INTERNSHIP REPORT

ON

A report on Power Monitoring Slot, SAP Software Work and CMU Work
In ROBI (AKTEL) AXIATA INTERNATIONAL LTD.

By

Chowdhury Whalid Bin Dastagir

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Approved By

8.8.10

Academic Advisor

[Sharmin R Ara]

18.08.2010

Department Chairperson

[Dr. Anisul Haque]

Approval Letter

To whom it may concern

This is to certify that Chowdhury Whalid Bin Dastagir student ID 2005-3-80-016 has successfully completed the project work that was assigned to him as part of the internship program. I, Imtiaz Ahmed, on behalf of ROBI (AKTEL) AXIATA INTERNATIONAL LTD. am recommending this work as the fulfillment for the requirement of EEE 499 Industrial Training. I wish him success.

7/8/10

Imtiaz Ahmed

Acknowledgment

First of all I would like to thank Imtiaz Ahmed, Supervisor Engineer for this internship and the other Engineers in Network Operation Centre (NOC) of ROBI (AKTEL) AXIATA INTERNATIONAL LTD for giving me the opportunity to work in their group.

I would like to thank my advisor Sharmin Rowshan Ara, Department of Electrical and Electronics Engineering, East West University, Bangladesh.

I express my gratitude for Dr. Anisul Haque, Chairperson of the Department of Electrical and Electronics Engineering, East West University, Dr. Ishfaqur Raza, Associate Professor, Department of Electrical and Electronics Engineering, East West University Bangladesh for their cordial support. I am also grateful to my Parent for their support and to all my teachers, friends for their cooperation and encouragement throughout my course of study in East West University.

Executive Summary

In telecommunication sector, monitoring the BTS's and BSC's is an important issue. In ROBI (AKTEL) AXIATA INTERNATIONAL LTD the importance of monitoring is enormous. Working in power monitoring slot provides hands on experience for an intern. Power slot is the most important slot among all the other slots of NOC (Network Operation Center) Surveillance Unit. In this slot, assigned person can monitor and resolve any particular problem regarding any power failure issue's for BTS's, BSC's and MW HOP's of ROBI(AKTEL) network. Along with that, there are works for SAP (System Application Process) software. CMU (Call Monitoring Unit) has the work of resolving problems regarding the clients inquiries. The experience of working in these three important sectors (Power Monitoring Slot, SAP (System Application Process) and CMU (Call Monitoring Unit) was challanging and enjoyable.

TABLE OF CONTENTS

LIST OF FIGURES

1. INTRODUCTION

1.1. Introduction

To ensure its leading edge technology, Robi has the international expertise of Axiata and NTT DOCOMO INC, to make it work. It has brought the whole country under the network of GSM world.

It provides 2G voice, CAMEL phase 2 and GPRS/EDGE service with high speed internet connection. Its GSM service is based on a robust network architecture and cutting edge technology such as Intelligent Network (IN), which provides peace-of-mind solutions in terms of voice clarity, extensive nationwide network coverage and multiple global partners for international roaming. It has the widest International Roaming coverage in Bangladesh connecting 550 operators across 205 countries. Its customer centric solution includes value added services (VAS), quality customer care, easy access call centers, digital network security and flexible tariff rates.

1.2. Company Profile:

Axiata (Bangladesh) Limited is a dynamic and leading countrywide GSM communication solution provider. Axiata Group Berhad, Malaysia and NTT DOCOMO INC, Japan has combinedly launched this company. Axiata (Bangladesh) Limited, formerly known as Telekom Malaysia International (Bangladesh), commenced its operation in 1997 under the brand name Aktel among the pioneer GSM mobile telecommunications service providers in Bangladesh. Later, on 28th March, 2010 the company started its new journey with the brand name Robi.

ROBI (AKTEL) AXIATA INTERNATIONAL LTD

- AXIATA Bangladesh hold 70% share of the whole company and NTT DOCOMO INC. ('Nippon Telegraph and Telephone' 'Do Communication over Mobile Network') holds rest 30%.
- Year of Establishment: 1997
- Type of Business: Telecommunication Company
- Total Employee's: 1000.
- The Head office: The Head office is situated at "BRAC Centre", Mohakhali.
- The HRM: The HRM deparment is in Gulshan-1 in "Siver tower".

- The Technical Division: It's also situated on Gulshan-1 at "Uday Tower". It contains the departments mentioned below:
  - ✓ IT- Information Technology department.
  - ✓ NOC/RO-Network Operation Center/Regional Operation.
  - ✓ O&M- Operation & maintenance.
  - ✓ SPMS, Planning & Devlopment.
  - ✓ CNO/IN/IR, Core Network Operation/Integrated Network/ International Roaming
  - ✓ MSC/HLR/VLR, Mobile Switching Center/Home location Register/ Variable location Register.
- The Finance Division: It's at "Kaderia Tower" Mohakhali.

And has there divisional branches at different braches like Chittagong, Rajshahi, Khulna, Barisal, Sylhet.

1.3. *Visions and Mission*

With its strengths and competencies developed over the years, Robi aims to provide the best quality service experience in terms of coverage and connectivity to its customers all over Bangladesh. Together with its unique ability to develop local insights, Robi creates distinct services with local flavor to remain close to the hearts of its customers.

1.4. Objective of the Internship

As an Engineering student, field experience is must to judge the knowledge that one has acquired in their university education life. As I had gathered knowledge from my university education, I wanted to experience and learn the procedure of using those knowledge in the field sector. So I choose this internship program in ROBI (AKTEL) AXIATA (BANGLADESH) LTD.

1.5. Scope and Methodology

Over here at ROBI (AKTEL) I had the scope of working in NOC-Network Operation Centre. There were many branches to work in this department. The methodologies were different too. But I worked in three particular sections which are described vastly in the next segment.

2. DETAIL OF INTERNSHIP WORK

2.1. Power Monitoring Slot

Power slot is one of the most important slots among the other slots of Network Operation Centre (NOC) Surveillance Unit. In this slot, respective assigned person can monitor and escalate to concerns at a glance regarding power along with environmental status of Base Transceiver Station (BTS), Base Station Controller (BSC) and Micro Wave (MW) HOP's of AKTEL network.

2.2. Network Management Systems:

Power BTS's (Base Transceiver Station) are monitored using the software mentioned below:

1. Operation Support System (OSS) for Ericsson.
2. Operation Maintenance Center–Radio (OMC-R) for Alcatel.
3. I-Manager for Huawei.

Also monitored all alarms of the three vendors from Integrated Network Management System (INMS). Vendor for this particular INMS is Tele Operation Support System (OSS).

2.3. Major Tasks of Power, Environment & Integrated Network:

- Sending Reminder Update SMS to concern SMS group which contained our Network Operation Centre (NOC) Surveillance Unit supervisor, to the next roster person and to the respective zone where the problem has occurred.
- Monitoring all alarms of three vendor terminal.
- Immediate Response of phone calls for any Query.
- Generate log for long pending of Power issues.
- Send update summary SMS (Short Message Service) for long pending power problem.
- Sending mail with pending power issues to next Roster Person for smooth handover.

2.4. Overview Power Monitoring Slot

Power monitoring slot is divided into two segments, which are explained below.

1. Element Management System (EMS)

   Ericsson –OSS- Operation Support System

   Alcatel –OMC-R- Operation Maintenance Center–Radio

   Huawei-iManager.

2. Integrated Network Management System (INMS)

   Tele OSS- Operation Support System

2.5. Element Management System (EMS) for Power Monitoring Slot

System tools Used for Operation Support System (OSS) by Ericsson:

- Alarm List Viewer (ALV)
- Command Handling Mode (CHA)
- Alarm Status Matrix

Alarm Types:

- Mains Failure
- Temperature Alarm

2.6. Opening Alarm List Viewer (ALV):

Alarm list viewer (ALV) is described in the following segments.

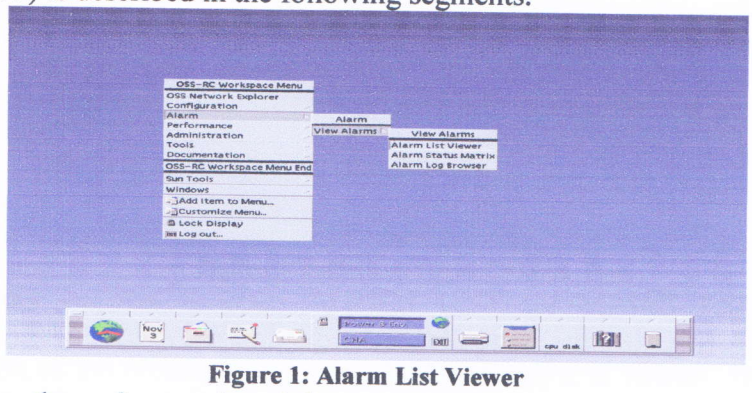


Figure 1: Alarm List Viewer

First we have to open the softeware by giving username and password. Then display with this background will come. Then we have to right click mouse on ALARM > VIEW ALARM > ALARM LIST VIEWER. The next page will appear.

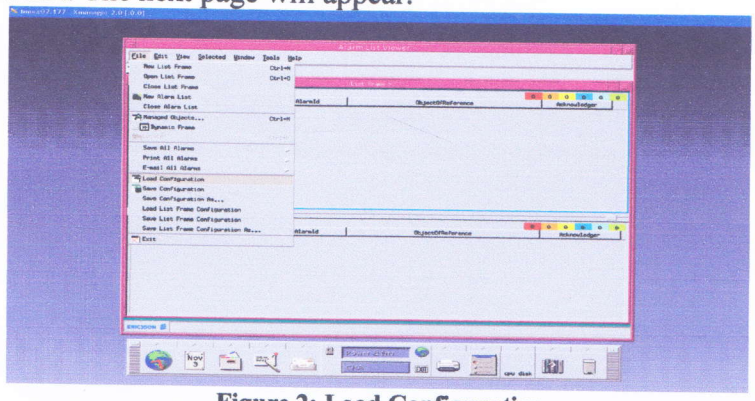


Figure 2: Load Configuration

Then from here we would click LOAD CONFIGURATION, to open ALARM VIEWER of different kind of faults.

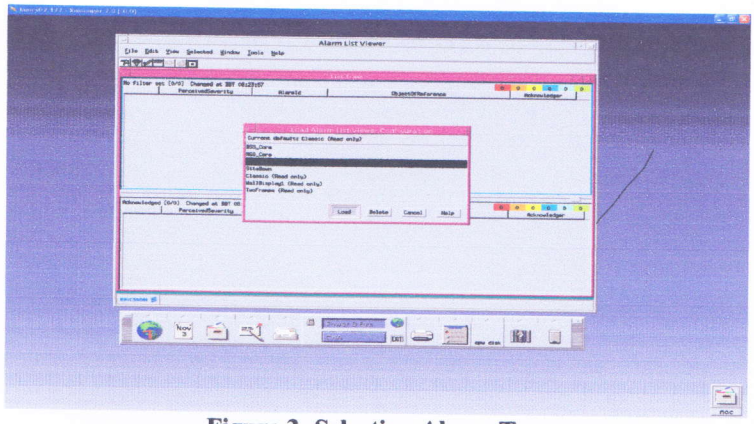


Figure 3: Selecting Alarm Type

After opening the LOAD CONFIGURATION to selsct ALARM TYPE we click on POWER and ENV.

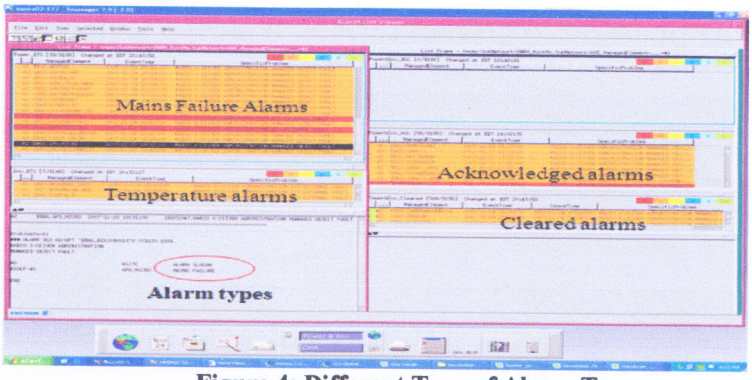


Figure 4: Different Type of Alarm Type

In this way we would be able to open ALARM LIST for MAINS FAILURE ALARMS, TEMPERATURE ALARM, ACKNOWLEDGE ALARMS and CLEARED ALARMS. In the above picture at the lower left of the picture we see that ALARM TYPE is written. When we click on a particular alarm it shows the type of the alarm.

2.7. Opening Command Handling Mode (CHA):

CHA is described in the following segments.

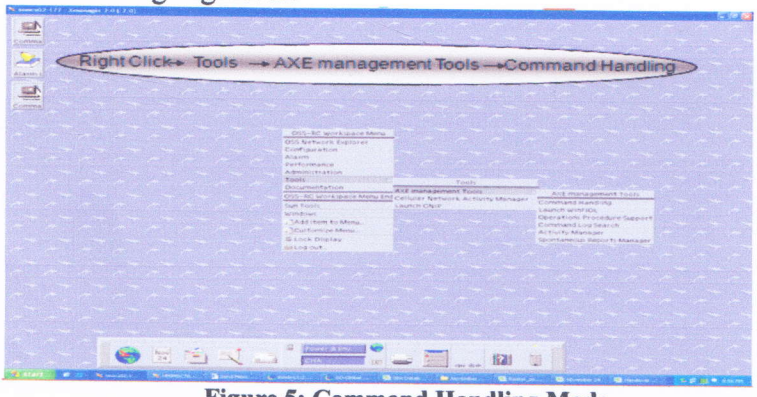


Figure 5: Command Handling Mode

Command handling mode is useful to find the status of BTS in different zone.

2.8. Command Handling Mode (CHA): Loading Command from the mode.

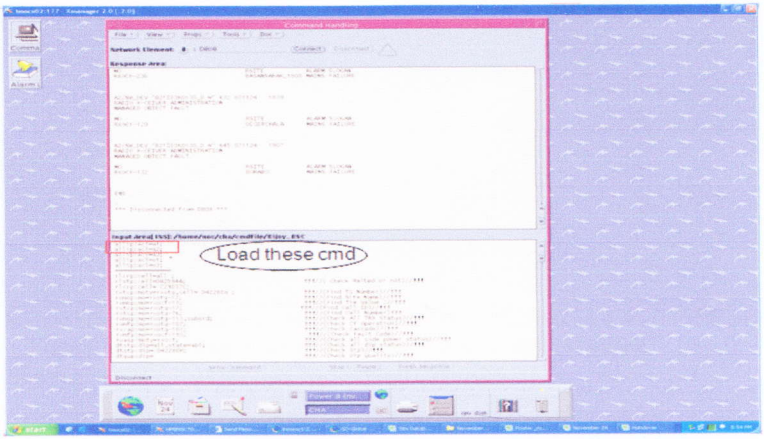


Figure 6: Finding Desired BTS in Command Handling Mode

When we open command handling mode the display shows alarm for BTS's.

2.9. Opening alarm status matrix for synchronization:

Synchronization has been explained here.

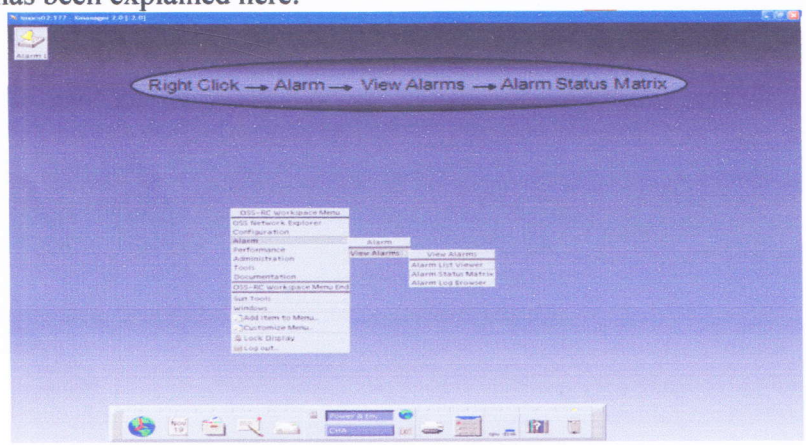


Figure 7: Alarm Status Matrix

Now opening the alarm status matrix we can synchronize alarm status by this procedure.

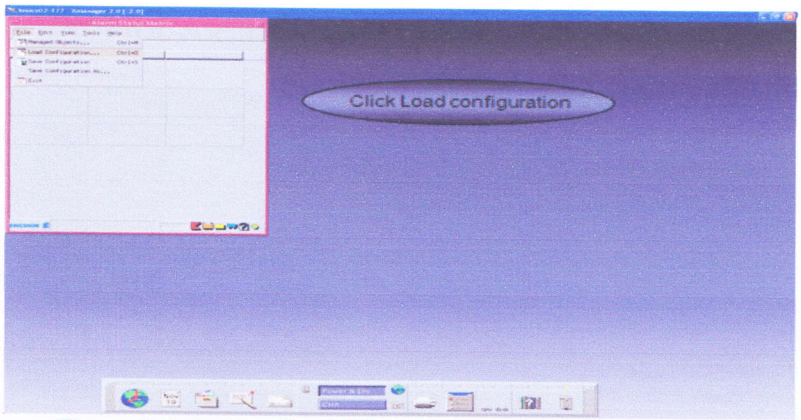


Figure 8: Selecting Alarm Type for Load Configuration

Then alarm fault should be reset to work on modified condition.

2.10. Alarm Status Matrix:

Figure 9: Synchronization

Then here we would click tools and then click synchronization.

2.11. Opening EMS for Alcatel (OMCR):

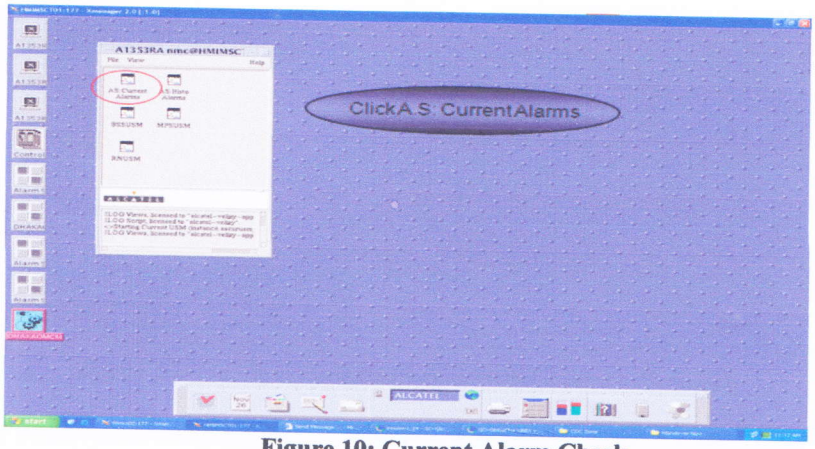


Figure 10: Current Alarm Check

Opening EMS for Alcatel we have to give username and password then desired window will be on the screen. Then we would have to click A.S: Current Alarms. Then the current alarms will appear.

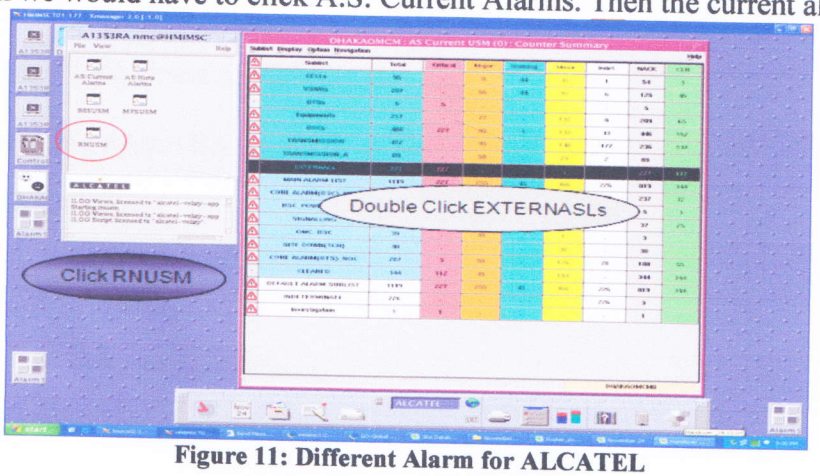


Figure 11: Different Alarm for ALCATEL

On the right side of the picture we see the current alarm list for all the types of alarms. On the left we click RNUSM for list of all BTS to check individual BTS alarms.

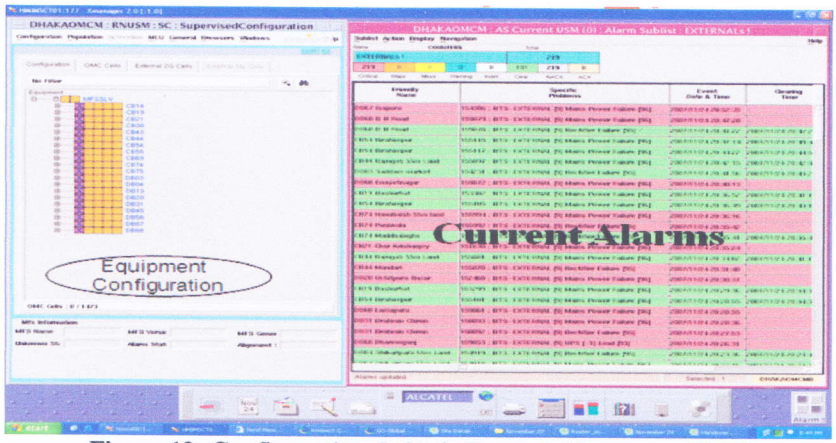


Figure 12: Configuration (left) & Current Alarms on (right)

Here is the list of equipment configuration on left and current alarms on the right.

2.12. Element Management System (EMS):

HUAWEI (iManager) for Power monitoring slot
System tools

- Template based Alarm Browser
- Physical Topology
- Board Management

Alarm Category:

- CPS Fail (1st extended I/O Alarm)
- CPS Any Phase Fail (2nd extended I/O Alarm)
- Temperature Alarm
- no AC Power Alarm

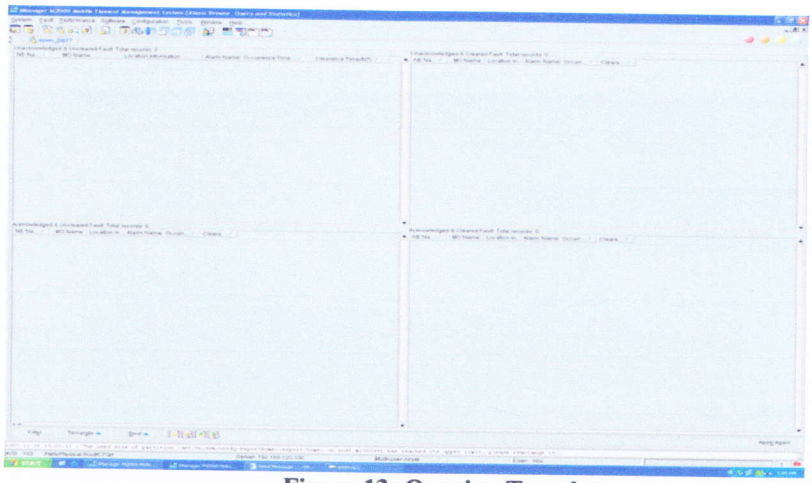


Figure 13: Opening Templates

In Huawei we have to open the filters first to open templates of different kind.

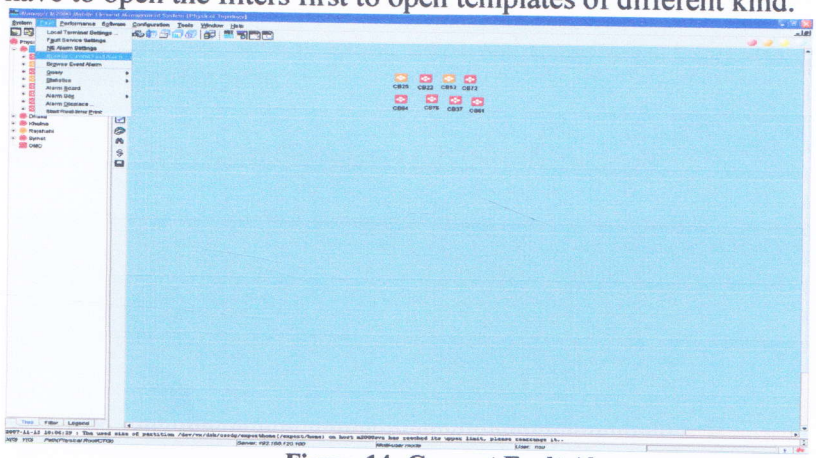


Figure 14: Current Fault Alarm

Then by clicking on fault we click Browse current fault alarms. Then the alarm will appear in the next page.

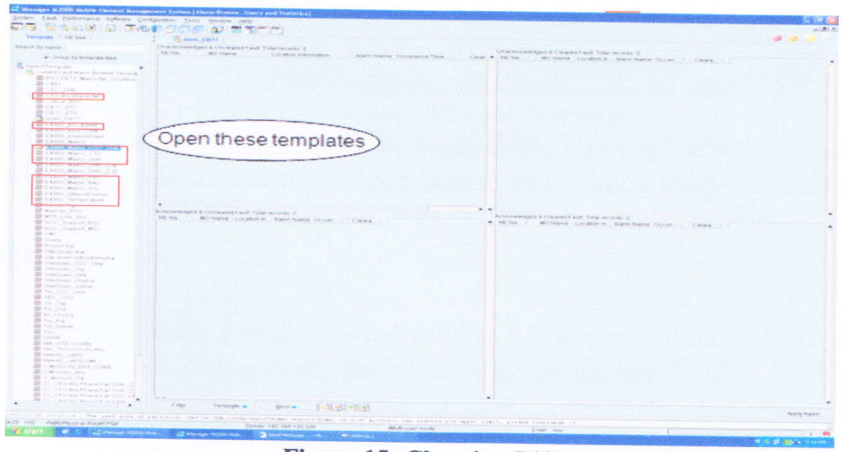


Figure 15: Choosing Different Templates

From here we get to choose which templates we want to see for the next filters. For example we want to open Z_B (Zone B). So we have to click on that particular template.

2.13. Checking Filter:

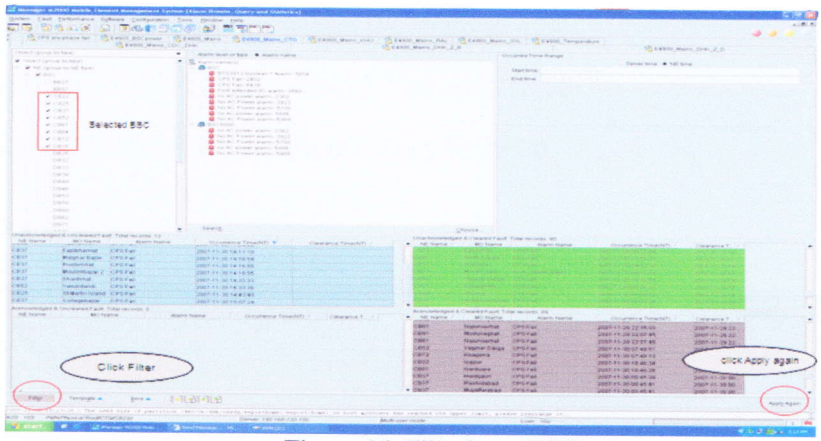


Figure 16: Filtering a BSC

If we want to filter any BSC we have to select them and then on the right side of the screen we have to click again to refresh the template.

2.14. Element Management System (EMS): iManager:

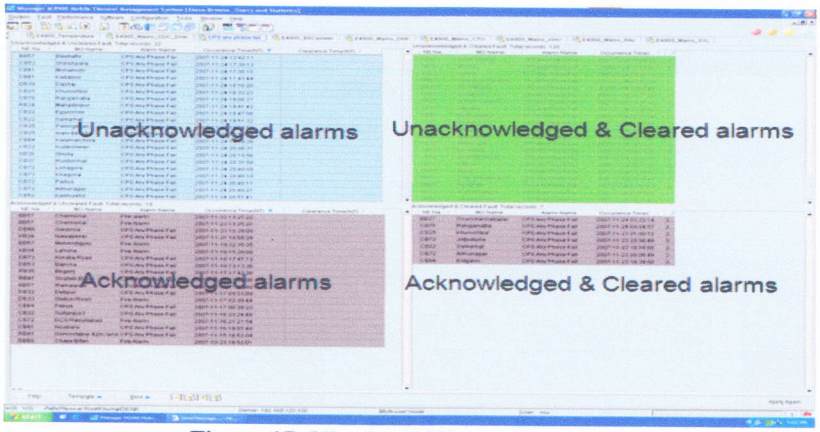


Figure 17: Viewing Different Templates

Now we have different templates opened at the same time. These are unacknowledged Alarm, unacknowledged Cleared alarm, acknowledged alarms and acknowledged Cleared alarm.

2.15. Reminder Update SMS:

Short Message Service (SMS's) is required to be sent to Ericsson, Alcatel & Huawei by using web SMS according to the fault escalation procedure.

2.16. Timings for updates:

- Morning shift (06:00–14:00) within 08:30 up to 4:00
- Evening shift (14:00–22:00) within 17:00 up to12:00
- Night shift (22:00–06:00) within 00:00 up to 20:00

2.17. From Ericsson:

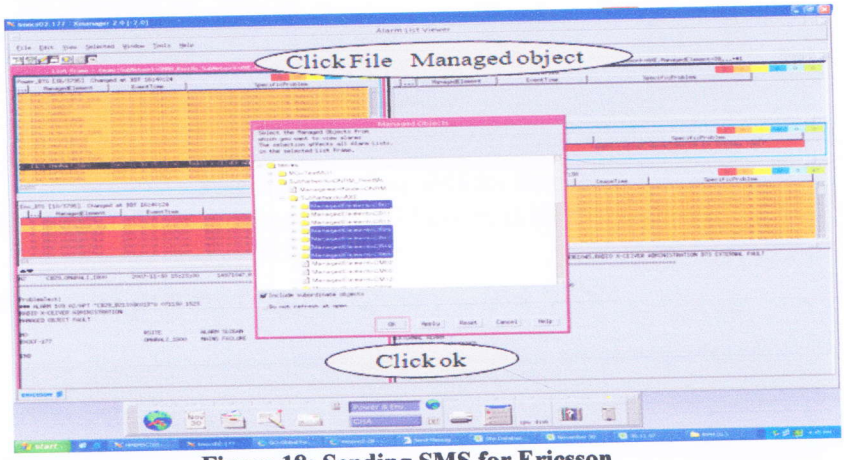


Figure 18: Sending SMS for Ericsson

How to send SMS Short Message Service for Ericsson is shown above.

2.18. From Alcatel:

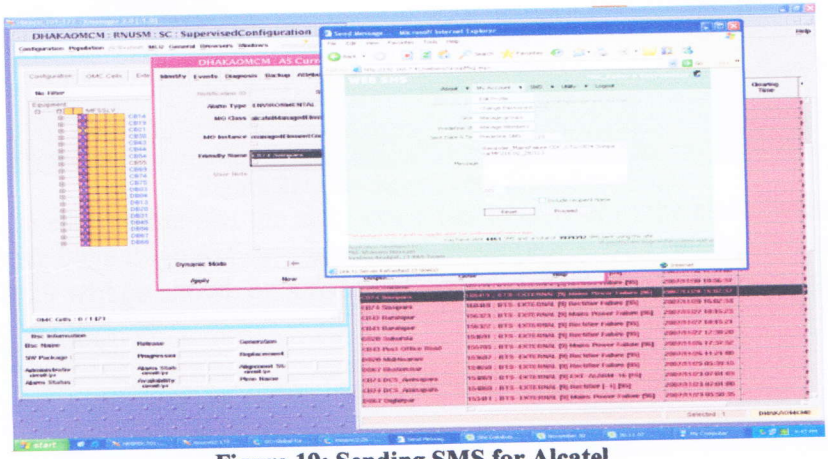


Figure 19: Sending SMS for Alcatel

How to send SMS Short Message Service for Alcatel is shown above.

2.19. From Huawei :

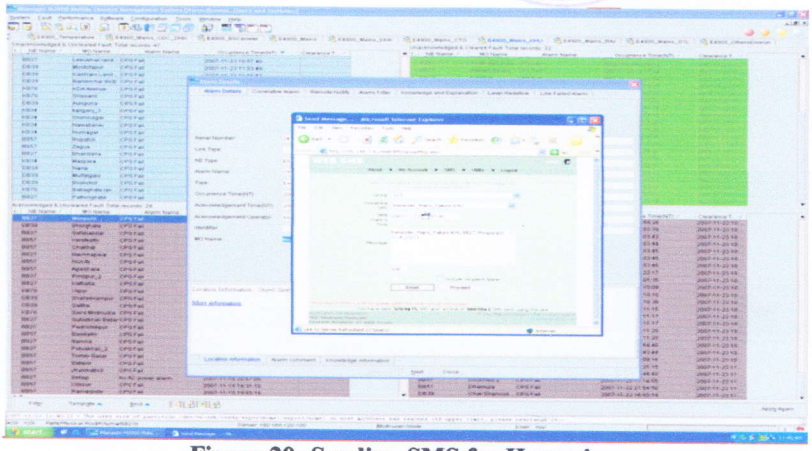


Figure 20: Sending SMS for Huawei

How to send SMS Short Message Service for Huawei is shown above.

2.20. Response to power related Query from OSS:

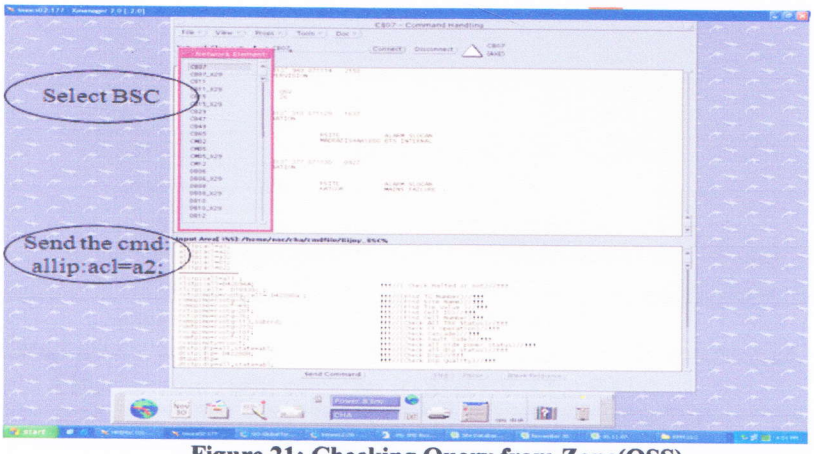


Figure 21: Checking Query from Zone(OSS)

In this slot and in every other slot the slot person has to answer to the alarm related query's from any zone. For OSS we have to go to File>Network element>e.g.:CB29. We have to click on CB29. Then all BSC's in CB29 will be shown on a list view. Then we can check the alarm regarding that query.

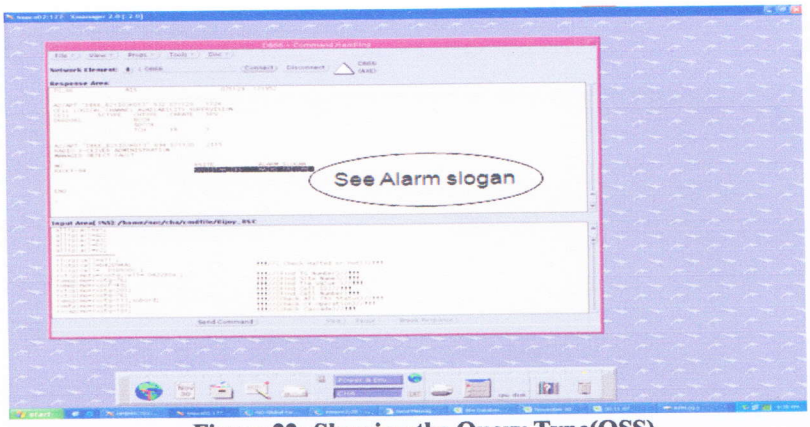


Figure 22: Showing the Query Type(OSS)

In this picture we see the alarm type, mains failure or any other failures.

2.21. Response to power related Query from OMC_R:

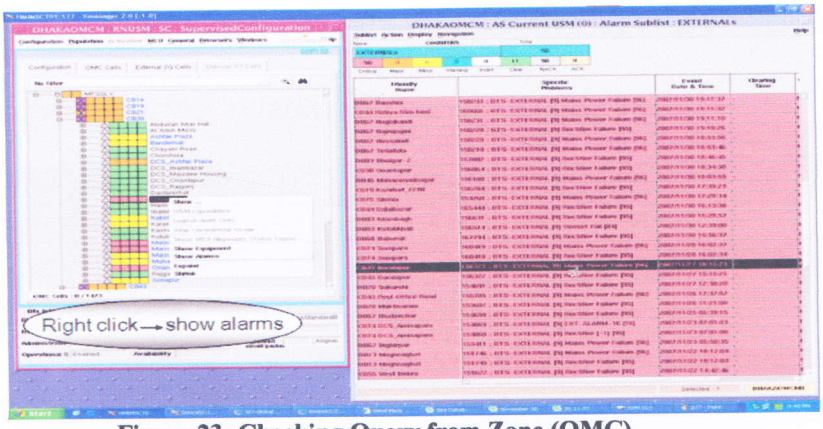


Figure 23: Checking Query from Zone (OMC)

For OMC_R related query we have to work the RNUSM as already mentioned. By opening the window we select a loation and right click on it, SHOW ALARM.

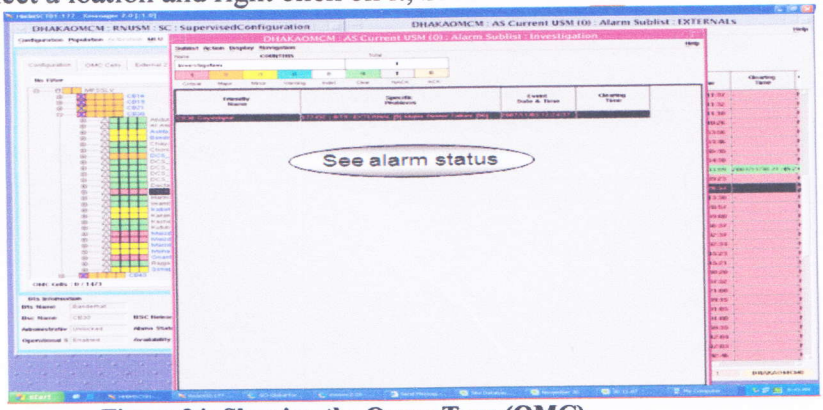


Figure 24: Showing the Query Type (OMC)

Then we will be able to see the alarm status on the next window.

2.22. Acknowledge clear alarms:

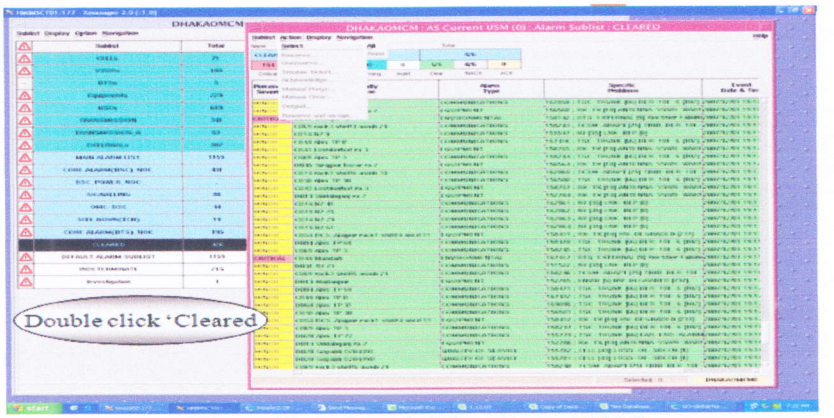


Figure 25: Acknowledging Alarm (OMC)

Now here is another important thing that we have to work on, if alarms and BSC or BTS down, the alarm after a certain time gets cleared. Then there is a limit of containing every cleared alarm. Certain alarms get cleared automatically, but certain alarms need to be cleared manually.

2.23. Response to power related Query from i-Manager:

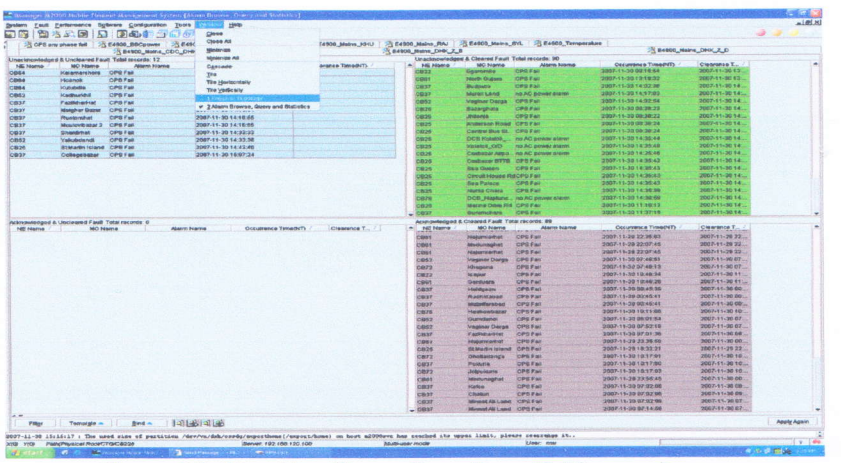


Figure 26: Checking Query from Zone (I-Manager)

For i-Manager we open Physical Topology to see alarm status.

2.25. Log in BTS Maintenance to know about Temperature & Board Information:

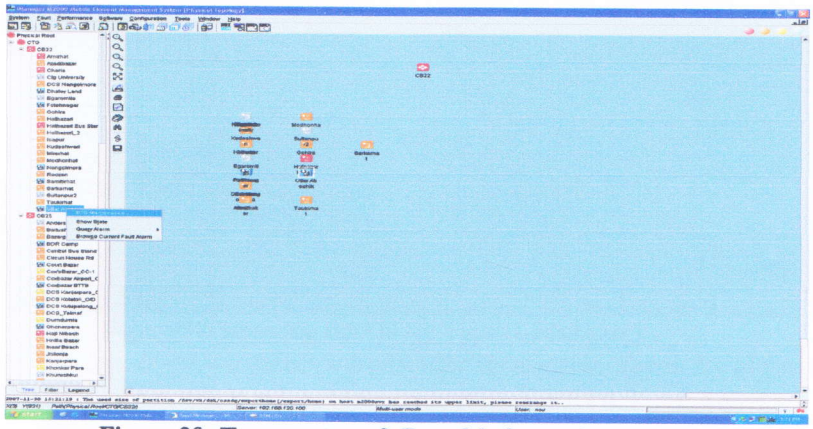


Figure 29: Temperature & Board Information

BTS maintenance is another important thing. To check temperature and board alarm we have to click on the location and select BTS Maintenance.

2.26. Temperature (in degrees):

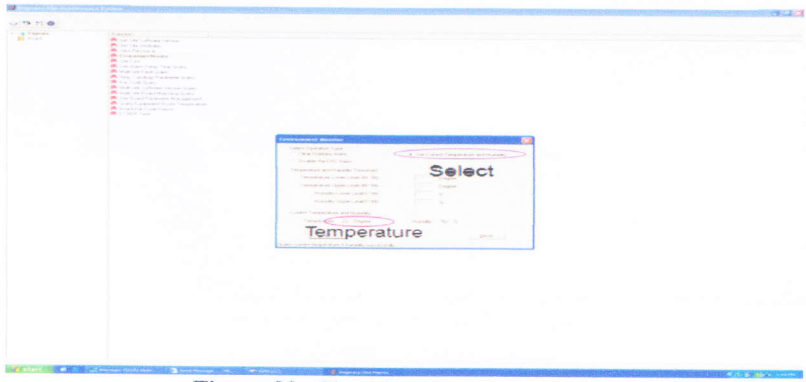


Figure 30: Checking Temperature

Now before this page opens there will be username and password is required to log in to next page. One can collect that piece of information from any other slot members. Now from the figure we see that temperature and select zone has been circled.

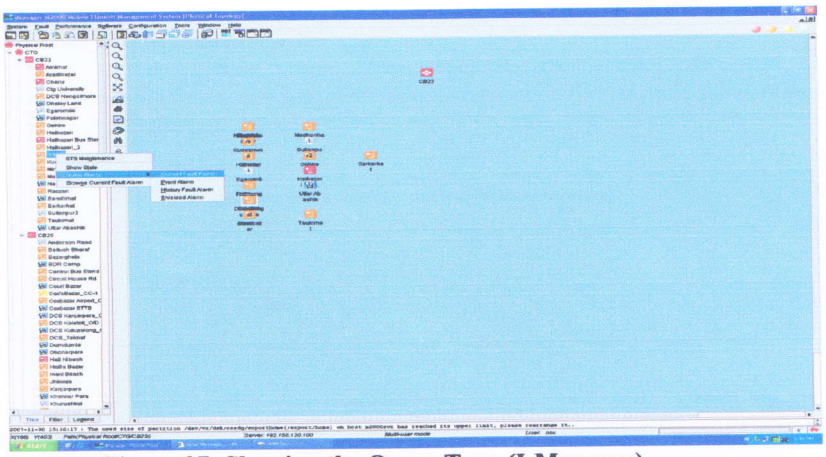


Figure 27: Showing the Query Type (I-Manager)

Then by opening the topology we select a particular location to check its alarm status. Right click of mouse on a location than QUERY ALARM> CURRENT FAULT ALARM.

2.24. Alarm status:

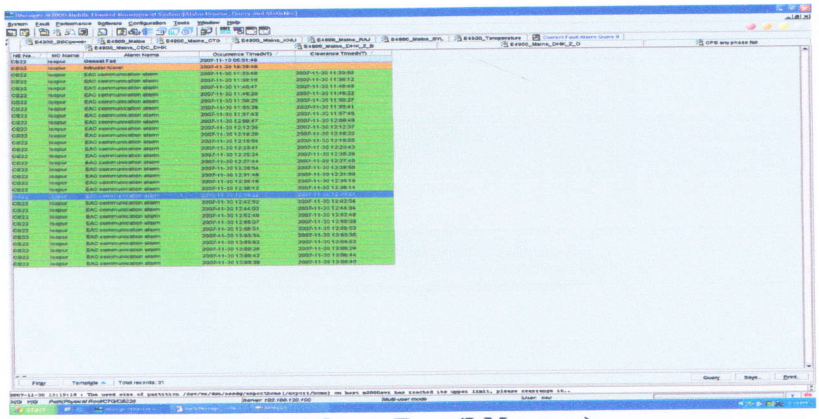


Figure 28: Desired Query Type (I-Manager)

Then on this window we will have our desired alarm status.

2.27. BTS Configuration Status:

Figure 31: BTS Configuration Status

Then we get BTS configuration status. Here the red color indicates faulty condition.

2.28. Board Information's:

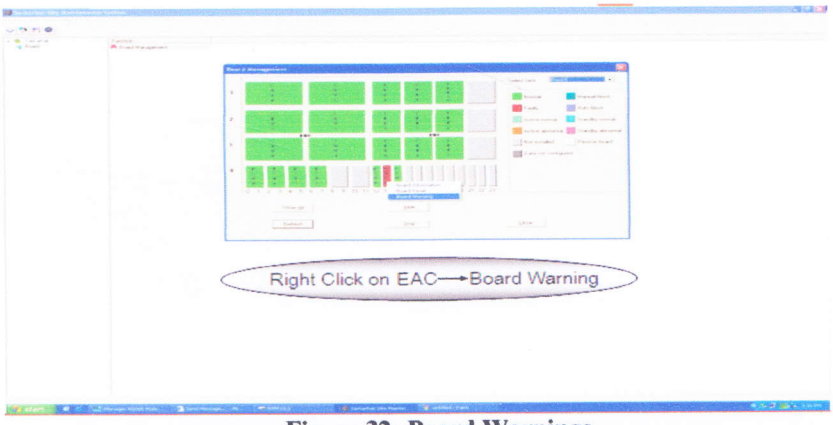


Figure 32: Board Warnings

Then to know more, we can right click on the fault (EAC) and then select BOARD WARNING.

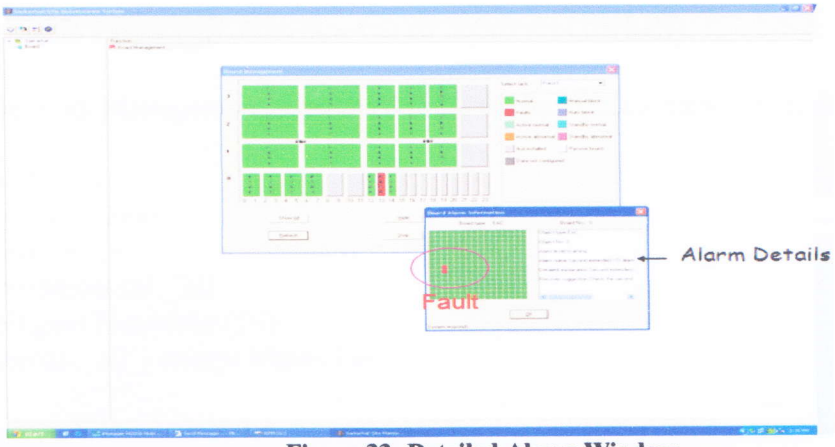


Figure 33: Detailed Alarm Window

Then this smaller window will appear. Here we can get every small detail about the fault alarm.

2.29. Integrated Network Management System (INMS):

In Integrated Network Management System (INMS) we have to monitor the templates mentioned below:

1. BSC Power
2. Important _Hop
3. Mains Failure
4. Environmental _ all
5. Intelligent Networks (IN)
6. External _ all _ except Mains Failure

2.30. Opening Integrated Management System (INMS):

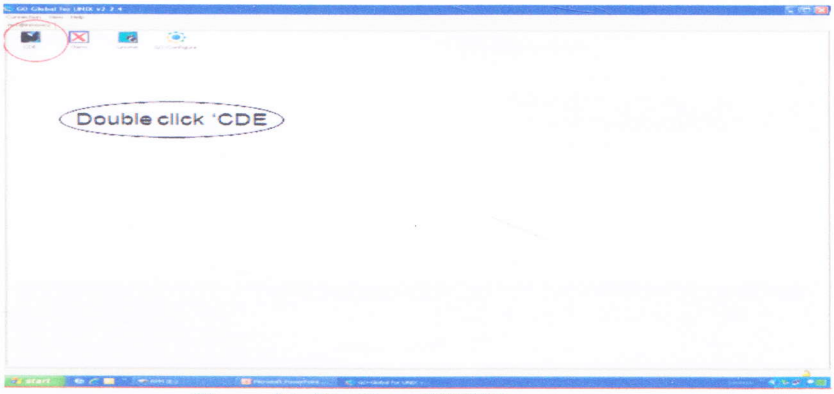


Figure 34: Starting of INMS

Double click the red circled position.

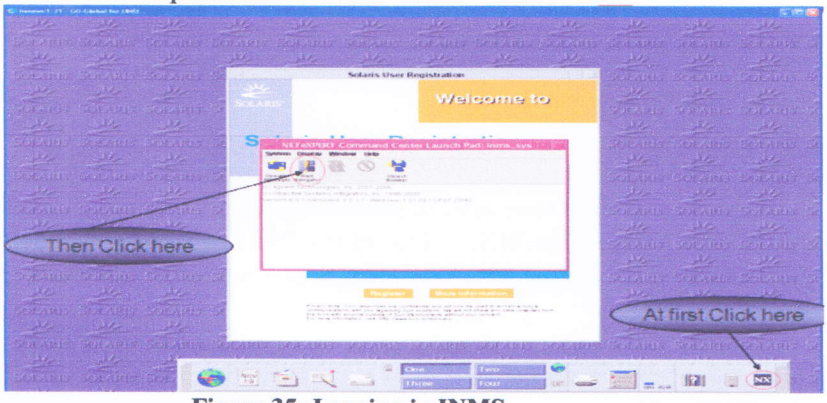


Figure 35: Logging in INMS

This menu will appear on screen. Click on the NX on the lower right of the screen then the boxes will appear. Then click on the red circled position. There will be a alert navigator being open.

2.31. BSC Power:

According to fault escalation procedure Send the manual SMS of the BSC Power related issue to the respective Zone & power group after 30 min. but not more than 45 min. After 1 hour (if the power would not be restored) send SMS to Head of the Power concern Person. Similarly, when the power problem gets resolved then select 'maintain' (as usual as previous of the concerned group) to send resolved message.

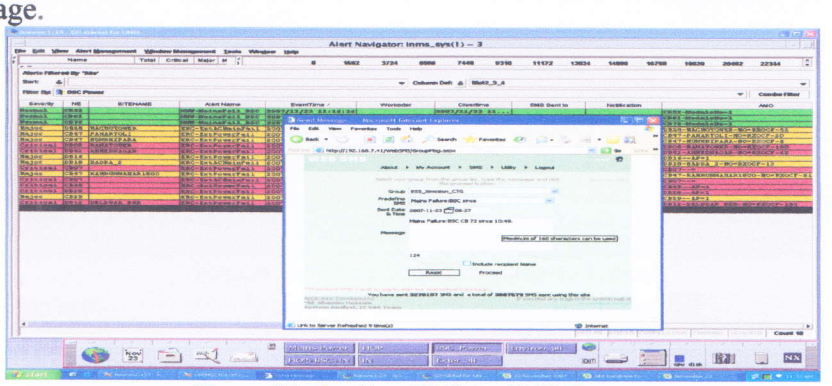


Figure 36: Sending SMS for BCS Power

2.32. Important Hop:

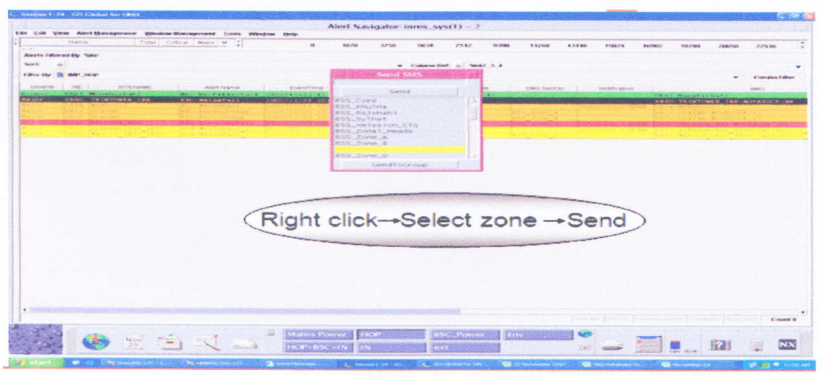


Figure 37: Starting of Important Hop

Send the manual SMS (click right button) for IMP_HOP sites after 1 hrs (if work order is not issued) to the particular zone and informed the respective roster person over phone call.

2.33. Mains Failure:

Send the manual SMS (click right button) for Mains Failure sites after 3 hrs (if work order is not issued) to the particular zone.

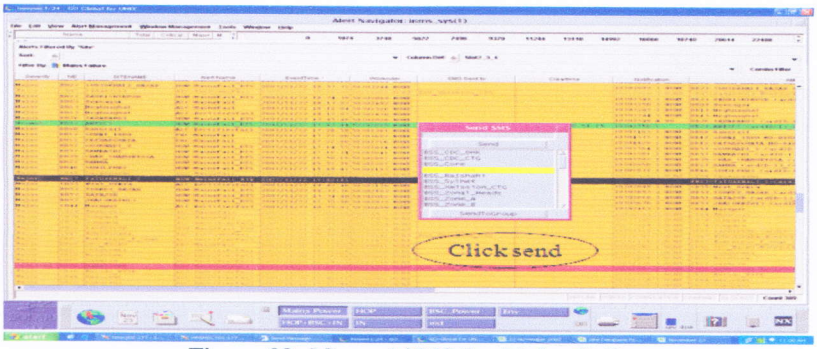


Figure 38: Manual SMS for Mains Failure

Now from this navigator we can choose our desired alarm from the list.

2.34. Environmental All:

Send the manual sms (click right button) for Environmental_all sites after 2 hrs (if work order is not issued) to the particular zone.

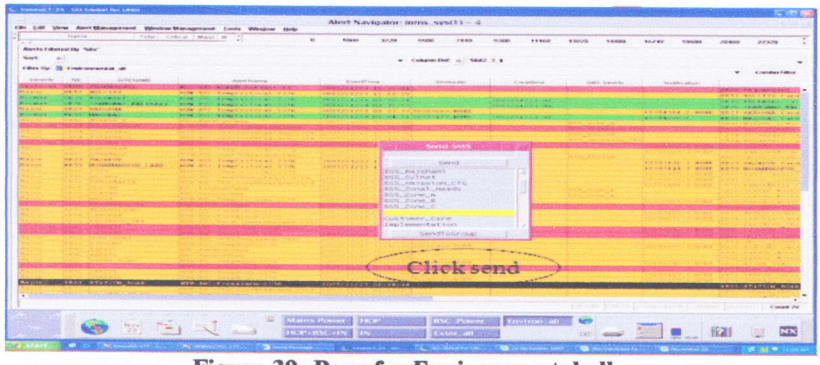


Figure 39: Page for Environmental all

Under the name of 'Environmental all' there is another template in INMS which contains work order not issued alarms.

2.35. Intelligent Network (IN):

1. SCDP, Severe overload of SCP,Qos. Above alarms should be informed to the designated persons.

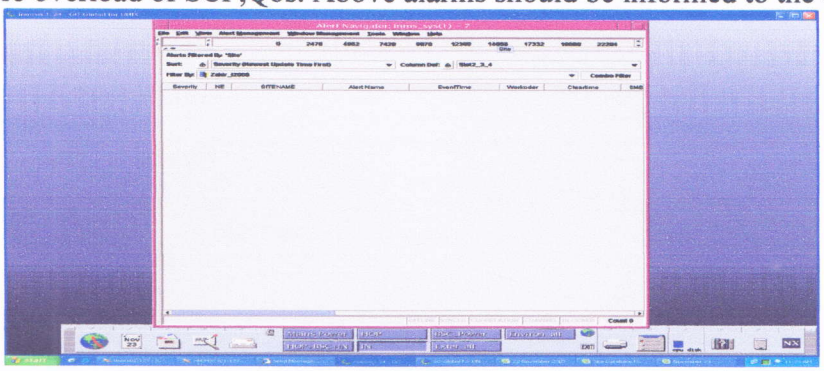


Figure 40: Alarm for IN(Intelligent Network)

'IN (Intelligent Networking)' is another important alarm. These alarms need to be informed to the designated persons.

2.36. External_all_except Mains Failure:

Send the manual sms (click right button) for External_all_except sites after 2 hrs (if work order is not issued) to the particular zone.

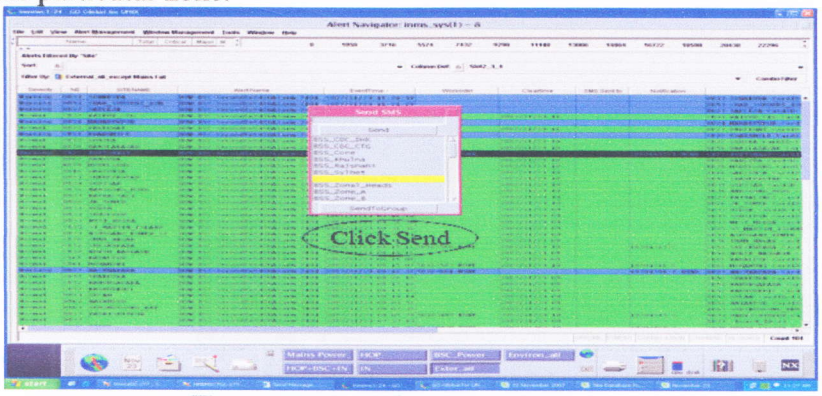


Figure 41: Alarm for External All

2.37. Opening Other Templates:

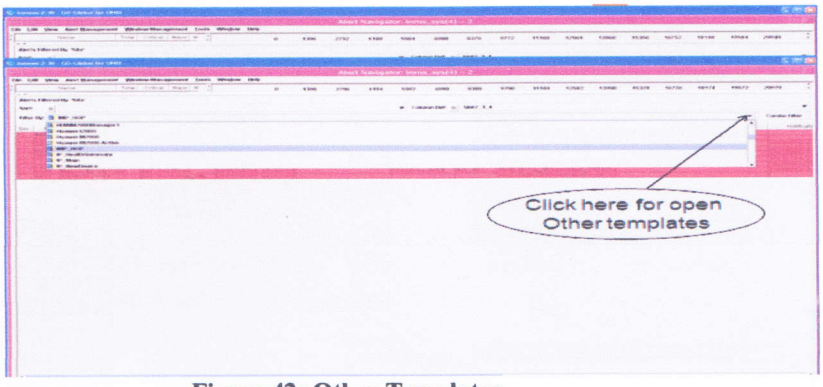


Figure 42: Other Templates

There are other templates in the navigator. The arrow sign is the place where one can find the other templates.

2.38. BSC_POWER, IMP_HOP & IN:

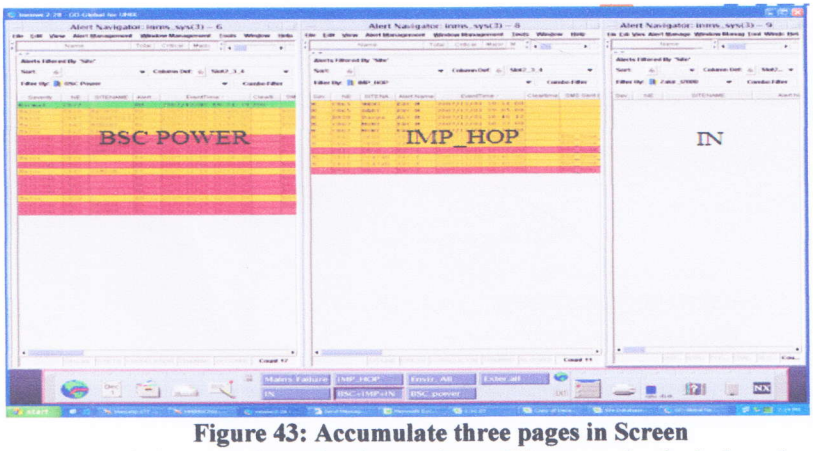


Figure 43: Accumulate three pages in Screen

The procedure to open all the templates is shown here. They are included under the template of "BSC Power, IMP HOP and IN".

2.39. Creating log for Long pending Power issues:

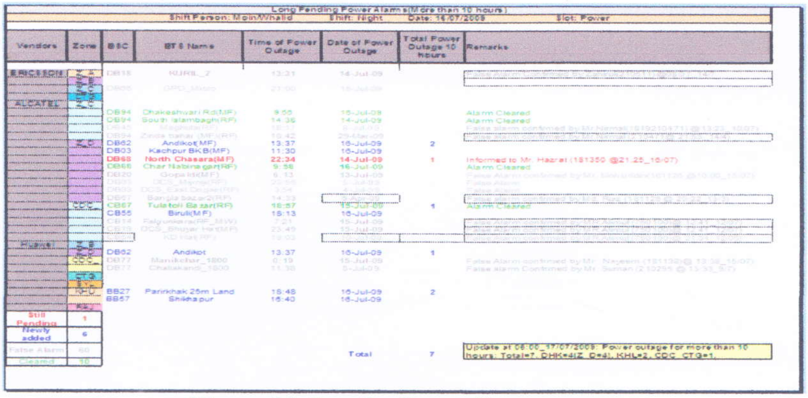


Figure 44: Log for Power Issues

Create a proper list of long pending (more than 10 hrs) power issues and mail to next roster person & C.C. to Manager & NOC TECH assigned person.

2.40. Give mail with pending power issues to next Roster Person:

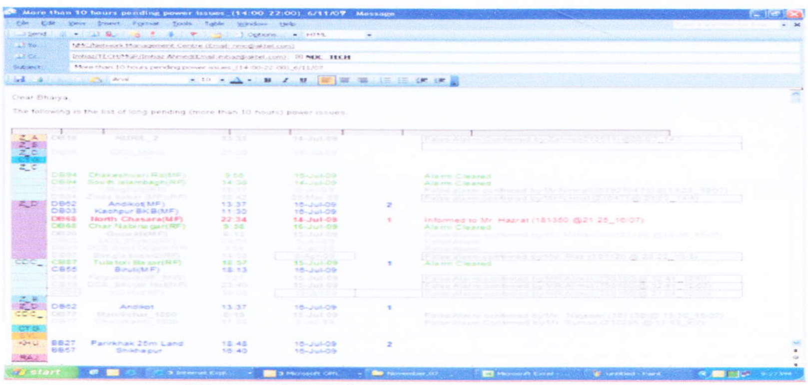


Figure 45: Mail file to the next Roster Person

2.41. Send update summary sms for long pending power problem:

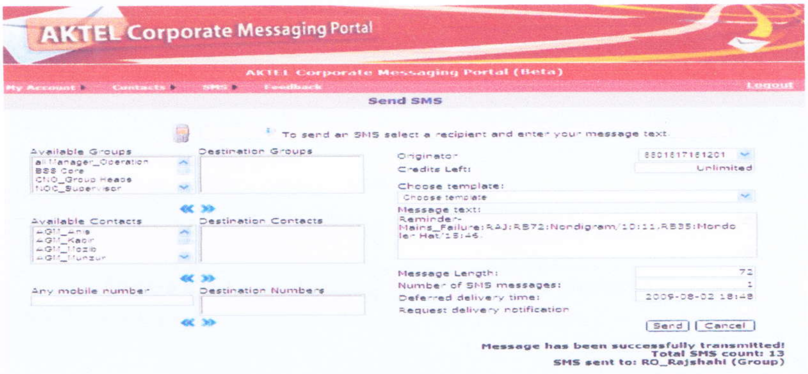


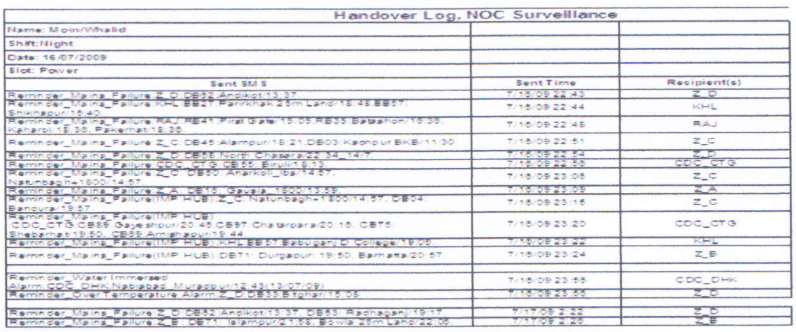
Figure 46: SMS for long Pending

Now before leaving and from the HANDOVER we sent update sms to the respective zone using this site.

2.42. Other Activities:

- Alarm updates (through the INMS) and any other irregularity are informed to NOC support, which are followed strictly.
- Convey all messages to the next assigned person of any major issues.

2.43. Handover these documents to next roster person by mail:



Handover Log, NOC Surveillance		
Name: Moin/Whalid		
Shift: Night		
Date: 16/07/2009		
Slot: Power		
Sent SMS	Sent Time	Recipient(s)
Reminder_Mains_Failure:Z_D:DB82:Andikot/13:37.	7/16/09 22:43	Z_D
Reminder_Mains_Failure:KHL:BB27:Parirkhak 25m Land/18:48,BB57: Shikhapur/18:40.	7/16/09 22:44	KHL
Reminder_Mains_Failure:RAJ:RB41:First Gate/15:05,RB35:Batashon/18:35, Kaharol/18:35, Pakerhat/18:35.	7/16/09 22:48	RAJ
Reminder_Mains_Failure:Z_C:DB45:Alampur/18:21,DB03:Kachpur BKB/11:30.	7/16/09 22:51	Z_C
Reminder_Mains_Failure:Z_D:DB58:North Chasara/22:34_14/7.	7/16/09 22:54	Z_D
Reminder_Mains_Failure:CDC_CTG:CB55: Biruli/18:13.	7/16/09 22:58	CDC_CTG
Reminder_Mains_Failure:Z_C: DB50: Anarkoli_iba/14:57, Natunbagh+1800/14:57.	7/16/09 23:06	Z_C
Reminder_Mains_Failure:Z_A: DB16: Gausia_1800/13:59.	7/16/09 23:09	Z_A
Reminder_Mains_Failure(IMP HUB):Z_C: Natunbagh+1800/14:57, DB04: Bandura/19:57.	7/16/09 23:16	Z_C
Reminder_Mains_Failure(IMP HUB) :CDC_CTG:CB89:Gayeshpur/20:46,CB97:Chatarpara/20:16, CB75: Shebarhat/19:50, CB59:Amirhapur/19:44.	7/16/09 23:20	CDC_CTG
Reminder_Mains_Failure(IMP HUB):KHL:BB57:Babuganj D College/19:05.	7/16/09 23:22	KHL
Reminder_Mains_Failure(IMP HUB):DB71: Durgapur: 19:50, Barhatta/20:57.	7/16/09 23:24	Z_B
Reminder_Water Immersed Alarm:CDC_DHK:Nabiabad_Muradpur/12:43(13/07/09).	7/16/09 23:56	CDC_DHK
Reminder_Over Temperature Alarm:Z_D:DB33:Bitghar/15:05.	7/16/09 23:56	Z_D
Reminder_Mains_Failure:Z_D:DB82:Andikot/13:37, DB53: Radhaganj/19:17.	7/17/09 2:22	Z_D
Reminder_Mains_Failure:Z_B: DB71: Islampur/21:58, Bowla 25m Land/22:05.	7/17/09 2:26	Z_B

Figure 47: Handover for Next Roster Persons

HANDOVER is another report to be given to the next roster person.

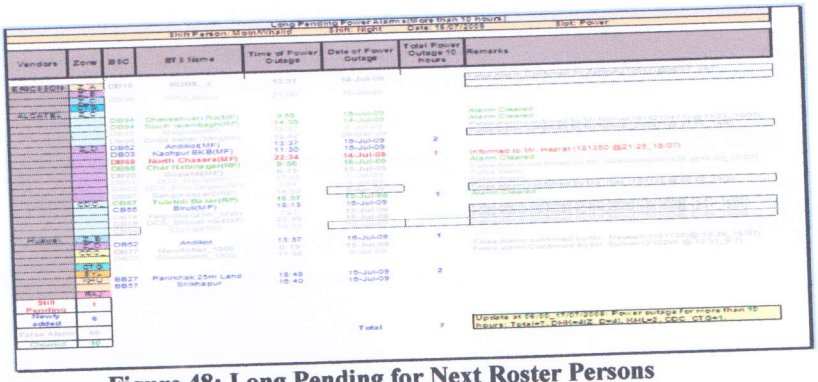


Figure 48: Long Pending for Next Roster Persons

And the Long Pending Alarms.

2.44. SAP (System Application Process) Software Work

2.45. SAP Log in:

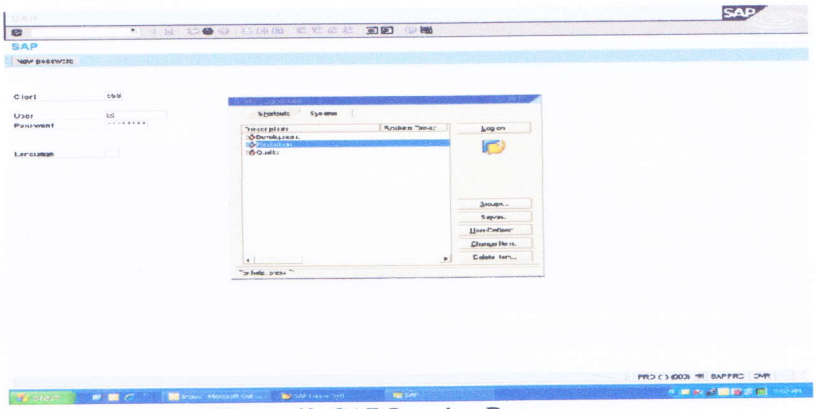


Figure 49: SAP Logging Page

SAP software is used to record alarm that happens in every slot for POWER and SITE DOWN. Here we issue work order for affected site and if a terminal goes down we issue work order for every BSC under that BTS. Now before we proceed we need to log in to the software, then we select production and then click log in.

2.46. SAP entry of Username and Password:

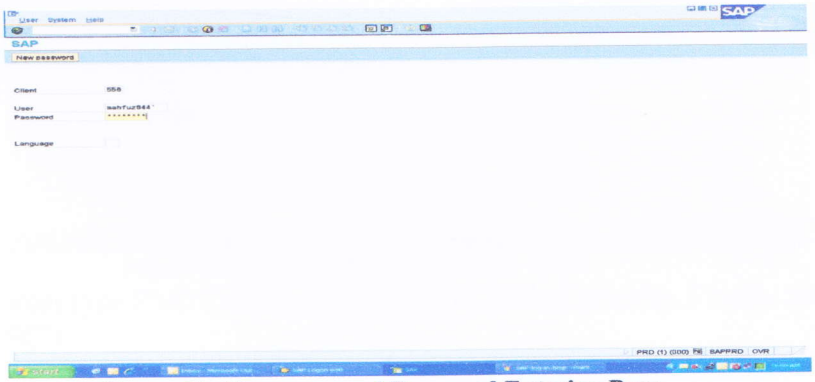


Figure 50: Username and Password Entering Page

After that we enter username and password for logging in.

2.47. Next step in SAP entry:

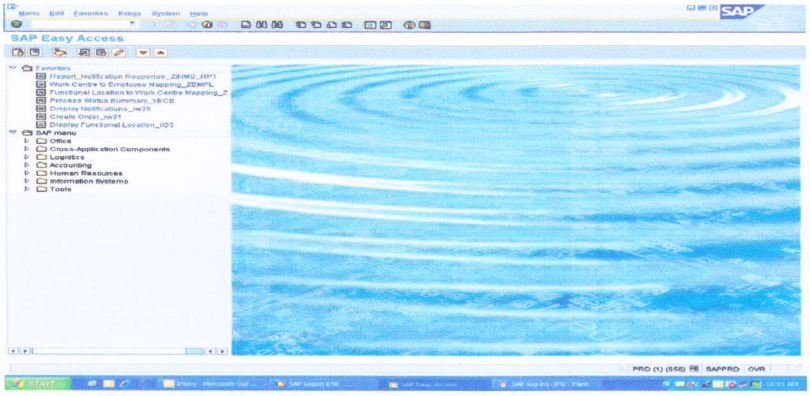


Figure 51: Choosing Create order iw21

Then this page shows up. Where we have to choose 'Create order_iw21'.

2.48. Entering of BSC Data:

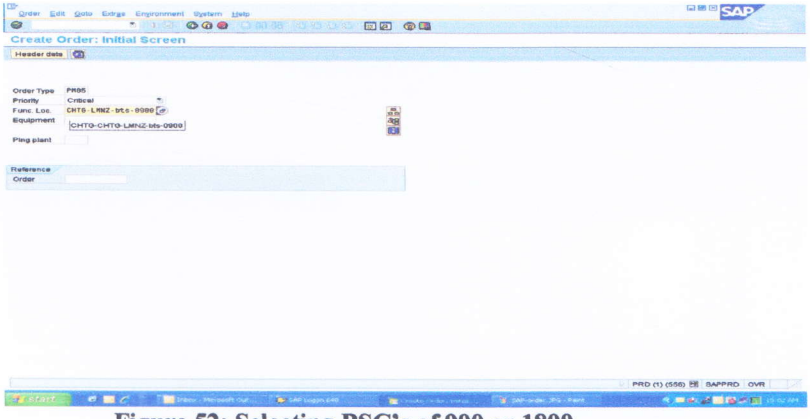


Figure 52: Selecting BSC's of 900 or 1800

Now we give order type PM05, to identify alarms of critical priority. Finally identify whether this is 900 or 1800 BSC's.

2.49. Entering site info's:

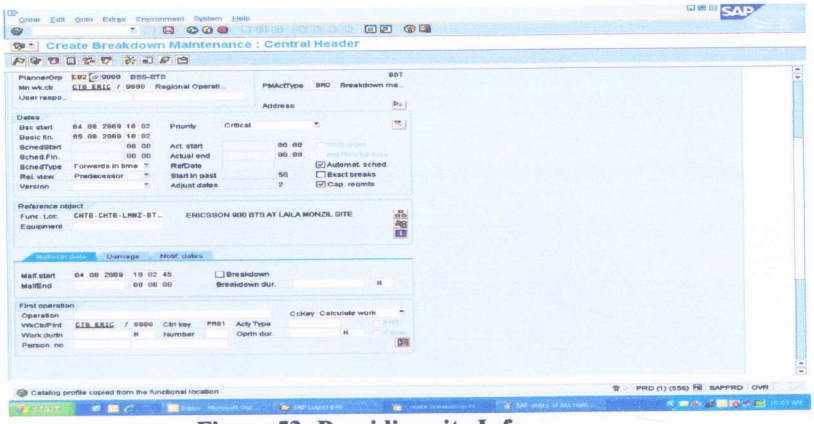


Figure 53: Providing site Info

Here we enter the info's for the affected site i.e., time it was down and it's up again etc.

2.50. Preparing object list:

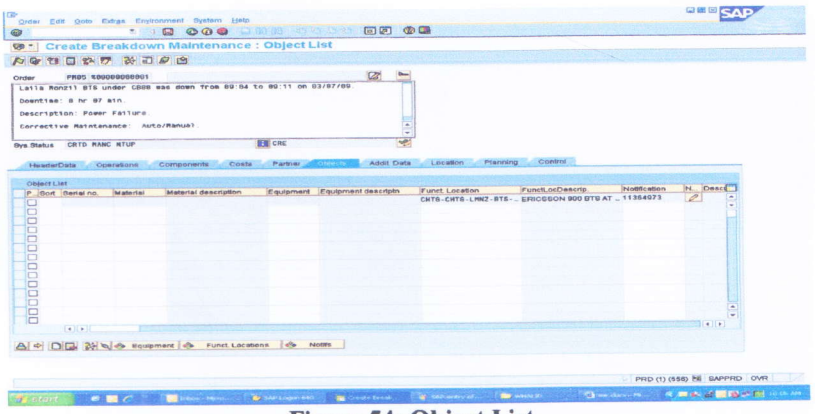


Figure 54: Object List

Now at the very last stage we have to enter the object for the site down and then click save. Then the issued work order will be shown on the lower left side of the screen.

2.51. Preparing mail:

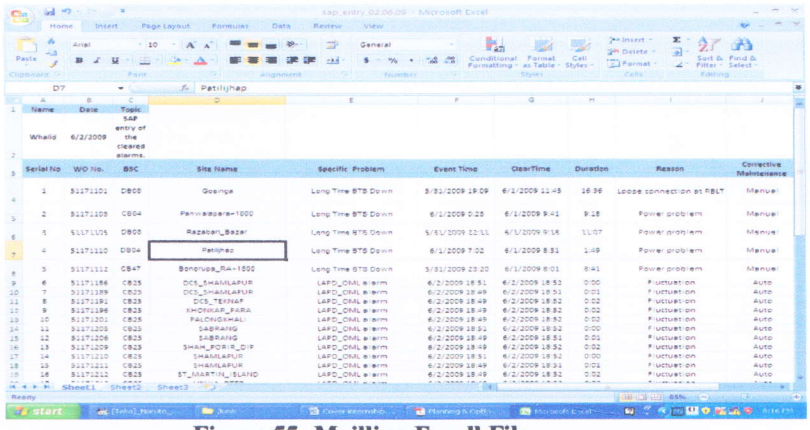


Figure 55: Mailling Excell File

The format for sending mails for SAP is shown below. Suppose in long time BTS down we get 1 work order and then rest will be on that work order and for single BTS down we have a work order for one site. Now we attached this file to designated persons.

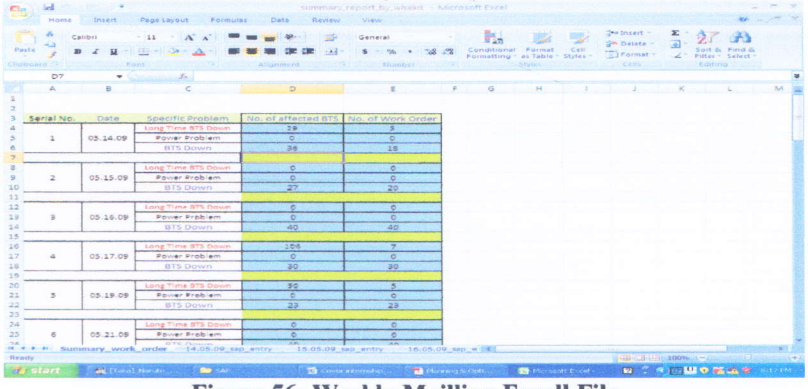


Figure 56: Weekly Mailling Excell File

This is the summary of the total work done for a month. We had to add those file in one excel file to mail them to designated persons.

2.52. Complaint Management Unit (CMU)

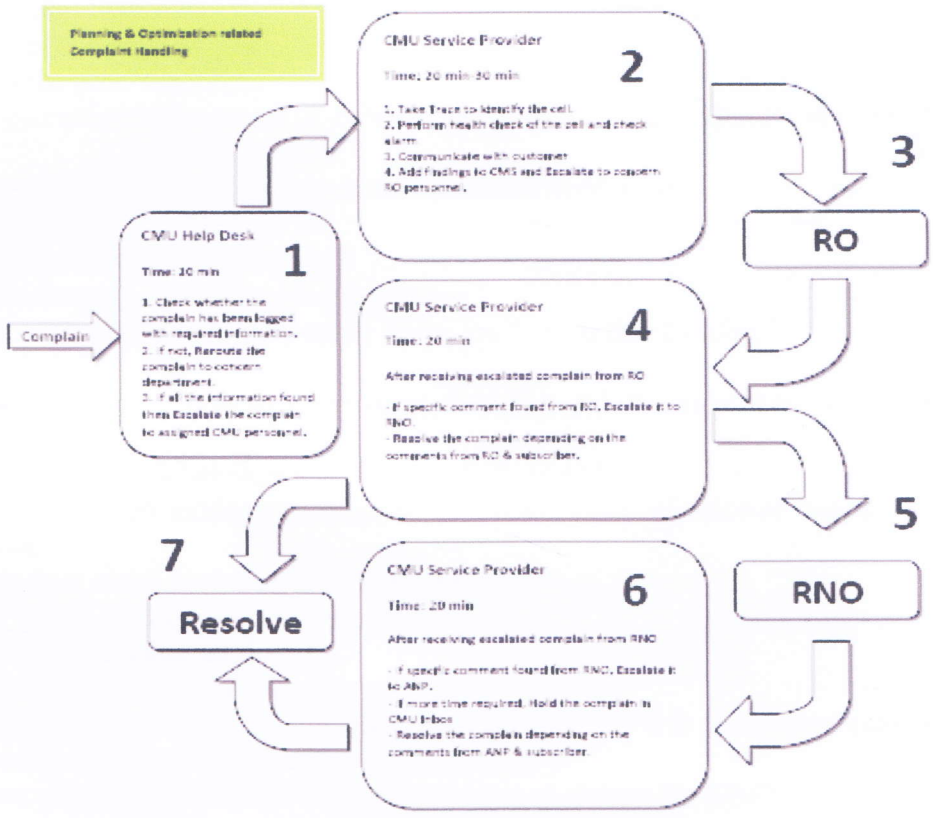


Figure 57: Procedure of CMU's Work Done

Here we maintain some procedure to help our client in the problems they faced in using SIM for talking, using internet or any other reason. If a client informs us that they are facing any kind of problem we try to resolve them from CMU.

7.2Procedure of IN related complaint Handling
COMPLAINTS CATEGORY
These are the major problems that a customer feels while using the cell phone

Call Drop
Call Congestion
No Coverage
Poor Coverage
Voice Distortion (Broken/Metallic Sound during Call)

2.53. REQUIRED INFORMATION LIST

To identify the problems, the information required from the customers are:

- Location Address Details.
- Persistency of the problem.
- Duration of the problem.
- Problem description with respect to different category (Coverage, Quality or Others).

For coverage related (Poor\No coverage) problem, questions need to be answered by the customers are,

- How many bars is shown in Handset?
- What is the coverage status outside the building?
- Problem is in which floor & How many floors are there is that building?

For Quality related (Call drop\Congestion) problem, we had to ask the client these questions:

- How many network bar shows when the call dropped?
- Is the call dropped suddenly or dropped after huge breaks of voice or muted condition?
- Usually how many bars should be in the handset?
- Case Title vs. Problem description.
- Handset Info & Handset duration.
- Nearby AKTEL Site info- how far at which direction.
- All AKTEL SIMs are facing the same problem or only you at same floor\ same area?
- Did you change your Handset?
- Did you put on a different SIM in your Handset or change the SIM?
- Problem only at this location?

- Problem during call to/from B party or other locations too- address of B- party location
- Problem with Only AKTEL or Other Operators or PSTN or ISD.
- Problem occurs during INCOMING or OUTGOING or BOTH?
- Another Active alternative number to contact him?
- Another number who face the same problem?

2.54. Necessary Software

- Complaint Management System (CMS)
- SMU Client
- I-Manager 2000
- Ericsson-OSS
- OMC-R
- Huawei LMT

2.55. Work Procedure for tracking case:

- Call Subscriber.
- Get the missing details.
- If he is at the problem location, then TRACE and get the serving CELL information. If not at the problem, then ask when he will be there.
- Check for current fault alarms and traffic status of the serving CELL found by Huawei LMT, OSS or OMC-R.
- ESCALATE to the concerned RO personnel in CMS with ALL information (CELL Name, Current Fault Alarm, Traffic Status)

2.56. Call Trace Procedure

We use iManager to take a trace of subscriber's current serving cell. First use the command "**DSP USRINF**" to find the global cell identity (CGI).

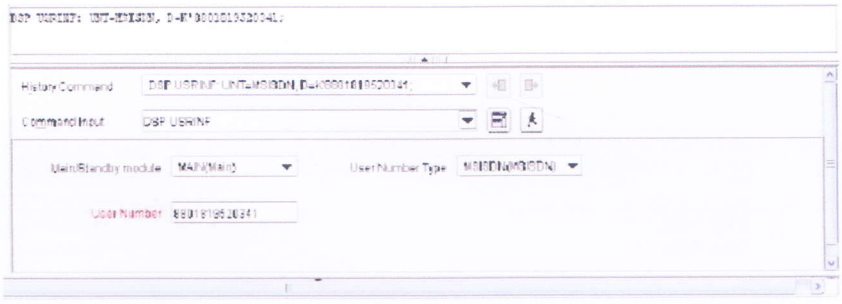


Figure 58: Call Trace Procedure

2.57. Command Prompt

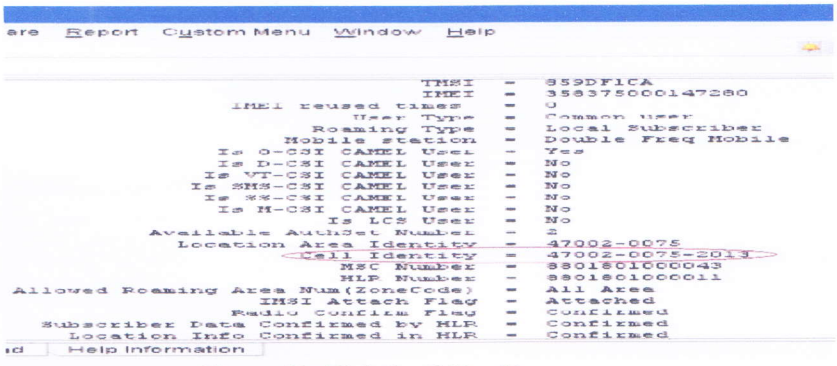
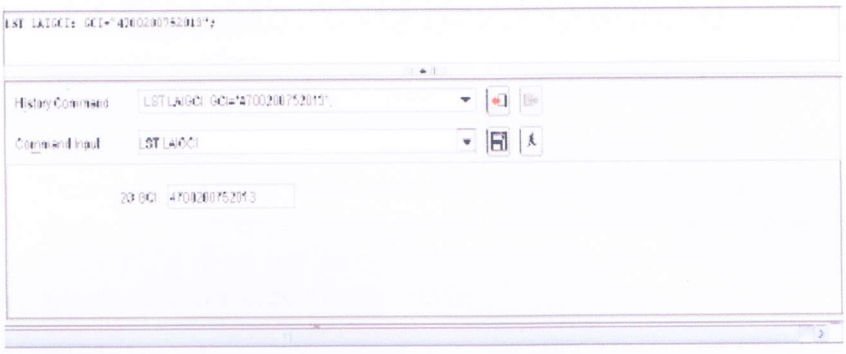


Figure 59: Global cell identity

This is the cell identity number. Then issue another command to get the specific location of the subscriber. The command is "LST LAIGCI. We put the cell identity in 2g CGI to find out the specific subscribers current location.



Command Prompt

Figure 60: Command Prompt

Then using the cell identity number we try to find the Cell name by putting the cell identity number in the above figure.

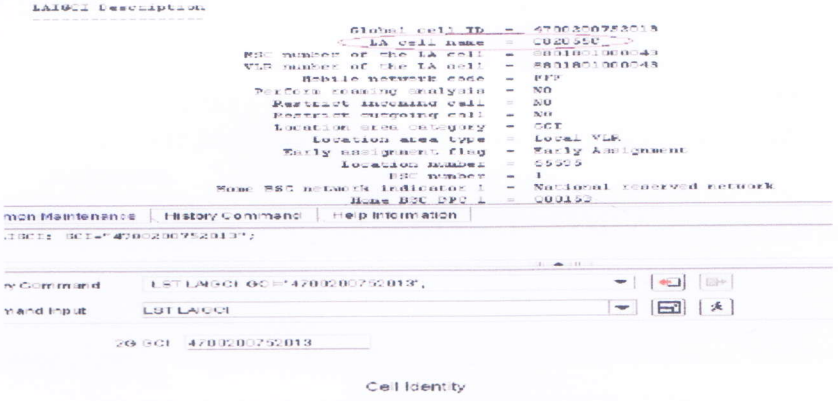


Figure 61: Cell Identity Number

Then check the 'Cell Name' for any fault alarms as well as traffic status of serving cell.

2.58. Preparing mail for CMU:

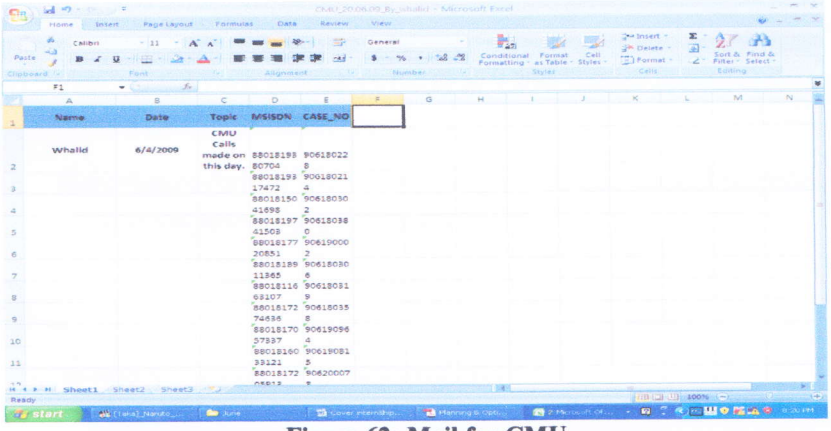


Figure 62: Mail for CMU

Then at the end of the day we send mail to the designated persons of how many calls we made on that particular day.

3. PROBLEMS AND RECOMMENDATION

3.1. Power Monitoring Slot

3.2. Discrepancies:

- Terminal PCs have some problems regarding monitoring. While monitoring them, the PC sometimes get hanged and there are some problems with running of the PC's. They are being running for long periods of time. So this PC's should be taken care of very well.
- **Recommendation:** Terminal PC's should be rearranged for smooth monitoring.
- Sometimes Integrated Network Management System (INMS) does not work properly. This is very important software to monitor all three vendors of ROBI (AKTEL).
- Some sites are found in one BSC but different zone which is very much tough for quick identify, there are entries for different BTS and BSC but they are not found in the particular zone rather they are found in different zone which is unpleasant.
- **Recommendation**: Location entries should be performed carefully.

3.3. SAP Software Work

3.4. Discrepancies:

- Sometime the desired site's are not found in SAP, there are entries for different sites but these are not found in the particular zone. They are found in different zone.
- **Recommendation:** Site location should be recorded under proper place to ease the solution of existing problems.
- Few sites do not belong to 0900 or 1800, which create problem in relocating these site.
- **Recommendation**: Before starting work, one should be properly trained to understand these things very carefully.

3.5. CMU

- There was no discrepancy observed in CMU.

4. CONCLUSION

On the completion of this internship I gathered knowledge on Power Monitoring Slot, SAP Software work and CMU (Call Monitoring Unit). Precautions should be maintained while working with power monitoring slot. The update of OSS OMC_R and i-Manager should be checked. The handover procedure should be completed correctly along with the 10 hours pending data, so that the next slot person can understand every alarm that were down in that time. SAP (System Application Process) and CMU has vast area of work. To learn more about SAP (System Application Process) and CMU more time is required. The overall working environment and senior's attitude towards intern was appreciably encouraging.

References

[1] Website: www.robi.com.bd

[2] Rests of the other information were provided through our office at Uday Tower Gulshan-1 Dhaka 1212.