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भारत संचार निगम लिमिटेड
(भारत सरकार का उद्यम)

BHARAT SANCHAR NIGAM LIMITED
(A Government of India Enterprise)

Letter No: BSNLCO-COMN/17(11)/27/2024-NWO CM II   Date:09-01-2025

To
The Vice President
TCS, BSNL 4G Project

Subject: Regarding operational issues of phase IX.2 CM network.

Reference: BSNLCO-COMN/17(11)/27/2024-NWO CM II   Date:02-12-2024

With reference to subject mentioned above your intervention is required to address a number of issues being faced in the operations of Ph IX.2 commissioned network and its monitoring mechanism. The some of the major issues which have already been reported to TCS team since a long but resolution is still pending are mentioned below:

1. TCS network has single link association with BSNL Network Elements e.g. SGs, DSC/DRA with BSNL N/w Elements MSC/HLR/SSTP, which needs early resolution for pan India.
2. IPDR servers are yet to be installed in North, South and West zones and no timeline provided for same.
3. VoLTE MT Call Failures (Unreachable/Switch Off issues) affecting services in the regions of BR, CG, HP, HR, JH, JK, MH, MP, OR, PB, UK, UW, RAJ, UPE, and WB, remains unresolved in spite of test log provided to TCS.
4. Issue in Lawful Interception while Testing ICR with M/s RJIL (JIO as a Seeker in BSNL) in USOF Sites has been reported for North zone.
5. Issue of EPC Core Node Switchover (MME/PGW/SGW) reported for pan India circles continues even after several patches updated
6. SGS Paging Success Rate is low as reported by AN, AS, OD, WB, JH, KO circles and link fluctuations observed in spite of media stability.
7. Low VoLTE MT Session Success Rate in TCS 4G N/w as compared to existing 4G network reported for pan India and MO/MT calls fall back to 2G, like wise CSFB reported in south zone.
8. SRVCC and IRAT Handover Failures is high deteriorating call drop rate particularly in CG, CN, GJ, HP, JK, KA, KL, KO, MH, PB, UE, UK, and UW circles.
9. CNOPS access with many restrictions along with insufficient KPIs to assess the CDOT Core nodes performance.
10. Non-3GPP standard Realm/Host Name of C-DOT nodes in all other Zones except East Zone. CLR/CLA & PUR/PUA message are getting failed during location Update procedure in case of IN/OUT roaming. Multiple MMEs are storing registration information of a single subscriber at the same time.
11. VOLTE incoming calls failures, there is a long silence to calling party instead of RBT followed by call ended notification to A party (hunting tone or RBT not heard) reported in south zone.
12. Subscriber Tracing System is not working properly as reported by AS, BR, OD, WB, JH, KO, GJ Circles.

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13. MT SMS success rate is low as reported by CH, KL, CH, KT Circles.
14. The packet drop issue between P-CSCF and UE IP remains unresolved, despite sharing observations with BSNL and Tejas teams reported fault by AS, WB, JH, KO, NE-1,NE-2 circles.
15. Implementation of differential RSRP thresholds for VoLTE and EPC Bearers requested by pan India circles.
16. Backhaul link setup failure alarm generates repeatedly in both band(band1 and band28) of a single site in different time reported by AN,AS,BR,OD,WB,JH,KO,NE-1,NE-2,SK circles.
17. During sector down for any reason, RRH restarted again and again resulting actual alarm generation time not in current alarm list reported by AN, BR, JH, KO, NE-1 circles.
18. When UE in idle state for more time (ex: 1 hour), every 1st MO VOLTE call is getting failed has been reported by AP, KL, TN, KT circles.
19. Frequent Faults in RAC Cards and CIPRI cable reported by PB, HR, HP, UPW, UKD, UPE, JK circles.
20. ITSM ticketing and its proper operationalizing in field is still pending. ITSM user license limitation is being cited and common user profile for all BA/OA are being created due to which performance monitoring userwise not possible. User profiles for TX/Infra verticals missing. Open tickets categorization(fixed fault reason) is missing. Mobile app for ticket management is also required.
21. Legacy network EMS connectivity with CNOPS is also lagging in spite of providing all required details.
22. Its been more than a month since TCS and Tejas team available at BSNL CO surveillance room but unable to provide required reports like more than 24 hrs BTS down reasons, KPI improvement sheet etc.
23. Expediting SCFT and optimization of commissioned network is also required.

In addition to above, it is also observed that TCS has closed some issues stating that resolution has been provided, list of which is attached at annexure I. However, on cross verification from circles it is observed that these issues still persist. There is need to relook into the resolution mechanism and after resolution joint testing/ confirmation from the concerned circle should be carried out.

TCS and Tejas along with BSNL team is also monitoring the network status and KPI of network being rolled out under project Phase IX.2. Circle wise CPRI, VSWR, KPI not meeting and Zero traffic cell reports are being shared with TCS/ Tejas teams on daily basis since November end. Despite of regular sharing of above reports and information, pace of resolution of faults/ issue is very slow and **no significant improvement** in reports is being observed. Summary of observations in various area are as follows:

The network availability analysis for November and December reveals a **noticeable decline** in several circles, with the most significant deteriorations observed in UW (-5.39%), JK (-5.04%), HP (-4.68%)., N2 (-3.45%) and OR (-3.11%), indicating potential issues impacting service consistency. Majority of circles indicate the decline in network availability or no impacting improvement.

The analysis of VSWR faults between November and December 2024 indicates a deteriorating service trend, with an overall increase in number of faults. Notable circles contributing to this trend include Maharashtra (+144 faults), Rajasthan (+116 faults), and Telangana (+79 faults).

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2

The analysis of CPRI faults between November and December 2024 shows a **deteriorating trend**, with an overall increase of 616 faults, rising from 2,482 in November to 3,098 in December. The most affected circles contributing to this increase are Rajasthan (+43 faults), Odisha (+38 faults), Madhya Pradesh (+37 faults), and Karnataka (+31 faults). This highlights a decline in service quality, particularly in these regions

The analysis of zero-data cell counts between November and December 2024 indicates slight **decrease** in December. However, certain circles exhibited a deteriorating trend with an increase in zero-data cells, highlighting poor network performance in those regions. The major worst-performing circles are Tamil Nadu (+984 cells), Rajasthan (+550 cells), Delhi (+528 cells), Gujarat (+509 cells), and Andhra Pradesh (+412 cells).

RRC Drop Rate (>2%): The trend indicates a slight **decrease** in the number of non-compliant cells, however, there are some circles with significant deterioration such as Assam (+2441 cells), Odisha (+1823 cells), Chhattisgarh (+1520 cells), Maharashtra (+1338 cells), and Madhya Pradesh (+1125 cells).

RRC Connection SR (<95%): The trend also shows a slight **decrease** in the number of non-compliant cells, however there are circle which show a significant increase in non compliant cell such as Tamil Nadu (+1514 cells), Rajasthan (+1179 cells), Delhi (+527 cells), Odisha (+417 cells), and Maharashtra (+413 cells).

The rising trend/ non- resolution in faults and underperformance across key QoS parameters highlights a decline in service quality and necessitates immediate, targeted action. You are requested to conduct a root cause analysis, enhancing network monitoring, and prioritizing fault resolution in high-impact areas. Preventive maintenance strategies must be strengthened, to improve fault detection and resolution. It is critical to implement a standard operating mechanism to streamline the resolution process within a timebound framework. You are requested to provide an action plan to resolve the concerns by 15.01.2025.

09.01.25

Sunil Kumar Singhal
(GM NWO CM-I)

Copy to- 1. Director (CM), BSNL Board for kind info pl.
      2. All CGMs Territorial Circles/Dist. for kind info and necessary action pls, also requested to monitor and analyse the issues for their respective circles and update the feedback on Google sheet: https://docs.google.com/spreadsheets/d/1-RsDpZQm8tc6-M_Sdu5QDlHm1mflnhp0Wmp33rV-Dtw/edit?gid=2007515193#gid=2007515193

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3

Annex. I

S.No.	Network Issue	Team
1	Full MME customers dump, mean live attached, active, Ideal MSISDN detail with profile not available in CDOT	Core
2	Provide Subscriber Location through LBS service is not working properly	Core
3	No proper mechanism in Core nodes/switching fabric to detect the MPLS media related flappings/choking	Core
4	Automation of TCS MME dumps to be arranged	Core
5	ICR testing to be done	Core
6	FTP Server configuration for DT teams in AP circle	Core
7	Unable to monitor the infra of Data centre and EPC node resources	Core
8	MT SMS issue observed for ERPPORTAL	Core
9	Sudden drop in IMSI attached/combined attached failure across all MMEs at the same time.	Core
10	Only single IP is configured for the network elements like MME/SGW-C/PGW-C etc. The issue is, for O&M and Control plane the same IP is used and this IP is published in O&M VRF for operation purpose. This is a serious security issue as the Control plane can be accessed from O&M network.	Core
11	MOS value,RTP packet loss value not available in CDOT MME	Core
12	APN other than BSNLNET not working in CDOT Core(like BSNLSTATIC,BSNLVPN etc..)	Core
13	sudden increase in the EPS service not allowed & MSC temporarily not reachable	Core
14	Blank VALUE IN AVP header for parameter Visited Network Identifier	Core
15	Voice Cracking or Mute during VoLTE Call in TCS 4G Network	Core+Ran
16	VOLTE access restriction provisioning at eNB level and PGW level	Core+Ran
17	Shutdown of 4G services in case of emergency/ ordered by Government bodies	Core+Ran
18	KPI Report with different granularity like few hours KPI, one week KPI, one Month KPI not available	CNOPS
19	Huge number of eNBs are isolating from the CDOT Core frequently and continuously	RAN
20	No user credentials shared with Edit previledge	Core
21	Operator Determined Barring	Core
22	Live data tracking	Core
23	leaf/Spine Nodes alarm and traffic reports	Core
24	MME Celli id/TAC wise Customer data	Core