of the Government"* opine that award of O&M by BSNL to the vendor should not have been on lump-sum basis (without detailing out the estimated component costs). The Committee are of the view that recovery of payments from the BSNL/Vendors on payments made over and above the limits of agreement between the BSNL and USOF may be considered to enforce financial discipline and to settle such inconsistencies for the posterity.

### Conclusion

The USO Fund is an important mechanism established by the Government of India for providing communication services in remote and difficult areas of the country. The project for providing mobile services in LWE affected areas with funding from USOF was thus a significant initiative in this direction. Audit of the project, showed that USOF/ DoT had chosen a technology for the project which was delivering sub-optimal performance, and had limited scope for being augmented which had impacted performance of the network. In addition, though the project had been substantially commissioned, there were delays ranging from 3 to 18 months. The project duration including O&M had since been extended up to 2022. Audit found that monitoring and evaluation of the project was also inadequate. On account of the above there is limited assurance that the expected outcomes in terms of providing critical communications facilities in remote and disturbed areas would materialize despite expenditure of 3,112.52 crore on the project. A different approach involving use of latest available technology along with review and upgradation of technology and a better financial discipline would have ensured value for money and better communication facilities in LWE areas.

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