

Recommendation of the Committee for Organizational Structure Implementation in ERP for CM Vertical

All Members of the committee agreed to most of the points and observations noted in the detailed committee report. SrGM/CIT did not agree with all the recommendations and provided following observations:

- For purpose of Pay, employee related claims & expenditure booking, CMTS employees will be part of SSA where they are presently posted but will be under the administrative control of GM (CMTS) of Circle Office. Service book of the employee will be in the respective SSA.
- The CMTS employees will be part of Circle office organisation hierarchy.
- All the assets (excluding core elements like MSC) have to be accounted in the respective BA wherever they are physically located. These assets will be maintained by CMTS employees who will be part of respective BA where assets are located but will be under administrative control of CMTS wing.
- Temp Advance will be approved by GM (CMTS) of Circle Office. The Temp Adv approving authorities including IFA of CMTS unit are to be included in exception table of respective BA. ACE-2 account is to be submitted by CMTS employee in respective SSA but will be approved by GM (CMTS).
- Hence all the Assets (excluding core elements like MSC), inventory, CWIP & Employee will be transferred to the respective BA but administrative control will be with GM (CMTS) of the circle.
- Expenditure will be booked into the trial balance of BA.
- Tour programme and tour advance to be approved offline by GM (CMTS).
- All employee related claims (personal claim) including Tour Bill to be settled by respective BA/SSA.
- All kinds of vouchers will be deposited at BA/SSA and will be preserved by BA/SSAs.

The committee took note of the fact that the availability and QoS of the RF network is central to the performance of the mobile services. The private operators are using their nationwide and sometimes the world wide expertise to integrate their operations first at circle level and then at zonal level. They are also deploying the wisdom gained from their partner n/w abroad to improve their processes in India. It is imperative that a fragmented working is least favorable for such a highly demanding and competitive environment.

The committee also took note of the information provided by NWO-CM unit of corporate office (noted in the detailed committee report) and agreed that the decision on the CMTS accounting unit merger and proposed changes in the process of CMTS O&M was taken by ERP unit without adequate consultation with the NWO-CM Cell of BSNL Corporate office. The observations noted by SrGM/CIT are against the practice and guidelines being followed by CM vertical since its inception. Some of the important guidelines (noted in the detailed report) are provided for ready reference:

- The instructions contained in some of the Circulars vide Nos MOB-08/Staff-2006/53 dated 08-08-2006, Mob-7/Mntce/2006-07/53 dated 12-01-2007, Mob-7/Mntce/2006-07 dated 17-01-2007, Mob-7/Mntce-2008 dated 22-01-2008 and Mob-7/Mntce-2009/117 dated 23-06-2009 provides detailed work distribution and staffing norms for O&M of CM networks. Basic guidelines were that maintenance of: a) BTS/BSC; a) Mini-link; and c) Core equipments like MSC will be under the control of CM vertical at circle office. Maintenance of infra items like Battery, PP, DG, etc, and maintenance of OFC and Tx Systems will be under the control of SSA. Vide letter dated 22-01-2008 few changes had been incorporated; maintenance of BTS/BSC were additionally entrusted with the SSAs along with the Infra items and OFC/Tx Systems. However, second line maintenance of BTS/BSC (e.g. RF Optimisation) was kept under the control of CM vertical at Circle Office.
- As per BCG recommendations Restructuring Cell of BSNL Corporate Office vide letter No 4-2/2009- Restrgr dated 14-07-2009 issued clear guidelines for maintenance procedure to be adopted for all CM network assets within the in Circles (Large, Medium and Small). The letter clearly indicates that: all

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BTS (2G, 3G); all switches – MSC, BSC; and Non-tower passive infra (battery, generator, AC, etc) for sites with tower only will be maintained under the control of CM vertical at circle office. Had the current ERP implementation taken care of the guidelines issued by Restructuring Cell dated 14-07-2009 and earlier guidelines issued by NWO-CM Cell of BSNL Co then the problem reported by circles would have not occurred.

- A recent report submitted by consultancy agency M/s Deloitte who was engaged by BSNL to suggest possible measures to be taken for total revival of BSNL. As per report of M/s Deloitte BSNL lags the industry on all Key CMTS Network QoS parameters but performance of KL circle is very close to other telecom operators. The report further indicates that in Key QoS parameters such as BTS uptime, call setup success rate, call drop rate, and % connection with good voice quality BSNL has significant scope to improve the performance. These parameters are linked with customers experience and have a direct impact on revenue. M/s Deloitte recommended that BSNL should consider network outsourcing in a phase-wise manner and should immediately form internal unit which will work as a separate team for network O&M. This is akin to the separate vertical structure for mobile services that is in place in Orissa and Kerala resulting in distinctly superior achievements.
- CMTS O&M objectives are to be followed in current competitive environment in line with the earlier guidelines issued; to frame a suitable organizational structure which will help to maintain and increase BSNL market share; to attain and sustain the uptime of the network and the QoS of the mobile services, particularly in the RF so that Key QoS parameters such as call setup success rate, call drop rate, and % connection with good voice quality will be equal or better than that of the best of competitors.

In view of the points noted above, detailed observations made in para 3 of the committee report, and to implement the structure and process for network maintenance as is envisaged through Dir/CM's D.O letter dated 16-05-2014 uniformly across all circles the committee the following recommendations of the committee are to be implemented uniformly across all circles:

1. The BTS infra for non-exchange BTS site consisting of Tower, shelter, EB Connection, Earth, DG, AC, Battery, PP, etc should be maintained through an SLA based contract which shall be supervised through BSS Infra Team for strict adherence once the mandatory AMC contracts with the provider are completed. This is as per BCG recommendation; these items will be accounted in the assets of CM vertical. Accordingly, supply of diesel, and payments of rent and electricity, repair and maintenance expenditure on DG, AC, Battery and PP shall be done under the control of BSS Infra Team through SLA based contracts. The existing process should continue till the recommended process is in place. First line maintenance is the job of BSS Infra Team and can be broadly defined as:
 - Verification of earth and lightning protection are crucial. Similarly, the E/A issues, if not attended quickly, can result in battery getting drained repeatedly leading to its eventual death much before normal life period. Ensuring the auto mode working of DG (for which BSNL has already invested at most of the sites) is MUST and is key to keeping the site up, enhancing the life of battery and also since as BSNL is leasing BTS Infra to other operators.
 - The quality of the infrastructure of BTS n/w demands a much higher level of network uptime compared to land line n/w where n/w if goes down in the night time is tolerated. In contrast, the busy hours of mobile networks are normally between 5 PM to 11 PM with the data traffic busy hour further crossing the mid night. Hence, the infra of BTS sites also requires a maintenance which has a paradigm different SUBSTANTIALLY from that of land line. BTS infra in 100% of the sites should be up during voice/Data busy hours (i.e. 5pm to 12pm midnight).
2. BTS Infra for exchange-cum BTS site consisting of Tower, shelter, EB Connection, Earth, DG, AC, Battery, PP, etc will be assets of SSA and accordingly the SSA will be responsible for the maintenance and ensuring desired uptime.
3. BSS System like BTS/NodeB and associated items (i.e. RF cable and antenna), BSC/RNC and associated items (e.g. OMC-R), and Mini-Link shall be the assets of CM vertical in the circle and

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maintenance activities of these items shall be the responsibility of BSS Team directly under CM vertical with manpower and resources under it. Accordingly, all expenditure for the manpower (e.g. salary, TADA, etc) and by the manpower engaged for the maintenance of these items, and other payments (e.g. AMC payments) shall be monitored and approved by CM vertical. Second line maintenance is the job of BSS Team and can be broadly defined as:

- **BSS Jobs:** The regular activity to be done by BSS teams at the BTS site through site checks such as VSWR, clock calibration, handover verification, and antenna azimuth/orientation check. This need to be done by trained teams with testing instruments like BTS site master, Engg handset and other meters and this will drastically improve the Key QoS parameters such as handover success rate, call setup success rate, % of good voice quality and good speed for 3G and 3G Data.
- **RF Optimisation Jobs:** The above activities is to be supplemented by drive testing and analysis of the Drive Test results in post processing tools like Gladiator/Actix (already procured by all circles of BSNL) by RF Optimization teams.
- **RF Planning Jobs:** All activities by BSS team and RF Optimisation team as noted above shall be based on the updated inputs from planning tool which in turn shall be constantly updated from the inputs given by BSS teams and optimization teams by RF Planning team placed at Circle HQ.
- **OMC-R Jobs:** All the activities by three teams (i.e. BSS team, RF Optimisation team and RF Planning team) need to be in sync and in co-ordination with the OMC-R team at Circle HQ who shall be available 24 x 7. The impacts and improvements of the actions of the three teams will be monitored by OMC-R team in addition to facilitating implementation of the suggestions of RF planning and optimization teams.

It is imperative that all the above 4 distinct jobs/processes shall behave like four wheels of a vehicle so that the network will improve on a continual basis. Many actions as part of improvement will follow a cycle of diagnosis, resolution, verification, re-diagnosis, etc, till the required QoS is achieved.

4. Core equipments like MSC, GMSC, VLR, HLR, OSS, SGSN and associated items (e.g. MPBN) shall be the assets of CM vertical in the circle and maintenance activities of these items shall be the responsibility of CM vertical. Accordingly, all expenditure for the manpower and by the manpower engaged for the maintenance of these items, and other payments (e.g. AMC payments) shall be monitored and approved by CM vertical.
5. All OFC and Tx Systems (excluding Mini Link) will be the assets of SSA, and SSA will be responsible for maintaining the desired uptime of the OFC and TX Systems to be mutually decided by CM vertical and SSA based on conditions of the geographical terrain. The circles shall implement appropriate process and structure for the maintenance of the OFC transmission systems on 24 x 7 basis. The guidelines already issued in this regard by BSNL Co for SLA based outsourcing shall be implemented.
6. All statutory payments (e.g. electricity bills, rent payment for IP sites, AMC charges) shall be made in time. In case there is any delay in the payments against these items the issue shall be escalated to head of the CM vertical in the respective circle.
7. All payments shall be made online; in case online payment is not possible for some items (e.g. electricity bill payment), options for payment through temporary advance shall be available in the ERP.
8. Circles should post proportionate manpower under BSS Infra Team, BSS Team, and OFC & Tx Systems maintenance according to total number of exchanges, total number of DSLAMs, total number of BTS/NodeBs, total OFC route km, total number of Tx Systems and revenue earned from these network infrastructures.

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