

# **CORE COMMITTEE SUGGESTIONS**

**ACTION TO BE TAKEN AT CIRCLE LEVEL**

**BY**

**SNEA (I)**

**Tamilnadu Circle**

## CONSUMER MOBILITY

### Consumer Mobility Sales & Marketing

- All orders with respect to implementation of new schemes, tariff rationalization etc are to be intimated well in advance to avoid last minute confusions. After intimation of many instructions, subsequent modifications are intimated due to some technical reasons, this is also creating troubles. Hence tariff rationalization and new schemes shall be implemented after confirming the technical feasibility.
- In addition to every new plan or tariff rationalization order highlights or glimpse of tariff change / new scheme in comparison with the old order is required. If this is available both in English and Tamil, the correct message will reach up to the grass root level employees.
- Earlier UNIFIED SIM was supplied, which can be activated within minimum time. Now RECON sims are being supplied due to capacity crisis. Activation procedure of RECON SIM is consuming 20 to 30 minutes. While conducting Melas and Road shows it is very difficult to face the customers. In other circles both the SIMs are available. USIM is utilized for Melas / Road shows and RECON SIMs are utilized at CSCs, Franchisee show rooms etc. Hence USIM shall be supplied for Melas and Road shows.

#### ( Now Procedure for pairing SIMs for Melas intimated to SSAs by by Circle office )

- At present there is no facility to change FFL ( Land line indicator ) of ENNANBAN Plan / Anbujodi plans. It is not allowed after six months. Customers are insisting for change of FFL LL indicator, at least after six months. Customers are ready to bear the cost.
- STV for ISD prepaid plans are not popularized.
- Though the Franchisees are performing well in some SSAs, after closing the Sales team business still there are some uncovered areas where our product supply chain is poor or not available. Like Kerala all our exchanges may be allowed to work as point of sales subject to the availability of man power.
- The percentage of student community using BSNL mobile is hardly 2-3%. In the recently modified students plan, the plan is not attractive. The plan should be without mandatory Rs 28/- recharge. For new connection 3000 free SMS and 50 MB data per month for 3 months and after that for Re 33/=( say) students SMS pack 3000 SMS is to be free and additionally 50MB Data to be free. Since the students are the prospective customer, schemes to attract students to be launched similar to YUVA Rajasthan plan ( in which local CUG within college and reduced calling rate within university etc) in Tamil Nadu.
- More number of VAS has to be introduced in 3G.
- Commissions should not be paid to the Franchisees for the business done by our staff.
- Unlimited plan with attractive tariff has to be implemented for 3G customers.
- DSAs may be exempted from paying the deposit amount, since they are purchasing

- cards after paying cash or DD in advance . In addition, C Top up / SIM may also be issued to them without any deposits.
- Insisting for PAN no. / Deposit etc. is the main hurdle for enrollment of DSA / OSS etc.
- Sales staff shall be selected by selection committee on merit and talent basis.
- Like Prepaid, Postpaid Number selection and SIM replacement shall be made simple. Possibility of doing postpaid activities in Sanchar-Soft shall be explored.
- Frequent recharge problems regarding C top UP. Reversal mechanism of C-top up shall be made more effective.
- To know about offers and New plans USSD menu ( just like \*123# ) may be implemented.
- In consumer mobility any plan to any other plan change over shall be made permissible.
- In case of bundled offers ( 3G / 2G ) - Good looking and latest model handset models should be bundled.
- Validity voucher for 2G special and 3G special plan may be given to retain the customers.
- Staff at office may be utilized for sales and marketing so that the TMs working in Sales Teams may utilized at needy places for maintenance purpose.
- BSNL products ( SIM cards / Vouchers / GSM FWP instruments etc.) shall be issued to staff for sales at concession rate or on incentive basis. Willing officials can promote business. This will also motivate our staff.
- "Porting Code wrong" or "Contractual Obligation error" are the reasons intimated for the failure of majority port In cases. In respect of other operator Airtel more or less 50% cases are getting rejected.
- Fraudulent activity of PRBT service providers are increasing port out customers. Customers are annoyed when some VAS is added by the vendor in the name of OBD (Out bound dialing ) without their confirmation.
- Frustrating and irrelevant messages by the vendors are also one of the reason to increase port out customers. This is to be stopped.
- TN Circle has recently rationalized the prepaid plans in GSM mobile services as per BSNL Corporate Office. Though the rationalization is believed to bring in a positive effect, it is suggested that the following aspects should also be considered for implementation to get more advantage to BSNL in the prevailing marketing conditions:-
  - Unlimited data Recharge Vouchers RCV(s) with longer validity to be resumed.
  - Unlimited SMS Plans / Special Tariff Vouchers (STVs) i.e. Boosters to be resumed.

**PRBT service by M/s. On mobile Communications is promoting more port out customers by their unlawful activity.**

Recently M/s. On mobile communications provided PRBT services to nearly 7000 mobile customers without the knowledge of the customers. Without any confirmation from the subscriber in the name of OBD they provided this facility. Customers were

annoyed and large numbers of complaints lodged in the CSCs. Many customers applied for Port out. They are with BSNL only due to its trust worthiness. They never expect such type of unlawful activity from BSNL. Sever Penalty clause should be imposed. Though this facility was withdrawn by the vendor, this type of activity is annoying customers. Similarly other two vendors are also there. Circle should address the vendors in this regard.

#### CAF Management related:

Consumer Mobility marketing wings are vigorously working to increase Prepaid SIM sales. Customers are getting Prepaid SIMs through our supply channel CSRs / franchisees / DSAs / Melas / Road shows after submitting the duly filled up CAF. Mobility FM is making address entry in Sancharsoft and handing over CAF to CAF manager of the SSAs . CAFs are being verified by CAF manager for its correctness in Sancharsoft. All the process has to be completed within Seven days, failing which the sold prepaid SIM will be disconnected by the sancharsoft. In reality due to various reasons, some delay is noticed in making entries in sancharsoft within the stipulated period of 7 days. Hence after 7 days these indicators will be disconnected without the notice of the customer which is tarnishing the brand image of BSNL. Further getting reconnected is another Herculean task. In general, disconnected customers are booking complaint through call centers. All these complaints are forwarded to the technical teams like IN / HLR. The technical team is calling the customer provided alternate contact number is available and requests him to contact the nearest BSNL CSR and submit CAF. But in fact the application was already submitted by the customer at the time of purchase of SIM. Customers are feeling bad and simply throwing away our SIM. It is not possible for the technical team to trace the where about of CAF or analyse the pending entry of CAF in sancharsoft. Hence the technical team is closing complaint with some stereo type reply instead of solving the customer complaint. In some cases continuous Melas and Road shows and limited man power also one of the reason for the delay in making entry. Instead of quoting mere rules, the problems should be addressed in a pragmatic way. In total there is a feeling that there is some misunderstanding between the mobile marketing wing and GSM operations wing. Previously while addressing any complaint to Marketing wing, action was taken by them and problems settled. Now they are simply showing their hands towards operation wing since they are not having any hold on them. This case is to be addressed in the right spirit. Ego clash should not be permitted to tarnish the image of BSNL.

## CDMA WLL

### A) COMVERSE ( Kenen-FX ) PROBLEMS:

- Bulk closure of CDMA WLL connections are only due to the introduction of COMVERSE ( Kenen-FX ) billing system.
- No separate password is available for each user who is using REPONE-FX. Due to universal password, any officer can execute any other officer's work order.
- No noticeable difference is provided between the work orders for either CCB or normal FWT connection.
- No work order for HIGHSPEED INTERNET is displayable for the outdoor SDE / JTO. Only the Commercial officer using Kenen-FX, who releases the work order has to intimate the outdoor personnel about the work order issued. Hence for providing of High Speed Internet to WLL subscribers, flow should start from Outdoor.
- Reports regarding list of working connections, particulars of exchange wise high speed working connections is not available. These reports are absolutely necessary for out door staff.
- The details of outstanding amount for any subscriber could not be viewed instantly by the out door personnel. It is possible only for the Commercial officer. Out door personnel in a rural place cannot satisfy a subscriber without having the facility to view the outstanding amount and details. Hence this facility has to be extended to outdoor personnel.
- In some cases bills paid in the CSCs are not properly updated in the Kenen-Fx system. The current bill carries the already paid bill amount for previous month as balance to be paid, which irritates the customer. This problem is to be urgently addressed to as otherwise this may lead to drastic disconnection of WLL connections.
- Report generation with respect to billing issue, Reconnection, ESN release procedure, WLL DNP list etc. are pending for long time.
- CCB - Customer creation is still pending.
- Closed FWT terminals ESN can be made available for all SDCAs of respective SSA. At present, the released ESN can only be used within the same SDCA only.

### B) MSC :

1. AMC - carried out by ZTE / ITI / UTL but spare cards replacements heavily delayed. Circle already very well know these problems. Technical transparency is not extended by the AMC people to BSNL side where as BSNL is extending all support to them.
2. With AMC people, BSNL staff should take earnest efforts to learn the process and procedures for carrying modification/patch up-gradations.

### C) CRBT: ( Like PRBT in GSM)

M/s. On Mobile communications implemented and offered A/T. Song selection through SMS with song code could not be carried out. Activation through SMS to "56700" is

not effected. Also it is observed that after giving SMS we have to wait minimum 6 hours for activation. This activation duration should be reduced to minimum in consultation with ON MOBILE Communication. Already this issue was conveyed to Circle office as well as M/s On Mobile communications.

**D) Requirements for the improvement of CDMA WLL :**

- Inter MSC Roaming (TN Circle) facility for Voice Service is required. Already Data users are provided with All India Roaming facility. Roaming facility is required to all MSC's, so that we can promote the NIC and EVDO card sales.
- Redeployment of WLL BTS can be made from low usage areas and can be installed in the vicinity of educational institutions so that sale of NIC & EVDO Cards can be promoted.
- Mostly HUAWEI & AIRTONE make FWTs are available in the field. For replacement of faulty items, SMPS with internal batteries and adapters are required.
- Data cables for HUAWEI 2288 make FWTs have to be supplied for provision of FAST INTERNET connections.
- EVDO card is not available. Sufficient cards are to be made available. NO spares available for replacement of faulty EVDOs. EVDO CDMA backup routers for BANKS is not available. ( 1000 EVDO cards diverted to TN Circle )
- 12V SMPS charger unit should be replaced with portable SMPS adopter.
- Back up Battery inside the FWT instrument is not functioning as prescribed. During power failure period most of the FWT WLL is not working. QA is validating / checking the standards of FWT instruments in the factory. It is suggested that the QA shall test the new FWT Instrument in the external sites (Previously it was done at Madurai site).
- When landline goes faulty, immediately WLL connection to be provided to avoid rent rebate claim.
- During failure of BTS and attending specific sub complaints vehicle facility shall be extended.
- Each SSA shall be provided with staff for exclusive WLL BTS maintenance or BTS maintenance can be taken by GSM-BSS wing in the respective SSA.
- Each SDE / JTO section shall be provided with FWT WLL phone connection for testing purpose as well as checking of BTS working condition.
- Adequate in service training to be given to the staff dealing with WLL to know the new trends and technologies in BSNL.
- WLL prepaid portal to be introduced for CSC's. Plan Migration module in CCM is not working. ( Now CDMA portal for Recharge and Topup introduced )

**Consumer Mobility NWOP**

- In most of the SSAs many towers are installed in proposed BTS site locations which are not at all utilized for RF radiation yet. BSNL is paying rent to these sites for more than a year without generating any revenue. Action should be taken either to utilize the towers quickly or to go in for IP sharing with other operators.

- RF coverage tests should be done periodically and proper coverage should be ensured in all BTS locations and reduction of coverage area while commissioning of new BTS sites should be watched and to be corrected in time. RF team for Optimisation shall be essentially formed in all SSA head quarters.
- Best possible optimization is to be done in the GSM network and in problematic areas boosters can be installed and erection of new BTS can be avoided and incurring of huge expenditure can be avoided.
- In Free Cooling System in IMPCS sites after power failure if the EA has not started within the set time the battery will discharge and the GSM equipment will get switch off at say 44V. But still after that the Free cooling Fan is working will the low battery supply and further drain the battery till the power comes. This will discharge the battery heavily and the cells get weak and it will not get recharge. So a cut off mechanism is to be devised for free cooling fan also to prevent over drain of the battery. ( Electrical Division says cut off mechanism is there ). FREE cooling system has to be done as per the specification of Electrical wing. Free cooling system along with AC units has to be done to maintain temperature in selected sites where there are more than one BTS. In city BTS sites where more than one BTS (one 900+one 1800 + Node B) is housed, the required temperature is to be maintained to avoid BTS outage. In these sites Free cooling should be avoided for better performance of BTSs.
- Many problems are being faced due to non maintenance of Temperature in the BTS sites. GSM sites are not delivering proper service due to High temperature.
- Getting spares for Nortel equipments and for servicing Huawei OF modem, field units are facing difficulty.( Now guide lines issued for repairing Cards )
- Equipments compatible for Single phase EB supply are being used in the new BTS sites. This is creating problem. Equipments compatible with three phase EB supply should be purchased in future.
- Most of the BTS failures are infra related issues like PP, BTY,E/A. Weak Battery cells /sets are to be replaced & Power plant module faults are to be attended then and there for proper charging of Batteries.
- For better maintenance of BTSs, either BSS team has to be attached with SSA or Infra has to be attached to BSS wing.  
( Merging of IMPCS units with SSA - At present 1st level BTS site maintenance already carried out by SSA CM NWOP wing. BTS fault occurrence is Very less. Vendor AMC is also available. In GSM Network Supply, Installation, Testing, Commissioning, Annual Maintenance, and RF Optimization itself carried out by vendor only. Hence IMPCS unit BSS wing may be attached with SSA or Infra may be attached with IMPCS.).
- All 3G BTSs shall be upgraded to 14.4 Mbps.
- BSS/ RF team of CMTS has to be provided with proper Mobile Handsets for measuring 3G parameters in the field. ( At present Not available).
- Most of the E/As installed in the field has to be utilized. ( At present E/As are kept idle since there is no staff to operate.).
- In the forthcoming Phases of GSM, all infra items have to be purchased and have to be installed by our BSNL directly. The INFRA indigenously manufactured can be

purchased by BSNL itself and the equipments which are to be necessarily imported may be purchased from vendors. Eg.: In GSM all the BTS, BTY, POWERPLANT were purchased as a package from HUWAEI ( where as BTY POWER PLANT are at cheaper cost with AMC pack in India itself ).

- For reducing the electricity charges we can go for Out Door BTS for new sites and slowly the existing room sites may be converted to Out Door BTS sites.
- Spare Cards availability for GSM Equipments must be ensured for less outage of service.
- Quality of the Infra materials should be ensured.
- CM Wing must be strengthened. Transmission wings of SSAs shall be strengthened to reduce the outages of the BTSs. All BTS shall be brought under the transmission rings.
- Before any tender implementation especially in BTS's a model site must be put by the vendor as per the tender specification and all the infra items must be tested rigidly for quality to have smooth maintenance in future.
- Circle planning may analyze the connectivity for the node B's in IP platform. A clear cut strategy may be worked out for every site. Since the number of ports available in NIB is less, we may explore the possibility of providing aggregator.
- Coverage issues should be sorted out by upgrading equipment/expertise.
- Network congestion should be avoided.
- By expanding the 3G Network all customers can be given 3G facilities - Existing confusion between 2G & 3G services is to be eliminated.
- It is suggested that in forthcoming tenders Turnkey projects shall be avoided and equipments alone may be purchased. Infra items can be purchased by BSNL separately and installed by BSNL.
- Data Plan customers are being provided with email id in Mail server of bsnl.co.in which is not being used by customers since the same is not user-friendly and not working efficiently viz. auto save, file attachments, loss of message while in preparation etc.

### IP sites

- Several IP sites are working in unimportant and unwanted areas. These should be identified and further extension shall be stopped. Also possibility of closing IP sites which is earning meager revenue which is not sufficient for operating cost itself must be analysed. Selection of IP Sites in remote rural areas is non-profitable. For an IP site, in rural area, we are paying at least Rs.40, 000/- to Rs.45000/-. whereas revenue generated from rural IP is very much less. If possible these loss making IP sites shall be closed and an alternative method to cover this area may be explored (like repeaters / boosters from other nearby site). In future IP sites may be planned only in urban areas where we can earn revenue. IP sites after one year, if there is no additional entrant is not there, then also the rent should be reduced. Tender clause should be implemented to avoid revenue leakage.

- In semi urban and urban areas, if we are unable to fix NBSNL site we shall go for IP sites. Because any deviation from the reference location (Lat/Long) will affect our network, which leads to coverage problems and also affect revenue generation.
- IP outage penalty cap of RS 10,000/- has to be modified (MSA agreement).
- Energy model submitted by TAIPA ( circulated for comments in the field ) should not be accepted ( which is in higher side)
- Where ever BSNL alone is having the tower ( like BHEL campus Trichy, Valparai CBE SSA etc) and BSNL gets more revenue, in those places infra sharing should not be given. Some of the officers recently retired from BSNL and presently working in private operator's company are trying to influence and change these BSNL towers as IP sites. We should be more vigilant. Such officers are to be exposed and there pension should be stopped as per the prevailing rules.

## IN and MSC

### Discrepancies in LBS ( Location based service / RTMS - Resource Tracking and Management Services ):

EB wing marketed RTMS service to some elite customer despite the fact that many connectivity issues in the network. Now the customers bitterly complaining about our poor service. Though we are having two SMLC in TN Circle instead of one, we are not in a position to ensure the flawless service. Vendors also not interested to solve the issue because already AT completed for all NEs. At present, it is felt that there is no control over the vendors.

Many VAS services not included in the AT schedule, hence AT not carried out for Services like SDP & LBS.

Why VAS not included in AT schedule? To be investigated by the appropriate level. At present we have integration issue with SMLC and Huawei NEs. Now, the ball is with the Vendor.

### SMLC(Serving Mobile Location Center)

SMLC solution provides the location information to GMLC. SMLC collects the required measurement data from network and makes calculations to give best accurate position value based on enhanced algorithms

### GMLC (Gateway Mobile Location Centre)

GMLC solution enables GSM operators and service providers to request and receive location information from the network to be used in location based services.

### LCS ( LoCation Services)

LCS solution provides privacy management based on subscribers preferences such as by whom, when, where to be located. LCS also has a map engine and digital map to manipulate and display geographically referenced information.

### GSM-VAS RELATED POINTS

Now a days customers are asking for bulk sms to a particular city / town. This can be envisaged by using offline server data (to get the customers of the particular city / town). Un utilized servers of closed Ericson IN ( Coimbatore) can be utilized for this purpose.

### Consumer Fixed Access

#### Rearranging the landline tariff :

- Various plans are quite confusing.
- Customers feel, it is difficult to choose the best.
- Calling pattern are not uniform continuously for any customer
- Due to the multiplicity of plans BSNL staff & officers themselves are not familiar with the plans, features, advantages and are not in a position to guide the customers

At present the tariff for the landline calls are very high compared to mobile phone tariff. Even though CDMA Tech is spectrum efficient, less SAR value and good coverage etc the public perception is CDMA is inferior to GSM. Similarly the sub do not takes into account the 3 minute per call throughout India but calculates the rate for a call made to his relative / friend's mobile. The landline to landline calls are very minimum. Public feels that the tariff of land line is very high and so nobody uses landline and only keeps for number/sentiment/ office purpose etc that too for incoming purpose only. So in order to make people feel comfortable to speak in land line the tariff has to be rearranged.

Taking in to consideration of the latest market trends, for Repositioning of fixed line segment, Corprate office has issued instructions on 03-08-2011 to all Circle to forward the suggestions. All suggestions regarding this shall be sent through proper channel to Circle office

#### Suggestions to improve the STDPT operators base and revenue

- Minimum Guarantee amount shall be reduced to 180 per month or at par with residential connections

- High Revenue STDPTs running call conference business shall be provided with higher commission or the slab of 42.5%, 45% & 47.5% shall be reduced to 10000units, 20000 units & 30000 units respectively
- Providing Call conference facility to STDPTs on LL
- Door to door canvassing is essential like pvt operators
- Bundling offer with Coin Box instruments is must.( Now M/s. Navitel introduced )

#### CFA General:

- Cable fault locator can be purchased at all SSA's for identifying the cable route. There is difficulty in finding the route of the cable in many areas due to road widening, filling of gravel, etc., The Cable locator will easily find the route of cable and can be purchase by floating tender.
- Provision of NPCs. / BB etc. for mtce. purpose the necessary Jelly filled cable for 10 / 20 / 50 / 100 / 200 pr Jelly filled cable is absolutely necessary for maintenance purpose.
- Poor quality jelly is being supplied with some KITs.
- Modernize landline switch with NGN within 1 year and go for prepaid plans to solve billing, cash collection, O/S dues and TRA accounting issues.
- Landline / BB complaint booking through SMS.
- Customers making more number of calls can be offered with UITC card / or free talk time for the mapped mobile indicator as a compliment.
- More BB usage customers can be offered EVDO / Data cards.
- All PSU employees may be given consessional tariff to prevent surrender of LL and BB.
- SMS based FRS system : Fault booking and fault status enquiry by subscriber, fault ordering, fault set right information by TM, after testing fault test report and closing of cases - all to be made through SMS by integrating the CDR FRS system with an SMS server at circle level. This should be coupled with SMS based on duty and off duty system
- Higher level coordination and action with other departments is required to prevent damage to cable system. Since majority of the faults are cable faults separate task force to be earmarked to attend cable faults.
- Pending cable damage claims from private operator's is not being realized. The private operator cable damage claims were previously adjusted in the POI amount. Now it is not possible to adjust the damage claims in the POI amount, since it was challenged by M/s. Reliance. Huge amount is yet to be collected. This issue is to be addressed.
- All Forms should be made uniform through out the circle
- Service request on phone / internet shall be provided.
- Add On services like CallerID, Electronic locking, shall be provided on phonic / internet request from the customer
- Public feels that BSNL is having Poor customer interface. Attitude of staff and executives towards the customers are to be made more friendly and result oriented.
- Inadequate publicity of the advantages of BSNL BFone among the public.

- All orders with respect to implementation of new schemes, tariff rationalization etc in Broad band, UITC etc , are to be intimated well in advance to avoid last minute confusions. Tariff rationalization and new schemes shall be implemented after confirming the technical feasibility.
- In addition to every new plan or tariff rationalization order highlights or glimpse of tariff change / new scheme in comparison with the old order is required. If this is available both in English and Tamil, the correct message will reach up to the grass root level employees.
- Pamphlet model / Flex banner model shall be prepared in English and Tamil by Circle office Marketing wing and printing can be executed at SSA level. This will save man power. Since in SSAs man power is wasted for translation, preparing models etc.

### CSC / CSR / CCC

#### A) Tariff rationalization regarding:

- In the recent past, it has become routine practice to issue tariff rationalization orders or new scheme implementation orders at the eleventh hour from corporate office or Circle office. Similarly extension of promotional orders will be intimated at short notice and within an hour or day extension order will be issued. After the announcement of implementation of new schemes, within a day modification orders will be issued due to technical reasons. Officers at other end should know that CSC employees are front end employees and they are the personnel dealing subscriber directly. They should be given sufficient time to absorb and assimilate the new tariff and schemes. Failure to provide breathing time to CSC staff is creating an impression that BSNL personnel do not know about their own product. There should be perfect interaction by the S&M wing with the CSC / Field personnel. Mere posting the order in the website and instructing the other section personnel will not yield good result. Finally after the intervention of the SSA GMs modifications are taking place. Eg. Sale of GSM FWT under promotional offer case on the day of implementation of seven pages tariff rationalization order.
- Though highlights of tariff changes are sent subsequently, it is requested that this highlights of any tariff change or new scheme should find place along with tariff change orders form circle office. It is preferable to prepare the highlights in the regional language TAMIL also. Then only it will reach all the employees.
- A team may be formed centrally at circle level to prepare the highlights of tariff changes / new scheme. Phrases for marketing in English / Tamil may also be prepared with professional touch. Now each SSA is doing that job by wasting man hour.

#### B) Sales of Data cards / ADSL modems etc.

- Now we are selling Data cards / ADSL modems with one year warranty. After one year, if the Data card or ADSL modem goes faulty we are requesting the sub to purchase new one. No after maintenance arrangement for BSNL sold products. This is being criticized adversely by the subscribers and even they are under the impression

BSNL is cheating them. They are ready to pay the repair cost. Hence in future the vendors supplying the item should be insisted to have after sales maintenance arrangements in all part of the country.

- 3G data cards rate were drastically reduced to Rs.2000/- for Terracom product. But Visiontek is selling the same data card ( configuration may be higher) for Rs.2499/-. After the intervention of CSC incharges only they have reduced the sale price to Rs.2000 with Tax extra ( App. Rs.2099/-).Still in many SSAs data cards are being sold by Visiontek for Rs.2500/-).

### **C) Requirements for the improvement of CSC:**

- Earlier CSC's and franchisees were supplied with UNIFIED SIMs, which can be activated within seconds. Now RECON sims are being supplied . Activations procedure consumes 20 to 30 minutes. Hence procedure for activation of RECON SIMs should be made easy. ( Now Procedure for pairing SIMs for Melas intimated by Circle office )
- Mobile and WLL bills paid through CDR PMS module. Delay noticed in updation of payments from CDR server to Kenen FX server.
- Availability and sale of SIM cards, RCV's and TOPUP in all CSCs / CCCs / CSRs should be ensured . Still there are CSCs in which only Bill collection alone is being carried out.
- All CSC should be given access to Pay-One FX module for accepting Mobile / WLL bills online. By extending this facility re connection problems will also be solved.
- Tamilnadu Circle with 17 SSAs consisting of 122 SDCAs is catered by only around 200 CSCs and 80 extension counter(s). More number of CSCs is to be opened to serve/redress our customer grievances. As a first step, the extension counters are to be upgraded to the level of CSCs and sufficient number of CSCs should be opened so that customers should walk-in to the CSCs and get the BSNL Services & complaints redressed.
- ALL CSC / CCC / CSR working hours should be 8 am to 8pm.
- Continued motivational classes to be conducted by SSAs to the staff working CSCs. The staffs working in CSCs are to be provided with all the instructions / guidelines given by Circle / Corporate Level and updated knowledge about all revision / changes made now and then.
- For better performance and to address customer needs properly, CSC / CSR shall be manned by newly recruited TTA's and JTO's in the front end.

### **D) CSC / CSR ( Resolving GSM related operational issues at CSR )**

Public are in the opinion that, many of our CSRs not handling the technical complaints related to mobiles properly. They have to run from pillar to post for addressing their complaints. In fact almost 95% of the complaint can be resolved in the CSC / CSR by our staff themselves if they know the GSM operational issue. In some places for

handling PIN & PUK complaints, they have to depend on some selected personnel. Though most of the personnel are trained by our Training centre faculties, the actual requirement is they should be trained to resolve the complaints related to operational issues which is not dealt in the training session. At this juncture, we can arrange for training on GSM operational issues and complaint handling for our CSR staffs and front line executives by a team of executives who are daily dealing with operational issues at CSRs and MSCs. To avoid expenditure, this team can visit every SSA for imparting training or training can be arranged for selected personnel from each SSA at a common place like Coimbatore. In turn these trained personnel should train other front end personnel of the respective SSA.

### CDR

- All CDR related issues are to be given top priority. Due to CDR Problems we are gradually loosing our revenue in all SSAs.
- Bills are not issued for all working connections in CDR. Bill generation and delivery of all working connections should be ensured.
- While implementing CDR all "BNP-DISC" category LL numbers are not properly transferred. They have been shown as working connections in CDR.
- To provide Unlimited Business Bandwidth ie. 850, 1350 in P2 DSLAM, modifications are to be done in CDR.
- For Multi exchange shifts CDR raises the Deposit to the Customer, This problem needs to be resolved.
- Interlinking of CDR with COMVARSE software is essential especially for dealing Technically not Feasible LL Shift cases. For providing the shift through WLL, new Deposit amount is to be raised in COMVARSE Software, as the connection is treated as new one. Because of this feature, BSNL loses Rural Compensation too as the compensation is eligible only for those connections working prior to 1-10-2000.

### BB related issues in CDR:

- Port binding or modification done on p3 portal is not getting modified in CDR.
- CDR IS NOT HAVING MODIFIED PORT BINDING DATA
- Size of the file  $\geq 1024$  bytes are taken into account for calculation in CDR. The lesser bytes are not taken into calculation. It causes loss of revenue in CDR
- CDR BB INVOKE ERROR Problem for shifting cases
- CDR usage portal <http://selfcare.sdc.bsnl.co.in> is to be made free from accounting.
- BB SMS usage intimation is not proper

### Broadband, Leased Line etc.

- The connectivity given from Nagercoil Tier 1 to BNG of Tirunelveli is 1GB Ethernet port. In Nagercoil Tier1, many ILL circuits for colleges and various organisations, IP

Tax, DSLAM's, 1 Gpbs connection for NI University are connected and in future all the 3G BTS (NodeB) and also the leased line circuits are to be connected. Now the speed of the NI University 1Gpbs connection is getting only 14 Mbps in the Nagercoil Node and also the ILL circuits are of very low speed than their actual capacity.(eg. 2 Mbps ILL is getting a speed of only max of 1 Mbps only). This makes hardship in satisfying the existing ILL customers and also bringing new ILL customers. This can be solved by increasing the bandwidth from NGC Tier1 to TVL BNG

- OFC feasibility for 1 Gpbs connection for 14 Colleges in K.K District were submitted already. Each 1 Gpbs connection will fetch 2 Crore revenue for BSNL. For this type of connection only 25 % (approx. 50 lakhs for 10 yrs. Connectivity) is to be paid by the Institution and the remaining by MHRD. Only one 1 Gpbs connection for NI University provided. Further many institutions are asking this type of connectivity. With the infra available at the end node i.e in SSA's it is possible to provide 1Gpbs connection. To promote this type of big revenue areas action can be taken. Also last week order was released from Circle Office for providing LAN connectivity for this 1Gpbs connection. These also fetch huge revenue for BSNL if these types of connections are provided.
- VPN over BB request was given by many Engineering Colleges for their students. This will also bring lump sum of revenue if provided to all the students of that College at their residence. The College will market and collect the amount from the students and they will pay to BSNL. This is a potential area for revenue increase. For this sufficient DSLAM ports are not available.
- Steps should be taken to remove all the converters working for DSLAM and direct Ethernet connectivity can be provided wherever MADM rings are available and this will increase the connectivity speed of the customers and thereby the quality of service can be increased and due to ring connectivity of MADM uninterrupted service can be given to users.
- MLLN modems are not available. VPNoBB is recommended instead of MLLN. But sub is insisting for MLLN connections only. (Now 1000 MLLN Modems diverted from MTNL to TN Circle)
- All the P3 ports supplied in the 3 Million project have been provided with splitters at MDF. No spare splitters supplied for maintenance. Since the splitters are imported item and also not available in the open market several ports are kept idle. Spare MDF splitters should be arranged for maintenance purpose.
- One DNS server is to be installed in Madurai to cope up the DNS problem in southern region. Southern region of Tamilnadu is having more than 1000 nos of ILL customers and more than 50,000 BB customers.
- Differential Tariffs in BB plans are to be removed. A unique plan is to be introduced like AirTel Rs 1200 speed up to 2 Mbps ULD. We can also introduce a student BB tariff in TN speed upto 1 Mbps with 4 GB Upload / Download limit and after that 0.10 paise charging / MB. Minimum rent of Rs. 300 with a free LL can be fixed. Since lakhs of laptops are to be issued by TN Govt. to students at free of cost, EB cell shall make a move with TN Govt. to provide free laptop with Broadband at affordable rate for student community.

- It is mandatory to utilize our staff in the New Tech. installation of all NIB electronic equipment as we adopted during Electronic Exchanges installation previously. All the staff are to be trained for this. Knowledge based portal is to be hosted by all vendors by BSNL with Member Login.
- Type II modems ( Wireless) scarcity is there. (Now TN Circle has arranged Franchisees to sell Type-I and Type-II modems in CSCs at BSNL rate.)
- One MPLS PE Router is to be installed at Tirunelveli to reduce the traffic at Madurai MPLS Node and to provide spare E1 ports for Madurai.
- NGC,TTN,TVL SSAs BB & MPLS VPN traffic may be routed to the newly installed Router at Tirunelveli.
- ILL customers can be given connection from the Customer's nearest DSLAMs or OCLANs. Hence ILL customers connected on MPLS VPN Router may be diverted to OCLANs to make that E1 ports available for VPN circuits.
- Gateway Port utilization report, contacts list, and other reports may be hosted in Dashboard site
- FTP Server may be installed in MPLS NOC to facilitate the speed test measurement for ILL customers
- All sorts of reports like RPR Levels, DSLAM loading is to be put up in intranet. bsnl.co.in server
- EMS client shall be given some rights.
- Rural DSLAMs of higher capacity can be replaced with lower capacity which can be re-deployed at urban areas to meet the demand.
- We are having Exchanges within every 9 or 10 KM throughout the country. Connections can be given to any customer by building up BB service on RF for high end Business plans not less than BB 4999 with annual payment option & commitment. BB modem will be at our MDF. Output will be build up on RF to customer where he will have a mast & receive the data. For uninterrupted continuous service ADSL modem is to be provided with 230 V inverter supply or 0.5 KVA standalone UPS supplied by the customer
- Adequate supply of GSM data cards with national roaming directly by BSNL & not through visiontek like companies
- Continuation of the present free netone offer.
- Automatic testing every 15 minutes of all DSALMs and fault reporting to the concerned In charges of the DSLAMS through SMS by installing a server at circle level / SSA level.
- Bringing all the exchanges under Ring and centralized monitoring the Ring system at SSA HQ.
- At present multi vendor procurement of DSLAMs is being done. This causes lot of inconveniences at the time of relocation for expansion. Hence DSLAMs of a particular vendor alone be allotted to one SSA which can resolve the issues of cascading.
- DSLAMs supplied under 3M project houses exchange side splitters at the MDF point. Till recent time faulty splitters were duly replaced by the vendors but now vendors are not replacing faulty ones. They are reporting that splitters are consumables and not covered under warranty/AMC .This is to be addressed.

- Problem caused by overload of DNS makes lot of inconvenience to the customers.
- Annual bills for renewal of ILL should be checked for payments
- Every month NMEICT connections are being disconnected for non payment, even though annual payment collected by BSNL.
- Provision of BB KIOSKs under USOF scheme will earn Rs. 20,000 per quarter. This area is to be concentrated more. But the BB KIOSK subscriber feels that the charge per hour is less and this is a non profitable business.

#### Leased Line:

- MLLN V.35 modems are required for Kumbakonam SSA. V.35 modem is essentially required to provide Leased Circuits with Higher Band width of 2 Mbps. At present requirement of KMB SSA is 5 Nos. Available ten numbers of STU-160 MLLN Modem cannot be used in KMB SSA due to non-compatibility with the existing MLLN Node. Hence, this STU-160 Modems 10 Nos can be diverted to needy SSAs and in turn KMB SSA may be given 5 Nos. V.35 MLLN Modem.
- ( Now Circle office has requested SSAs to submit their actual requirement of V.35 MLLN modems )

#### Problems faced by Hosur Transmission wing for the provision of Leased Line Circuits:

- Hosur is one of the important Industrial towns and more Potentials for Leased Line MLLN circuits and Broadbands
- At present more MPLS and ILL Circuits with Higher Bandwidths are kept pending. At Hosur no MLLN ports are available .MLLN DXC or MLLN Node have to be installed to clear the Advice Notes
- More MLLN Circuits are kept pending due to want of MLLN TELAB Modems Customers are not ready to arrange modem on their own cost
- Since more work orders for provision of MPLS VPN-ILL are being generated every day for Hosur, for easy and quick provisions , One or Two STM -I port from PE router of Salem MPLS VPN to Hosur Transmissions is to be allotted. Already the proposal in this respect has been sent to the Circle office.
- Since Hosur SDCA is having more than 6000 Broadband customers with Higher bandwidths, IPR Tier -I Switch may be installed at Hosur (IPR Tier-I is kept idle at Dharmapuri) At present OCLAN Switch is available which is connected with BNG at Salem
- For Redundancy purpose alternative route from Broadband OCLAN Switch at Hosur may be designed. Already proper approval have been issued for alternate route but not yet been implemented.
- M/s Ashok Leyland company at Hosur has applied for 100 Mbps ( Chennai- Hosur), 20 Mbps for MPLS , another 20 Mbps Point to point leased line circuits . Proper equipment may allotted for Hosur Transmission.

## **BUSINESS PROMOTION & MARKETING ( BP&ME ) ACTIVITIES:**

The BSNL outlets and other distribution channels like Franchisees/ retailers/ DSAs etc are not being supplied with sufficient information through pamphlets, brochures, posters etc as is being done by competitors. Due to the prevailing financial hurdle printing and supply of POP materials is not being arranged by Marketing Units of SSAs / Circle.

### **Call centre**

At present Mobile Call Centre at Chennai caters to the need of mobile subscribers' complaints & enquiries through 1503. It is felt that all subscribers that the service offered at Call Centre is very poor. The present outsourced call centre employs personnel with qualification only 10<sup>th</sup> STD or Plus-2. Because of lack of knowledge and experience, satisfactory service is not being provided by the Call Centre.

We may segregate the call centre services as Enquiries and Complaints allotting 2 different numbers i.e. 1503 for enquiry and some other 4 digit number for complaints. We may be able to provide better service to the subscribers with well experienced staff through CSCs and through SSA-/Circle Nodal Units. The complaints calls pertaining to an area on dialing 1503 may be routed to CSC of that area. One CSC may be earmarked for handling complaint in each SSA. For enquiries the common IVRS at one of MSCs may be commissioned and the information may be updated periodically by using the services of our Staff. In this arrangement, we may require routing arrangement on technical side and posting of experienced and courteous staff on administrative side.

### **Enterprises Business**

#### **Single Point Of Contact:**

- Corporate customers expect this type of support for their networks/services taken from BSNL.
- They are very bitter to talk / coordinate with different persons of BSNL.
- They complain that they are made to run from "Pillar to Post" to resolve any performance issue.
- This is one major area where our competitors are doing well.
- This gives the comfort feeling to the EB customer that anything in BSNL will be taken care by this "SPC"

#### **PRI connectivity through GSM:**

- PRI connectivity can be given through GSM also EB wing of SSA may be asked to use it and generate revenue

- Periodical verification of bill payments and renewal of leased circuits and hot lines to be done.
- Leased line tariff should be at par with other operators to provide 1Mbps / 2Mbps.

### Billing and Collection :

- Monthly / Bimonthly bills may be served in the first week of every month in order to improve the collection efficiency.
- Billing problems in Video on Demand services. Facility is provided by default to Broad Band customers. Procedure for cancelling this service by customers is very cumbersome.
- In each SDCA head quarters one JAO or AO shall be posted to settle the customer billing complaints . Accounts officers shall be posted in Level 1 CSCs to settle the WLL Billing (CDMA) problems.
- Action should be taken to collect the outstanding dues instead of simply waiving off by HPC to achieve the target.

### Training Centre

- Point of Sales to be opened at training center also.
- JTO Phase II training can be modified like up gradation training.
- Training center can be utilized for Market survey, Data analysis and churn management.
- Free SIM card to IPT/Project students ( Being supplied at SSAs for Eng. College Students attending BSNL One week training programme ).
- Various computer courses (Morning / Evening / Weekend classes) may be conducted to Public / School / College students Vigorous marketing for In-Plant Training, Industrial training, Project work etc., to College students.
- High profile oriented courses like OF Cable, Mobile Communication, RF optimization courses may be introduced.
- More Field Training Program / Webinar shall be conducted for marketing and sales activities.
- Trainings and Webinars are not sufficient for practical working. Work shop have to be conducted periodically at Divisional / Sub divisional level. In the workshop, all the staff from the lowest level to highest level shall be be made aware of BB, FWT, FWP, Maintenance of Cable N/W etc. Importance can be given to Cable faults maintenance ( preventive / Corrective ), Handling of all type of measurement meters, Utilisation of Cable fault / route locators to avoid trial and error method, prudential utilization of available resources, etc in that workshop. More workshop shall be conducted for field problems.
- Summer Training for Engineering students, Special courses for college going students shall be given wide publicity by Circle and also by SSAs.

## Online service payment ( E-payment ) :

- At present on line payment is available for subscribers having internet banking. Bill payment through credit / debit cards in online payment facility is required. Like TNEB e-receipt should be issued for subscribers paying money using on line.
- Arrangements is to be made for On line payment of all types of bills pertaining to Enterprise Business to avoid delay.

## CFA-NWOP

- Frequent failure of GSM Net work Elements (NEs) due to the poor planning of transmission media connectivity: GSM Net work Elements (NE) like MGWs ( Media Gate ways ) are connected to the core N/W via active and standby connectivity. But it seems that in some cases both active and standby connection is extended through the same route and same equipment, which leads to total blackout during transmission failures. Transmission media connectivity route audit shall be done to settle this problem.
- Supply of OTDR, Splicing Machine, Optical Power Meter, 2Mb/s Tester to each SDCA HQ for attending of OF cable / OF System fault and supply of vehicle is required at SDCA level. This will minimize the duration of fault and un necessary shunting between SSA H/Q to SDCA H/Q.
- It is observed that there is short supply of OF Cables. But lot of PLB pipes is laid along roads and are now idle. In Nagercoil SSA itself more than 60 KM pipe laid and waiting for OF Cable allotment. But still Circle is giving PLB pipes for laying and they are not giving Cables. Recently 32 KM of PLB pipes are allotted to NGC SSA and asked to lay the pipes without giving Cables. Laying of 1KM of PLB pipe makes an expenditure of approx 1.5 Lakhs. Without giving Cable why the PLB laying was done. This should be stopped or sufficient OF Cable is to be supplied.
- There is a shortage of VMUX ports for providing leased line circuits. So procurement of VMUX equipments is necessary.
- DOT time standard for allotting fibers to Circle wing is to be changed. 90% of dark fibers should be utilized for revenue generation.
- For all OF Systems, purchase orders issued as a package (eg.) ADM CPEs with equipment racks and sub racks. As most of the systems are installed at O/D BTS sites or in Exchanges where the space is available in working bays, the racks supplied with equipment are kept idle by the side of Staircases.
- Proper utilization of supplied MADM equipments is to be ensured to convert capital into assets in time. The equipments supplied for NMECIT projects are kept idle for a long time.
- There is no co ordination with SSA, STR and STP in allotting fibre and laying cable. At several places where dark fibre is available with STR, SSA or STP is laying cable. In

some other places SSA and STP are laying cable in the same route. Thus huge amount of money is wasted just due to lack of co-ordination.

- NH, PWD, SH is asking Track rent for the Cables. This should be dealt at higher level and payment of Track rent should be avoided. Also NH authorities are not giving permission for digging. This creates difficulty in commissioning of new BB DSLAM's and new IMPCS sites. The Central Ministry has given instructions to permit the OF laying in NH routes. This should be taken with the NH authorities and should be solved. As directed by CMD periodical meetings at higher level are to be conducted with NH / PWD / SH authorities.

### **General :-**

- Project Sanjay is to be implemented in true spirit. In several SSAs it is not implemented in the right sense. Case by case before implementation ( Physical / Expenditure ) of the project and after implementation is to be verified. Several SSAs are merely diverting funds for payment. Responsibility shall be fixed and action shall be initiated for completion within the time frame. This is the main area which is consuming un necessary expenditure.
- To avoid expenditure, process for ISO recertification / renewal and all ISO related activities are to be stopped, as per the instruction of the Corporate office.
- 3G and GPRS facility is to be provided for all executives in service mobile numbers. ( Orders issued by Circle office under trial basis for 6 months ).
- GSM FWP instrument is worth full. To promote this GSM FWP, it can be supplied to BSNL employees on payment basis.( TN Circle has decided to supply on concessional rate in installments )
- Staff Grievance cell / legal cell in circle level is to be implemented in full fledged to settle down the issues raised by the staff. This may avoid many court cases. So that huge expenses for court cases may be cut down.
- AMC for the maintenance of C Dot MBM, OCB and other new tech switches shall be stopped immediately. It can be well maintained by our staff.
- Dynamic locking facility in CDOT - Local barring using dynamic locking will bar level 9 and 0. Now level 7 and 8 are also given to mobile service. Using the present facility this levels cannot be barred. Action shall be taken to settle this issue in consultation with CDOT. Corporate office has to issue necessary instruction.
- Purchase of obsolete and out dated equipments shall be stopped.
- 3G data card usage - No Thresh hold alert intimation like Broad band is available. Consumers wants this alert to be sent, while they are crossing their free limits.
- Since IP Tax already commissioned in most of the places Vendor training is must for better maintenance.

- Vellore SSA is already having a C-DOT card repair centre and now they are extending the facility of repairing ADSL modems also. This may be followed in other SSAs also. Similarly to attend P/P module faults, AC Unit fault, AFD faults, instead of outsourcing a team has to be formed at SSA level to rectify the same to curtail expenditure.
- Instead of scrapping all cells of life expired batteries, good cells has to be preserved to replace the faulty one at needy places.
- Work study has to be carried out. Redeployment of staff (Without changing head quarters ) is to be done. Potential areas like Sales / Marketing / BBsection / BB / MPLS area should be given importance. Right person in the right section is the need of the hour.

## Electrical

### I) Energy saving opportunities from SMPS power plant and Packaged Air conditioners:

Based on the Energy audit study conducted in various BSNL exchanges the following initiatives are proposed for optimizing the energy consumption in the building.

- By way of switching OFF the excess modules in the Power plant
- Replacing of faulty thermostat and Maintaining the conditioned area temperature at 23°C

#### Switching OFF the excess modules in the Power plant:

- Four power plants are working for various Exchange in this building
- The total load of the power plant is 400 KW. This is 25.4% of total connected load.
- In some power plants modules are working in excess than the justified level
- By way of switching of Excess modules the expected energy saving per year is 30240 units. (Calculation sheet enclosed)
- Demand will reduce by another 3.52KVA.
- The expected savings in amount is Rs.1, 75,392 / year.
- Since it is a no cost measure it can be implemented immediately

#### Package AC Units - Maintaining 23° C by using proper thermostat:

- In most of the Exchanges Package AC units are operated below 23°C. In some Exchanges it is operated even at 18°C.
- As per Corporate office guide lines the Temperature shall be maintained not below 23°C.
- Readings taken at one exchange and cost benefit analysis for operating it 23°C is enclosed here with.
- In order to maintain the Temperature at 23°C proper thermostat setting is required.
- By way of providing electronic thermostat this problem can be easily addressed.

- Life of compressors will be increased.
- By providing Electronic thermostat and maintaining temperature at 23°C expected saving for a Package Ac units is given in table.

**Recommendations:-**

- Excess modules in SMPS may be switched off to avoid no load losses.
- These modules may be put into circuit in cyclic operation.
- This may increase the life of the Module.
- Frequent failure of modules thus avoided.
- Maintaining the temperature of switch room 23°C.
- Providing Electronic Thermostat for maintaining proper temperature.

**Conclusion:-** Since Power plant and Package Ac units contributes major load in Telephone Exchange These Equipment may be maintained properly.

**PERFORMANCE EVALUATION OF POWER PLANT**

Sl.No	Description	Make	Type	Capacity	Total No. of Modules	No. of modules working at a time	INPUT				Efficiency in(%)	Battery capacity
							Power in KW	Voltage (in DC)	Current (in DC)	consumption in KW		
1	TXM,BB,DLC	Himachal Exicom	SMPS	1800A	14 Nos	11 nos	17.06	53.4	288	15.38	90.1%	2x3000AH
2	OCB MSU	ITI	SMPS	1600 A	16 Nos	16 nos	47.27	52.5	827	43.42	91.9%	2x4000 AH
3	GSM	Himachal Exicom	SMPS	3000A	30 Nos	27 nos	43.46	53.2	664	35.32	81.3%	2x5000AH
4	AXE	Ericsson	SMPS	1400 A	14 Nos	7 nos	4.47	54	71	3.83	85.8%	2x2000AH

**Calculation of Energy saving by way of switching OFF Excess modules**

Description	TXM,BB DLC	OCB MSU	GSM	AXE
DC Current for Switch	288 A	827 A	664 A	71 A
DC current for Battery charging	600 A	800 A	1000 A	400 A
Total DC current required	888 A	1627 A	1664 A	471 A
Capacity of Each Module	100 A	100 A	100 A	100 A
Total no. of Module Justified	9 Nos.	16 Nos.	17 Nos.	5 Nos.
No. of Modules working at present	11 nos	16 Nos.	27 Nos.	7 Nos.
Excess Module available	2 nos	0 nos	10 nos	2 nos
Energy loss in individual modules	0.15 KW	0.24 KW	0.30 KW	0.09 KW
Expected energy saving by way of switching off the modules/hr	0.31 Kwh	0.00 Kwh	3.01 Kwh	0.18 Kwh
Expected units saving/day	7.33 Kwh	0.00 Kwh	72.31 Kwh	4.36 Kwh
Expected units saving/month	220 Kwh	0 Kwh	2169 Kwh	131 Kwh
Expected units saving/year	2640 Kwh	0 Kwh	26028 Kwh	1572 Kwh

<b>Total Energy Savings/year</b>	<b>30240 Kwh</b>
<b>Expected amount of saving /year ( @ Rs.5.80)</b>	<b>Rs. 175392</b>
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<b>Expected amount of saving /year ( @ Rs.5.80)</b>	<b>Rs. 175392</b>

<b>Description</b>	<b>Performance at present</b>	<b>Performance expected after rectification</b>
<b>No of Ac units working</b>	<b>3 nos</b>	<b>3.0 nos</b>
<b>Average Total TR Delivered</b>	<b>24 TR</b>	<b>21 TR</b>
<b>Average Total Power Consumption</b>	<b>42 KW</b>	<b>42 KW</b>
<b>Total Running hrs /day</b>	<b>24 hrs</b>	<b>20 hrs</b>
<b>Total No.of units consumption/hr</b>	<b>42 units</b>	<b>42 units</b>
<b>Total No.of units consumption/day</b>	<b>1003 units</b>	<b>840 units</b>
<b>Total No.of units consumption/month</b>	<b>30089 units</b>	<b>25200 units</b>
<b>Total No.of units consumption/year</b>	<b>361066 units</b>	<b>302400 units</b>
<b>Total cost of Energy @ Rs. 5.8/unit/year</b>	<b>Rs.2094180</b>	<b>Rs.1753920</b>
<b>Expected total Units saving/year</b>	<b>58666 units</b>	
<b>Expected total amount saving/year</b>	<b>Rs.340260</b>	
<b>Expenditure for Electronic Thermostat for 8 nos @ Rs.2000/each</b>	<b>Rs.16000</b>	
<b>Pay back period</b>	<b>0.56Months</b>	

## Cost- Benefit Analysis

Average Tonnage delivery of these units are 8 TR

If the Units are working properly 2 nos. Ac units are sufficient

Thermostat are not functioning and Room Temp is 18.9°C

If the thermostat is set right and conditioned area temperature is maintained at 23°C the savings will be expected as below.

## **II ) ENERGY CONSERVATION AT GSM SITES**

Sample Energy audits were conducted for more than 25 GSM sites to arrive the efficiency of GSM power plant and to identify the energy saving opportunities.

### Observation on Power plants

- It is observed that in some places GSM switches are co-located with WLL / RSU exchange.
- In these sites GSM is provided with a separate single phase power plant with a capacity of 8x25 A with 4-5 modules in working condition.
- The Co-located WLL / RSU exchange is also catered with 4x50A three phase power plants with 2-3 modules in working condition.
- GSM exchange is provided with 2sets 400 AH batteries
- Similarly WLL / RSU exchange is also provided with 2sets of 400 / 600AH batteries.
- The current consumption of GSM is between 19Amps to 40Amps.
- The current consumption of WLL / RSU is between 5Amps to 15 Amps.
- The single phase power plant provided for GSM is either Amara Raja or XL telecom in most of the places.
- Efficiency of these power plants is between 88-98%
- Whereas three phase power plants are provided for WLL Exchange which is DACS / ITI
- Efficiency of these power plants are between 60-75%.
- In most of the rural areas two phase supply is available for 12-16 hrs, three phase supply is available for 6-8 hrs. Total power cut for 2 to 4 hrs.
- The WLL exch. Power plant will not switch on during two phase supply.
- Engine is switched on during this time.
- The maximum current consumption put together (GSM+WLL/RSU) is around 40 to 50A DC
- The charging current will be maximum 80A (40A for each set)
- Total current is around 130 A (DC)
- So 6 modules of 25A capacity may be provided in GSM power plant to cater both GSM and WLL load.

- Since the batteries are 2x400AH capacity, they have to with stand minimum 20 hrs.
- So Engine need not be required to switch ON because Total power shut down will not be more than 4 hrs.

#### Observation on Air-Conditioning System:

- Most of the BTS sites are provided with 2 nos. 1.5 TR S/T W/T AC units.
- Generally these AC units are working satisfactorily barring minor defects such as filter cleaning, Low CFM, Low gas.
- Most of the sites are maintained between 23°C- 25°C.
- It is inferred that when the temperature of the rack goes above 40°C, the GSM rack automatically switches OFF and when the temperature comes normal level it automatically switches ON.
- Based on this observation it is concluded that generally cards are not becoming faulty because of rise in temperature.
- As per corporate office guide lines these sites can be maintained at 30°C.
- In most of these sites Thermostats are not working otherwise it has kept in low range thus compressor is not tripping.

#### Recommendations

- In co-located site three phase power plant catering for WLL / RSU may be removed and the load may be transferred to GSM power plant. Which is single phase
- As these sites are having 4 nos.400AH Battery sets, Two sets of 400 AH capacity battery set may be removed.
- If the efficiency of the battery is doubtful 3sets of 400AH battery may be provided and 1 set of 400 AH may be removed and reinstalled in some other site.
- The GSM Power plant (Single phase) may be connected in good / healthy phase. (I.e. this phase will be always available during two phase/three phase)
- Co-located sites are provided with 2 nos.15 KVA EA sets. As the total load of co-located site is less than 9 KVA, One EA set is sufficient to cater the entire load. So all the loads may be transferred to one EA set to reduce diesel consumption.
- Thermostat may be set right kept in working condition and the temperature range may be set at maximum. So that Energy savings can be achieved and compressor may come for a longer life.
- Life Expired AC units may be scrapped as it is consuming more energy and delivering less output.
- New energy efficient AC units may be provided.
- Installation of Free cooling system as per corporate office guidelines

#### Benefits expected

- One power plant can be dispensed.
- The energy consumption of that power plant is absolute saving

- One/Two sets of battery can be dispensed and it can be used in other sites there by resources can be utilized effectively.
- Since the GSM power plant is having higher efficiency the energy consumption for whole exchange will be considerably reduced. (These power plants are designed for operating for a Wide range of voltage.)
- If the battery is in good condition running the Engine can be avoided. Which is in turn reduces the diesel consumption and related issues.
- By setting thermostats to maximum range minimum of 3-5% savings in existing energy consumption is expected in each site.

#### Challenges to be faced

- ? In most of the sites though 2 sets of 400 AH batteries are provided these batteries are expected to cater the load for minimum 20 hrs. But these batteries are not withstanding for even half an hour.
- ? Maintenance of AC units

#### Crux of the problem

- ✓ It shall be ensured that battery sets has to deliver its output as per the standards.
- ✓ Connecting the single phase power plant in good/healthy phase
- ✓ Maintenance of AC units at 26°C. Keeping thermostat at working condition.

### III ) Energy audit as Business for BSNL

#### Why Energy Audit ?

#### The main aim of Energy audit is

- To determine the ways to reduce energy consumption per unit of product output
- To lower operating cost
- Optimize the use of energy for effective energy management
- To minimize energy costs / waste without affecting production & quality
- To identify the energy conservation opportunities
- To minimize environmental effects
- To set benchmark (reference point) for different equipment
- To identify the specific energy consumption of the equipment
- To evaluate the performance of the equipment

#### Need for the audit

In any type of industry the top three operating expenses are Energy, men (Labor) and material. Among these the energy is the potential cost saving component,

So Energy Audit will help to understand more about the ways energy and fuel are used in any industry, and help in identifying the areas where waste can occur and where scope for improvement exists.

This audit will focus on energy cost reduction, preventive maintenance and quality control which are very important for production and utility activities.

This audit will help in analyzing the cost of various type of energy, availability of energy, reliability of the available energy, optimizing the energy requirement, identifying the energy conservation technologies and retrofit for energy conservation equipment.

#### Type of Industries to be audited

Energy Intensive Industries and other establishments specified as designated consumers by Bureau of energy efficiency is to be audited

- Aluminium
- Fertilizers
- Iron and Steel
- Cement
- Pulp and paper
- Chlor Alkali
- Sugar
- Textile
- Chemicals
- Railways
- Port Trust
- Transport Sector (industries and services)
- Petrochemicals, Gas Crackers, Naphtha Crackers and Petroleum Refineries
- Thermal Power Stations, hydel power stations, electricity transmission companies and distribution companies Commercial buildings or establishments

#### Scope of the energy audit

The Scope of energy audit is verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis, identifying the economic viability of the product, an action plan to reduce energy consumption and recommendations.

#### Energy audit as Business for BSNL

Already BSNL is having Enterprises business wing which is providing telecom solutions to various IT companies and other Government organizations. As an integral part of the business we can provide energy solutions to them by way of conducting energy audit to their firm.

While offering Telecom solutions we can offer them to support on the designing aspect and capacity selection of UPS, Air conditioners Lights and fans and Engine alternators for their equipment with a nominal cost . The cost can be included in the bid. Even if we do at nominal cost it will be benefit for BSNL.

Further lot of government organizations are calling tenders for conducting energy audit to their firm/client. We can also participate and conduct energy audit at a reasonable cost.

Already Electrical wing in Kerala is conducting Energy audit for High court, LIC and banking sectors and earning for BSNL.

## **IV ) General:**

### **Recommendations on Electrical Wing Issues**

- Honourable Prime Minister of India has set a target for energy conservation of 10 % and BSNL has set a target of 20% which is practically achievable.
- Energy Conservation Measures implementation on a larger extent.
- No cost measures
- Low cost measures
- High cost measures
- Contract demand rationalization of Substations
- Power factor improvement
- Switch OFF stand by Transformer
- Maintaining 23 Degree temperature in switch room. BSNL HQ/DoT has instructed to maintain  $23 \pm 3$  degree in switch rooms and to maintain 30 degree in BTS rooms. For every rise in one degree, there will be 3 percent reduction in EB expenditure. Electronic thermostat which has high accuracy can be used for setting temperature in Package AC units for effective control.
- Since the AC units and Power plants constitute more than 65 % of the exchange loads, the concentration should be on these major components.
- Only Star rated AC units should be used whenever the old units are replaced.
- Free cooling system: 100 % implementation for BTS sites wherever outdoor temperature is less than 30 Deg throughout the year and for other BTS site 25 % implementation. The cost of the Microprocessor based free cooling system is about Rs.40,000 with the monthly saving of minimum Rs.5,000 per BTS.
- Switching OFF excess modules in SMPS can result in to a significant saving since the power plant load is nearly 45% of the total exchange load. The modules required for working DC load current and for battery charging alone can be considered.
- External Works: External construction works along with Civil wing can be undertaken in a larger way especially in Govt/PSU sectors. Energy auditing of buildings of other organizations such as State Govt, Central Govt, PSUs etc can be undertaken as is being done in Kerala Circle.
- Conversion of EB tariff from commercial to Industrial tariff as in Maharashtra Circle.
- Conversion of Conventional bulb into CFL Lamp.

- Replacement of Electronic Choke wherever necessary
- CFL lamps shall be used to replace conventional lamps.
- Electricity bill contributes to the major part of our expenditure. WIND FARM shall be consulted for wind energy production which will bring down the Electricity Bill to bearest minimum.
- Exchange working connections shall be concentrated on required minimum racks. Power supply to balance racks shall be switched off. Space shall be saved by reducing the switch room space. Merger of MBMs, conversion as RSUs , Re-arrangement of TUs., LM / BM as per working connections will also save Electrical consumption charges.
- To minimize the current consumption, all working connections in the indicators working in different BMs shall be shifted to a Single BM so that after re arrangement BMs having no connection can be switched off. The difference between working connection and equipped capacity should not be more than 10% to avoid huge AMC for idle equipments.

### Closing down the Electrical Stores & Streamlining the procurement of materials to prevent financial loss to BSNL

As of now Electrical Stores like A/C units, light fixtures, fans and Cables are being procured through DGS & D rate contracts, stocked in stores, and issued to works as and when the need arises.

Of late it is seen that the rates of DGS&D are much closer to the market rates and in some cases like A/C units the cost is higher than that of the reputed manufacturers and also the materials available in the local market are far more superior and suited for our installations besides the inherent advantages listed below:

1. Market price is less than DGS&D.
2. Advantages of Off-Season rates can be availed.
3. Installation can be done by local & authorized dealers.
4. Availability of good service dealers locally.
5. Ease of claims on warranty and quick response.
6. Ready availability of spares, which is almost absent with the DGS&D firms
7. Items can be procured from reputed brands, thus having flexibility in the makes of equipment and wide range of models.
8. Latest models can be procured as & when launched in the market, thus taking advantage of the latest technology
9. AC units purchased from the open market are guaranteed for 6 years by the reputed manufacturers like Voltas, LG etc (Prescribed life of AC units is 6 years as per BSNL orders).
10. Can be procured at rates less than market, rate if we go in for competitive tenders for bulk quantities.

11. Some manufacturers are even offering buy-back arrangement for the old used units which will definitely fetch a higher price than that offered for auction through MMTC or other accredited agencies.
12. AMC can also be entered along with the bulk purchase order, thus ensuring the trouble - free performance and quality spares from OEM dealer at lesser cost compared to the present system.
13. Manufacturers can be empanelled for supply of units based on proto-type approval, which can be reviewed periodically, as done for Package AC units.

**Disadvantages of DGS & D items:**

1. Rates are much higher than market rates.
2. Rates once fixed are not revised for almost a year, hence advantage of price reduction.
3. Bad performance of the equipments / items procured through the DGS&D rate contracts
4. Frequent failures.
5. Poor response for the service calls from the DGS&D firms.
6. Adverse remarks and negative feedback for these items from the exchange maintenance authorities.
7. DGS&D purchased AC units are guaranteed for One year only.

It is not denied that in earlier days, the stores were needed in view of urgent and enormous requirements due to huge new construction activities and installation of large number of RSU / Main exchanges and the paucity of suppliers/vendors/dealers in the local markets and the time consumed in the procurement.

Also a lot of working capital is blocked in the stores which may work out roughly Rs.100 crores per annum.( Rs.70 Lakhs for each stores and minimum 7 stores per telecom Circle). As we know, that due to intensive competition from private telecom players, the wise decision of BSNL will be to reduce the blocking of money in non moving items and put to the benefit of the Organization.

With the changing environment, ready availability of almost all the electrical items with the reputed manufacturers and their local vendors /dealers and also due to the day to day reduction in the rates due to market competition, it is sure that BSNL will be benefited financially.

**The Civil wing administration has taken a policy decision to close down its stores long back.**

**It is also pertinent to mention here that BSNL has already issued orders, stopping purchase of all stores (except Electrical items) through DGS&D for the above said reasons. Hence it is suggested for stopping the procurement of Electrical items**

through DGS & D firms and instead draw up rate contracts with reputed manufacturers.

Besides the core committee also requests for closing down the existing electrical stores as its operation is totally in fructuous besides causing the recurring expenditure, due to rental of storage space, Depreciation, locking of capital, expenses for watch and ward and also enormous burden on the existing JTO(E)s in maintenance of stores, due to large scale shortage of JTO(E)s.

### Civil

- Commercial utilization of Vacant lands
- In most of the BSNL buildings, vertical extensions are possible. The buildings which could be commercially utilized may be extended to its ultimate level. By this way value of the asset will increase over the period of time and also BSNL will also get revenue.
- Effective Maintenance such as structural repairs and other periodical maintenance works of BSNL buildings regularly to avoid the huge expenditure if it is attended on later stage. Expenditure involved to maintain the buildings will enhance the value of the asset and it will serve its full lifetime.
- Civil and Electrical wing has to re think about maintaining high standards ( Civil - CPWD ).
- All our recreation clubs, conference halls may be given for outsiders for conducting meetings on rental basis.
- MOU should be signed with more banks to install ATMs in the prominent Exchange / Office locations where we can gain major revenue through high rent.
- Free space to be rented out to state central govt / PSUs.
- At present vacant quarters are rented out to employees of State Govt., Central Govt. and PSUs. This facility should be extended to Retired employees of State Govt., Central Govt. and PSUs.

### SPACE AUDIT ( Tuticorin SSA)

At Tuticorin the GMT office is functioning in a rented building for which app. two lakhs rupees is paid as rent. Sufficient space is available in Telephone exchange and Telegraph office. Hence the rented office of GMT shall be shifted to departmental building. This is to be implemented within the stipulated target.

( Committee formed by GMT / TT SSA to discuss and submit the suggestions regarding shifting )

### **Space Audit : ( Kumbakonam SSA )**

SDE offices working in rented buildings at Sembanarkoil, Kuttalam & Thirupanandal shall be shifted to the Departmental Building available at these places itself. Thiruvengadu SDE office was already shifted to departmental building but the rented building is yet to be made over to the building owner. The General Manager Office itself is functioning in rented Building which expenses about 1.5Lakhs / month as Rent.

Nearly about 10 ( Ten ) IQs are available at Kumbakonam alone. ( Tansi Site - 4 , MBM Premises - 2 IQs ( one at MBM building & 2<sup>nd</sup> at Old Tk Xge Building ), Swamimalai - 2 Nos

Old Telecom Quarters ( Bhakthapuri Street ) - 2 Nos. Actual requirement of IQs are to be analyzed keeping in mind the expenses being carried out for IQs in the name of electricity bills, care taker salary etc. The STR equipments already shifted to MBM Main Exchange along with Indoor staff office. The Remaining staff are utilizing the entire first floor of STR building for which EB bill is being paid by SSA.

Space audit shall be conducted with a separate team and with mutual consultation, unwanted IQs can be closed and office accommodation can be re arranged. By doing this recurring expenditure can be reduced.

### **Space Audit : ( Trichy SSA )**

Old Call centre of Tamilnadu at Trichy shall be merged with the new Call centre at Chennai without dealy. This merger will help BSNL to get a large accommodation in DATX building and there by many CMTS projects which were diverted from TRICHY can be brought to TRICHY. TRICHY BILLING section is functioning in a rented building, which is incurring app Rs 1 lakh per month. This section shall be shifted to DTax building after the closure of Call centre.

### **Space Audit : ( Cuddalore SSA )**

The vacant quarters can be given to other PSU / Central / State Government employees. Our retired staffs are also willing to occupy our vacant quarters. But the modalities / guidelines are not clear.

Lending our vacant sites: In Cuddalore SSA enormous space is available in Cuddalore Sipcot Exchange, Marakanam - in coastal area and also in ECR road. Now days vacant places are given for rent for keeping container transport. We can also lend our vacant spaces for rent.

In CDL SSA, we are paying nearly RS. 30,000/- per month as rent to the warehouse for keeping our stores, mostly obsolete ones. Per year we are spending app Rs. 3,60,000/- . If we construct a closed shelter with light metal sheets in a low cost budget, all the stores which are essential to kept away from water, can be put inside the shelter.

### Property Tax :

DGM (P&EF), TN Circle office has given instruction on 16-07-2011, to pay property tax, where ever claims are raised by local bodies. The instructions are given referring Corporate office letters dated 14-08-2001, 16-05-2005 and 26-07-2005. But Kerala High court judgment dated 01-12-2007 favours BSNL. Further Supreme court order on Civil 9458-63 / 2003 / Rajkot municipal Corporation verses UOI and others, instructs to pay service charges on par with local state govt. (ie.) To pay service charges only that too like state govt pays it to local body. OM of Ministry of UD, GOI dated 17-12-2009 also instructs to SC order. OM of MOC dated 6<sup>th</sup> Jan 2010 also endorses the Min of UD order. Hence payment of property tax is to be analysed once again.

### STR / Chennai

- Since ring route is established fully and cable route KM is also on the higher side, staff strength to look after the outdoor route is to be increased (TTA /JTO / SDE ).
- Temporary advance to STR TEAM on need basis is to be given immediately. It is very difficult to maintain the existing system without allotting funds for operational expenditure.

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