Working as Network Operations Center Trainee Engineer at Metal Plus Ltd.

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Internship titled "**Network Operations Center Trainee Engineer**" submitted by Rezaul Huque Nayeem, ID No: 162-15-8106 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on Saturday 14th September 2019.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Ahmed Al Marouf, Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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Finally, I must admit with due respect the continuous support and patients of my parents without whom I can't come this farther.

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ABSTRACT

I am Rezaul Huque Nayeem a proud student of Daffodil International University and I have just completed my final year internship on a very reputed company Metal Plus Ltd. As a NOC engineer. This report necessity of the internship program for my Bachelor of Science course degree in my university. Metal Plus Ltd is doing maintenance activities of every telecom company on Bangladesh like Grameenphone, Robi, Airtel and Banglalink. They are in this business from 2006. They have a very beautiful NOC or Network Operation Center. I do my internship on their NOC. I am showing my interested to internship at this NOC because now a day communication technology played a very important role in modern world. In this internship period I learn working processes in a NOC and how to monitor the network. The First part of internship statement gives a summary about journey of Metal Plus Ltd. How they able become an important vendor for all of telecom service provider. And how much role they have been played on telecom sector. Then expatiate about the tasks we performed and our tasks through internship, finding hitches during monitoring network and process of solving them. There our main responsibilities are to monitoring the various power related alarm and take necessary steps. Hear I get a very good chance to observe the main operation on every telecom company. That is why I select this interesting subject "Working as Network Operations Center Trainee Engineer at Metal Plus Ltd.". This report written about how a NOC engineer work and how they are monitor the whole telecom network system.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

For completing my BSc in Computer Science and engineering I have to complete my thesis or project or internship. I chose to complete internship. I already complete my internship on Metal Plus NOC. During my Internship I learned about how to work on a NOC, how to monitor network operation 24/7. At beginning of my internship, I just have to observe how my senior co-worker are doing their job. How they manage all kind of operations, and escalates various network alarms to field. During this time, I learned how see alarm, every kind of network alarm, when and why alarms appeared on system monitor etc.

1.2 Motivation

My internship place is metal plus ltd, which company is doing maintenance every telecom company's network tower in all over Bangladesh. That's why in this company I can observe the operation of Grameen phone, Robi, Airtel and Banglalink in one place. I can learn how they work and how their network work. Every telecom company work in different way. In metal NOC I can learn all of them or at least know their working procedure. This will give me a chance to develop my working experiences. In future I can show this experience on any telecom company in Bangladesh for an honorable job position. Joining a company as an intern gives us the opportunity to work hands on in a professional environment. Internships help us by teaching more about the career path we are pursuing.

1.3 Internship Objective

By Internship I can get a chance to attend real life office meeting and events. That's why I can interact with professional person who can help me to make new connections and teach me how to communicate in a professional environment. I my internship I have been introduced with a lot of professional and resourceful person.

1. Learn how to Telecom Network Work.
2. Gain knowledge about networking components & technologies.
3. Know about internet, data, router & LAN.
4. Learn how I can access Ip addressing.
5. Learn about telecommunication.
6. To gain experience about telecommunication.
7. Understood the scenario of networking practical fields.
8. Most of all Learn about official environment and workplace.

1.4 Introduction of Company

"The Metal Private Ltd (Market Leader of Tractor industry in Bangladesh), Metal Agro Ltd, Sleek Knitwear, Jamil Engineering Ltd). From July 2008, MPL is marketing Eicher Tractors in Bangladesh. Our Market Share in this industry is around 15 %. From August 2010, MPL is marketing Diesel Generators, Powered by Eicher Engine Metal Plus Limited (MPL) was established in July 2005. Its sister s. From January 2011, MPL has started O&M activities in Telecom sectors. Presently, we are working with Grameenphone, Banglalink, Airtel Bangladesh Ltd., Huawei Technologies (BD) ltd., City cell, and Ericsson etc." [2]

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Key Management

Chairman

Engr Mr. Aminul Islam.

He is also MD of more eight companies (including Project Builders Limited)

Managing Director

Engr Mr. Sadid Jamil.

He is MD of more four companies including The Metal Private Limited

Executive Director

Lieutenant Colonel Tarequl Alam Khan (Retired), psc,

He is working in this company from July 15, 2009. He is responsible to look after overall business of the company

1.5 Report Layout

1. In chapter 1, I discuss introduction, motivation and internship objective of MPL NOC.
2. In chapter 2, I overview of organizational info, history of MPL, basic erection of info, capacity and linking of MPL.
3. In chapter 3, I deliberate about my duty and events of internship, events and maintains works.
4. In chapter 4, I discoursed about my Skills Earned, Smart Plan, and thinking.
5. In chapter 5, discussion and decision, describe possibility for further career of telecommunication field.

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CHAPTER 2

ORGANIZATION

2.1 Introduction

The word 'Metal' manifests hardness of bondage existing among its members of companies, its shine in works accomplished and conductivity maintained throughout building dynamic organization. The seed of Chronological progress of Metal sown in 1987.

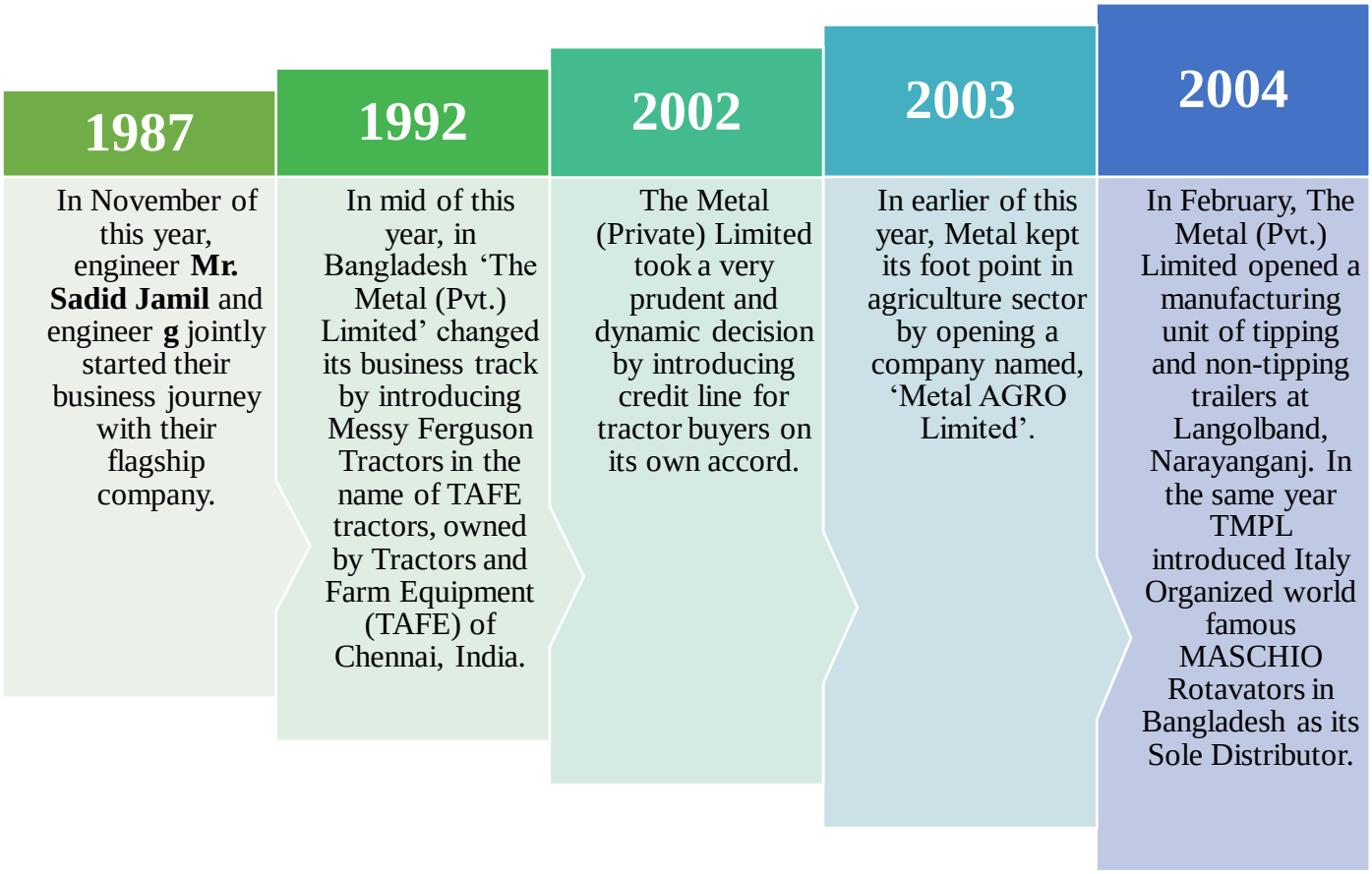

Fig. 2.1: Journey of Metal Plus Ltd 1

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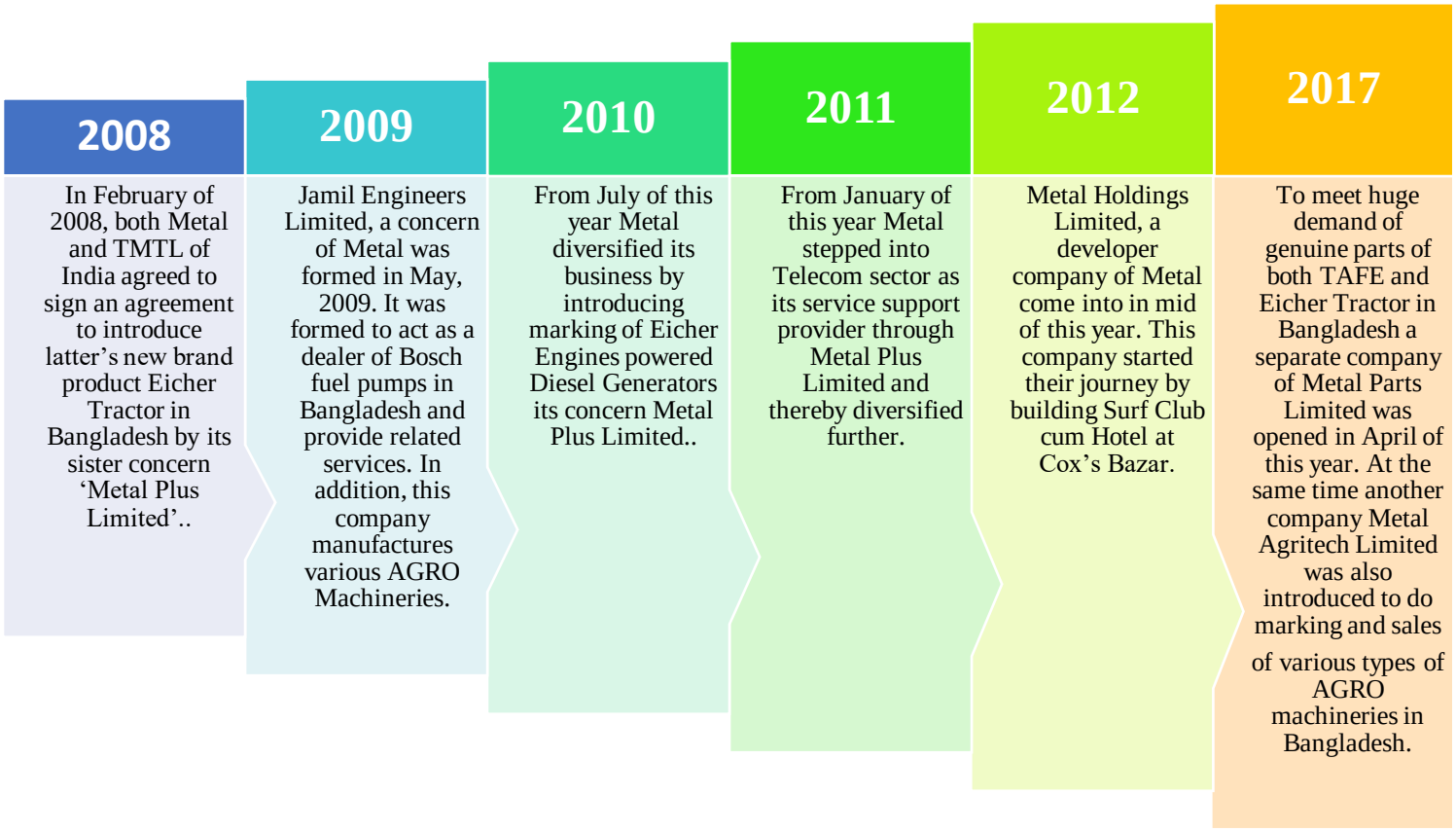

Fig. 2.2: Journey of Metal Plus Ltd 2

Fig. 2.3: Metal Plus Ltd Official Logo [1]

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2.2 Product and Market Situation

2.2.1 The Metal (Pvt.) Limited

Products:

The Metal (Pvt.) Limited is the exclusive dealer/distributer in Bangladesh of:

- •TAFE tractors
- •MASCHIO rotary Tillers
- •Metal rice Trans planters
- •CLASS combine harvesters
- •Reaper binder machines
- •Metal reapers
- •World combine harvester

Services

- After sales service
- Free trainings on machinery operation, machinery maintenance, and entrepreneurship for farmers and local services providers.

Creating widespread change

The sale of every machine of the Metal (Pvt.) Limited can help
Up 20 non-machine owing farmers in the community for
Increased production via machines service support.

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2.2.2 The Metal AGRO Limited

Products

- Vegetable seeds
- Rice seeds
- Maize seeds
- Oil seeds
- Pulse seeds
- Potato seeds
- Spices seeds
- Fodder seeds
- Flower seeds
- Nursery seed

Services

- Seed genetic development, with an emphasis on regional preferences, stress and disease tolerance and resistance along with yield, taste, earliness, and shelf life.
- Seed production, both hybrid and Open Pollinated (OP).
- Quality control throughout seed packing, storage, and delivery.
- Product demonstration and field days to increase product awareness and collection of direct farmer feedback.
- Feedback collection on product usage and problems from their customers via Metal's own call center.

2.2.3 The Metal Plus Limited

Products

- Eicher tractors
- Diesel generators
- Telecommunications service support

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- MASCHIO Rotavators
- Supply of Telecom Power Support items
- Combine Harvester
- Reaper

Fig. 2.4: The Metal Plus Limited Head Office

Services

- After sales services support of tractors
- After sales services support of generators
- Providing management services to mobile operators.
- After sales supports of other AGRO machineries.

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2.3 Target Group

Metal Plus Ltd. lock foreword to become a vibrant self-motivated group and lead
The country's telecommunication sector by establishing a sound and
Cost-effective tower maintenance.
They are trying to become the largest vendor in telecom sector. They provide a very activate cost effective BTS maintenance service to every telecom group in Bangladesh.

Achievements

Sold 750 units of diesel generators to retail and corporate clients in the last 8 years.
Provided operations and maintenance support in more than 5,000 Base Transceiver Station (BTS) sites for large mobile operators, including Grameenphone.
Ensured average 39% year-on-year growth of Eicher Tractors for the last 3years.
Grew total number of staffs from 15 to 450 during the last 9 years.
Having more than 14% of the tractors market share, up from 10% in 2013.
By now positioned Eicher Tractors in 44 districts of Bangladesh.

2.4 SWOT Analysis of Metal Plus (Pvt.) Limited

SWOT (strengths, weaknesses, opportunities, and threats) analysis is a background used to estimate a corporation’s inexpensive position and to progress premeditated planning. SWOT analysis measures interior and exterior influences, as well as present and upcoming potential.

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A SWOT analysis is premeditated to facilitate a representative, fact-based, data-driven look at the strengths and weaknesses of an association, its creativities, or an industry. The association requirements to keep the analysis correct by circumventing pre-conceived opinions or gray areas and as an alternative focusing on real-life situations. Corporations should use it as a attendant and not necessarily as a preparation.

Fig. 2.5: SWOT Analysis [3]

The rest of the steps in the SWOT analysis series, find them here:

- Step 1: **Strengths**
- Step 2: **Weaknesses**
- Step 3: **Opportunities**
- Step 4: **Threats**

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Strengths

In Meta all the administration groups are highly educated and experienced. The managing executives are the strengths of the Company as they have years of professional knowledge, expertise, and qualifications which helps them to work and take Metal plus Ltd. to the position it is right now.
Metal Plus Ltd. has shown spectacular growth in the profit sector.

• A remarkable revenue increase rate has already been achieved by Metal Plus Ltd.

• Metal has so many branches all over the country which offers the best service possible. All the branches are located in suitable places and they keep the branches very protected so the customers feel secured while doing services

• Vast services distinguish between Metal Plus Ltd. and other company. And customers also can choose suitable services according to their requirement.

Weaknesses

• The marketing department of Metal Plus Ltd. is very weak.
• The profit rate is very low compared to other Company.
• The way of promotion in Metal Plus Ltd. is complicated so it is one of the reasons for creating unsatisfied employees.

Opportunities

- In Power Division our company is developing and with many future opportunities for success.
- To previous history there so many projects maintain responsibility offer yet to come.

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• In Power Division sector many companies want to take help from our company which is noticeable.

• Metal Plus Ltd. provided great and reliable services and sometimes offer good job opportunities for expert engineers.

Threats

- Networking sector always challenging. Here always try to maintain network strictly. Cause small mistake are big issue here. In this sector losses chances are so many. That's why team always try to maintain network smoothly otherwise another company take chances.
- It mentions to influences that have the probable to harm an association. For example, a drought is a danger to a wheat-producing corporation, as it may extinguish or reduce the crop harvest.

2.4.1 Organizational Structure

An organizational structure is a scheme that summaries how positive activities are absorbed in order to accomplish the goals of an association. These happenings can include instructions, roles, and household tasks. The organizational structure also controls how material flows between stages within the corporation

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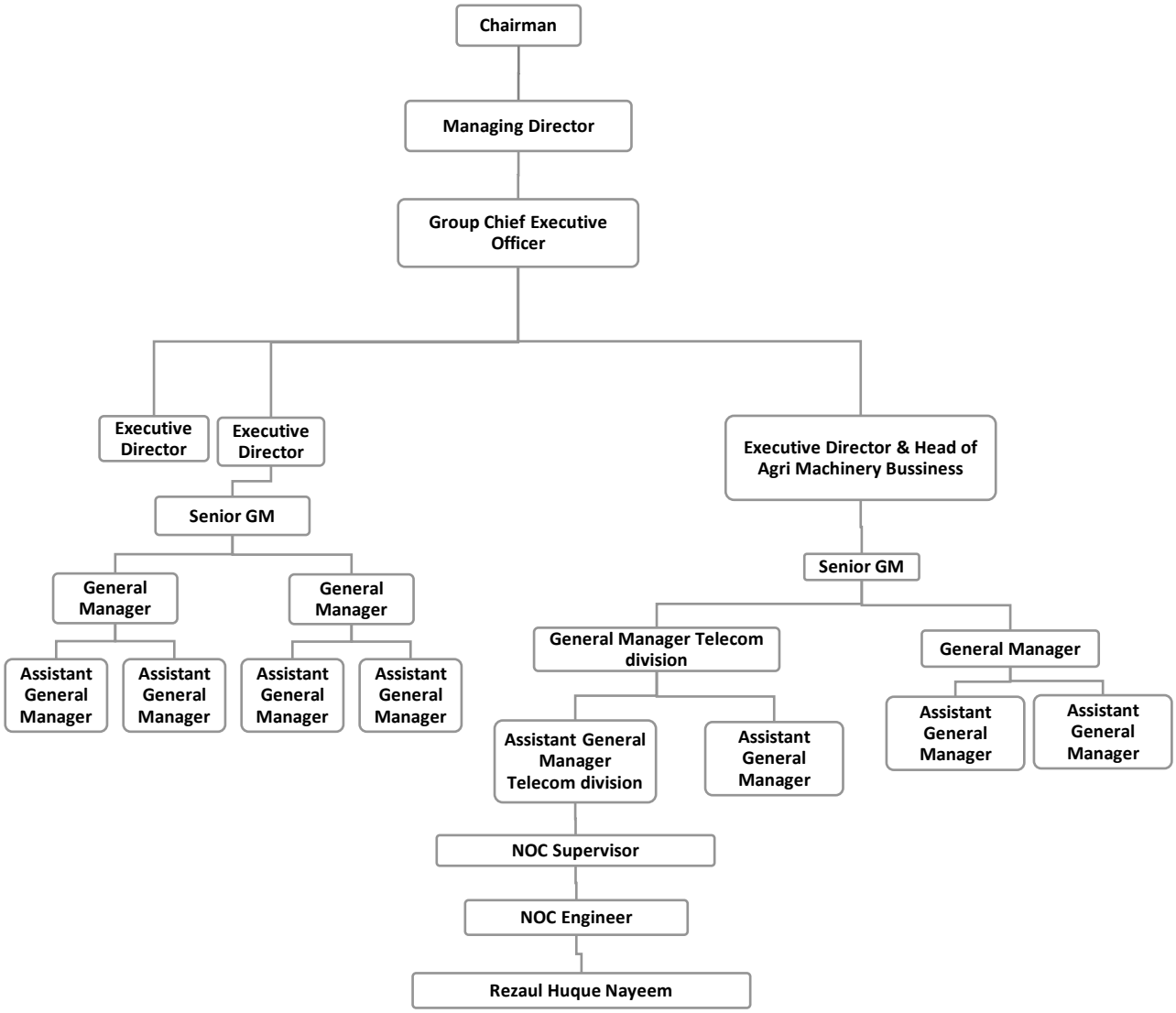

Fig. 2.6: Organizational structure.

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CHAPTER 3

Tasks, Projects and Activities

3.1 Daily Tasks and Activities

Table 3.1: Daily Activities

Month-1 Activities	First months of my internee my colleague helps me to know about the working procedure. They teach me how our telecom network work. They taught me that we need GP MAP, and X-BOT terminal on telegram for checking alarms. How and which command we need. Like MP BATT BON, MP DOWN BON, MP TEMP BON, MP DC BON. Here BON is shortcut for Bogra North. They also introduced with me our active zone. Where we provide our operations. The name of Zone managers.
Month-2 Activities	My Second months they teach me about our packages site, their initials and code names. How to give comment for checking their voltages, when we get door open alarms, when we get site down alarm. They give small task like checking site voltages with comment. Checking our either down or up. Sites temperature alarms, if our sites go down then escalates this alarm to zone managers. If we get any IPBH sites alarm then we inform to our regional manager.

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Month-3 Activities	At my Third month of internship they give me full operation control of robi terminal. I check and escalate every alarm of Rajshahi zone. I take care of MUX sites and give feedback about those sites' status too directly to ROBI operations Head. Create a very good connectivity with him. I learn about disaster period and know how to face if disaster happened. In my 3rd month they handover me about 85% of ROBI terminal.
Month-4 Activities:	At my fourth and final month of my internship MPL NOC give me offer latter to join with them. After join on metal plus they give me their ID card and full access of NOC. They give me a desk and full professional setup for NOC. I take care of ROBI terminal. Receive and send every query and full feedback about all sites of Rajshahi robi terminal.

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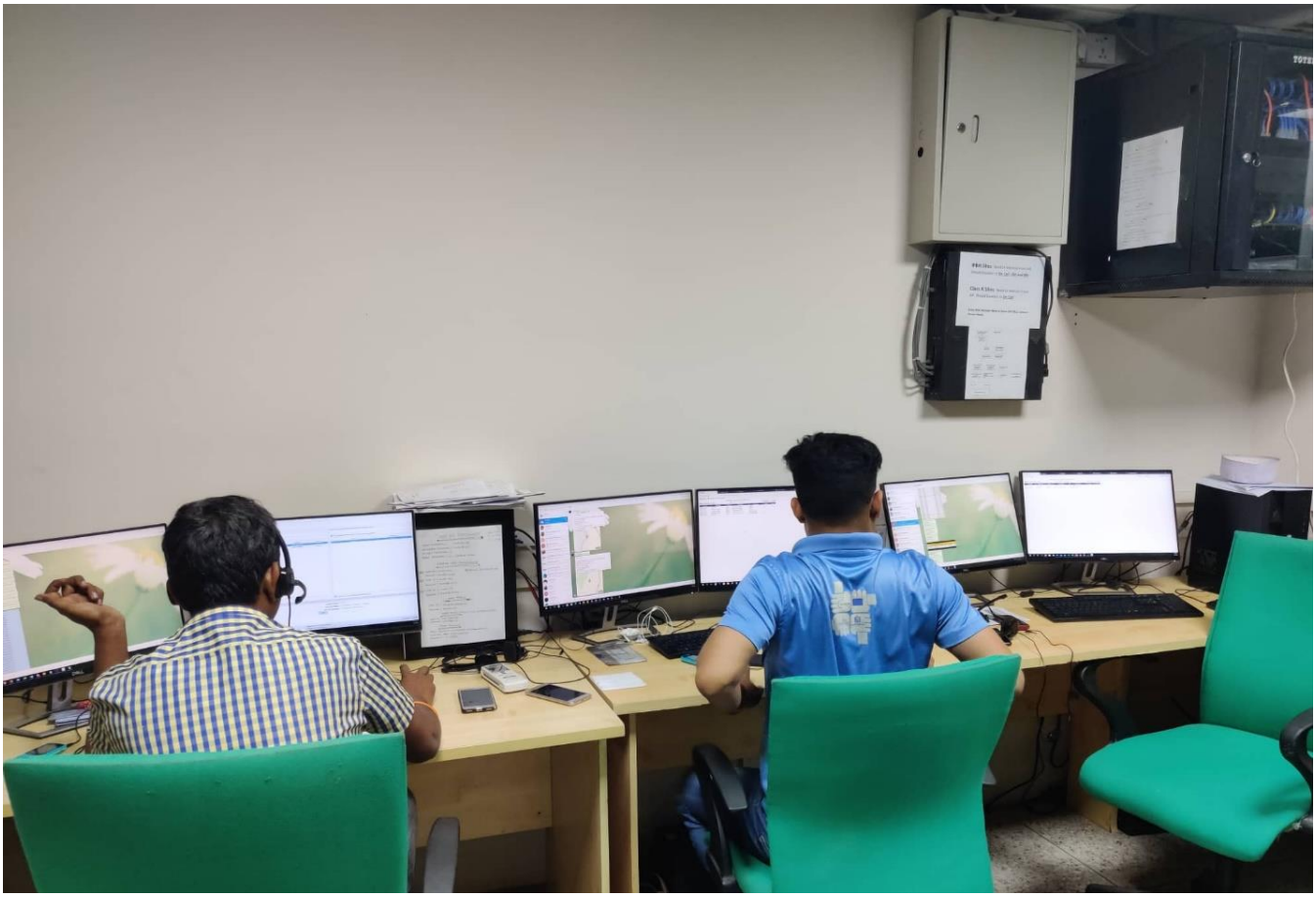

Fig. 3.1: Metal Plus NOC Picture 1

3.2 Events and Activities

In a telecom network there are two kind of tower maintenance. Active part and passive part.

Active Part: All kind of transmission activities on this part. “Element of the active infrastructure are the basic transceiver station (BST), the base station controller BSC a, the mobile switching center MSC and microwave and GSM antenna. The antenna enables both the transmission and to proceed receipt the radio signal, enabling the cellular telephony to proceed interrupted as the subscriber is mobile.” [4]

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Fig. 3.2: Metal Plus NOC Picture 2

Passive Part: Passive infrastructure sharing refers to sharing of physical sites, buildings, shelters, towers, power supply, and battery backup.

Metal Plus Ltd NOC take care both part of Grameenphone, Robi and Banglalink.In my internship period I work on only passive part. I work on Robi proprietary SEM system. They give me an access of that system. I have to login every time and and take few steps on that system. And then get main monitoring system. Sem system is only support on IE 9.

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3.3 Project Task and Activities

In Robi terminal we have to monitor only passive alarms on SAM system. Our Main alarm are:

Table 3.3: All Power Alarm of ROBI

OML FAULT	GENERATOR ON LOAD
POWER DOWN	HIGH TEMPERATURE
AC MAINS FAILURE	IVS FAULT
AC SURGE PROTECTOR FAULT	MAINS FAILURE VTMS
AIRCON FAULT VTMS	MAINS INPUT OUT OF RANGE
AMBIENT HUMIDITY UNACCEPTABLE	RECTIFIER MODULE FAULT
AMBIENT TEMPERATURE UNACCEPTABLE	SMOKE ALARM
BATTERY CABINET DOOR OPEN	WATER ALARM
BATTERY CABINET TEMPERATURE FAULT	MONITORING DEVICE HARDWARE FAULT
DC LOW VOLTAGE	MONITORING DEVICE POWER SUPPLY PROBLEM
DOOR OPEN	POWER MODULE AND MONITORING MODULE COMMUNICATION FAILURE
GENERATOR FAULT	CELL UNAVAILABLE
GENERATOR FUEL LEVEL LOW	GSM CELL OUT OF SERVICE
GENERATOR NEED SERVICING	NODEB UNAVAILABLE

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Task

Our main task is to make sure power is available all types of network tower.

Usually there is 4 kind of tower.

1. Package 1: CP site or Commercial powered tower
2. Package 2: CP+AG site or Commercial and automatic generator powered tower
3. Package 3: NCP site or NO Commercial powered tower or solar and automatic generator powered tower
4. Package 4: ISS site or only solar powered tower.

If those sites go down for power issue then we ensure power by portable generator or pg. Check regularly sites status and if need rectify them

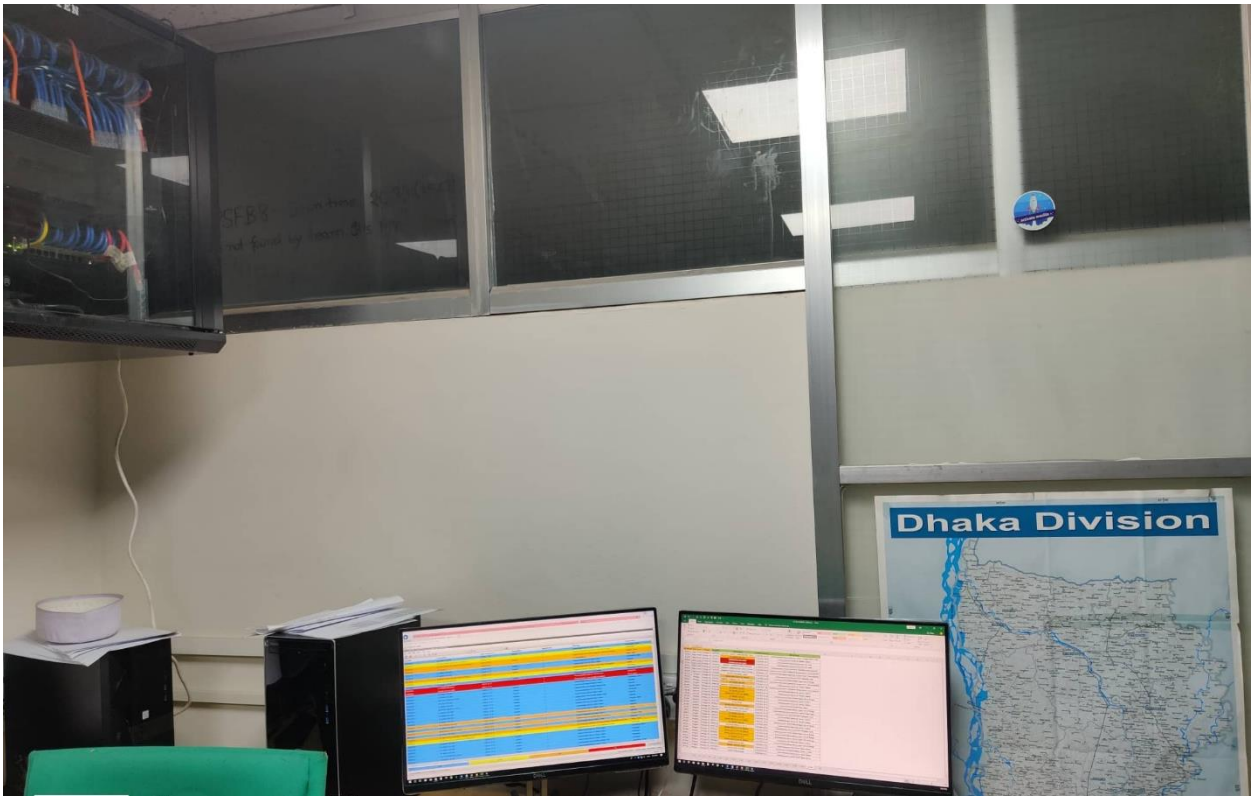

Fig. 3.3: Metal Plus NOC Picture 3

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Activities

First, we connect with ROBI terminal with a Cisco VPN modified by robi. By entering user name and password we then connect with ROBI IP. Then from Internet Explorer we go to Robisso Login Page. Then we put our user name and password. Then it takes us SSO-portal. Then we go to SEM tab. Then we can find total number of alarms of Bangladesh. And summery of all tower. Then by clicking on alarm we can go to ALU Integrated Portal. Then we have to put our user name again and find main SEM system. After confirm some agreement we can see all alarm of Bangladesh of ROBI. After sorting I can find a colorful page where we can see location name, Alarm name, Last Occurrence vendor name alart group ect. Hare we can find all alarm of Rajshahi zone. Then we copy all alarm and put it on a excel file. Where by Macro we can fine our site name and alarm name. Then we observe that alarms and if necessary, we escalate this alarm to our sub center by telegram.

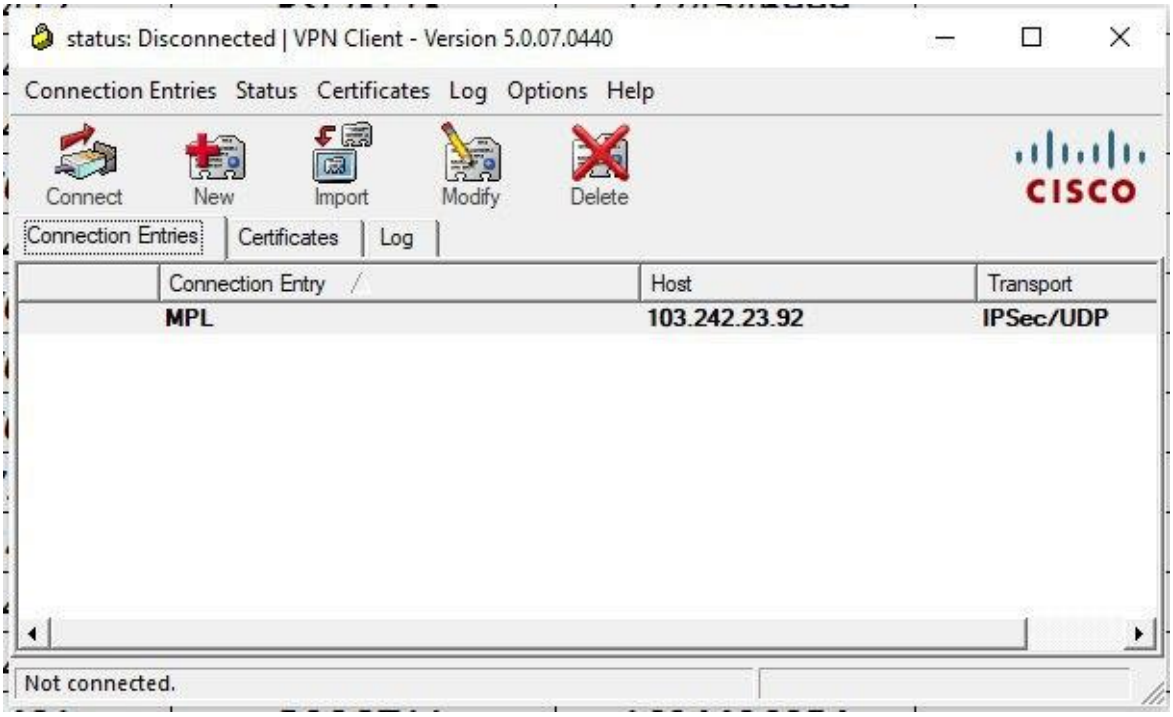

Fig. 3.4: CISCO VPN

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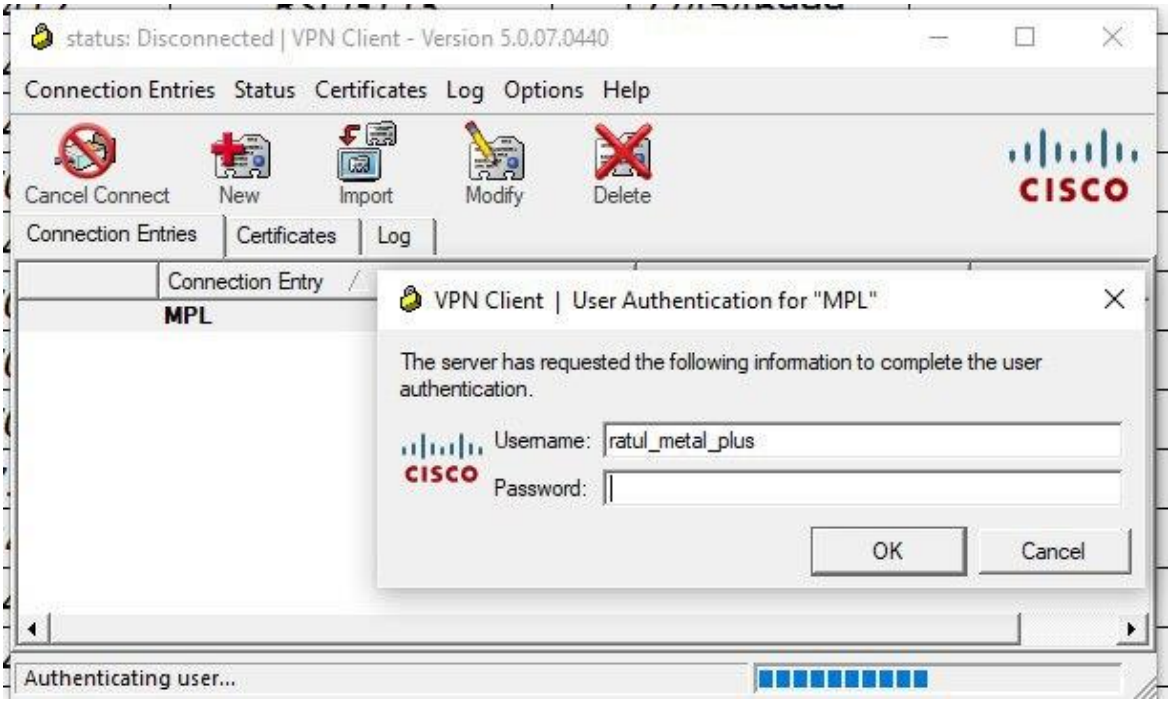

Fig. 3.5: Connecting VPN

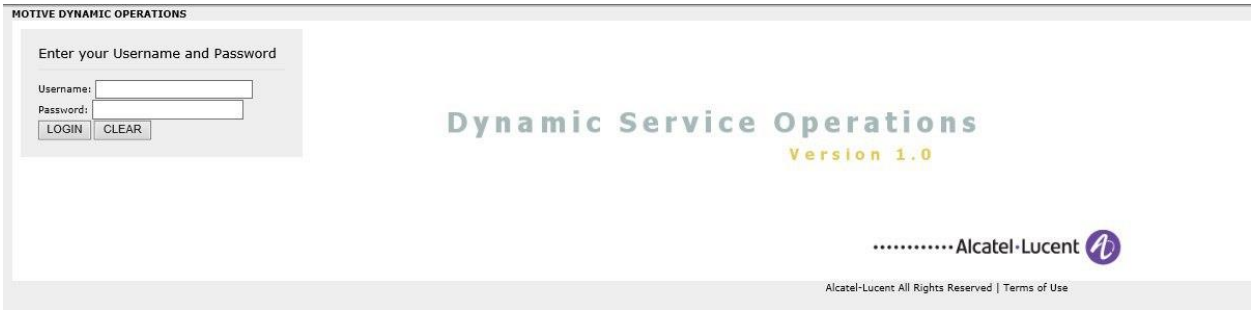

Fig. 3.6: Robisso Login Page

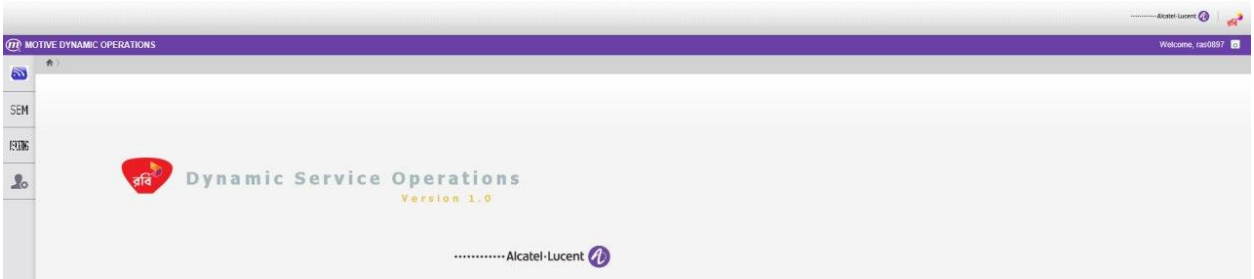

Fig. 3.7: SSO-portal

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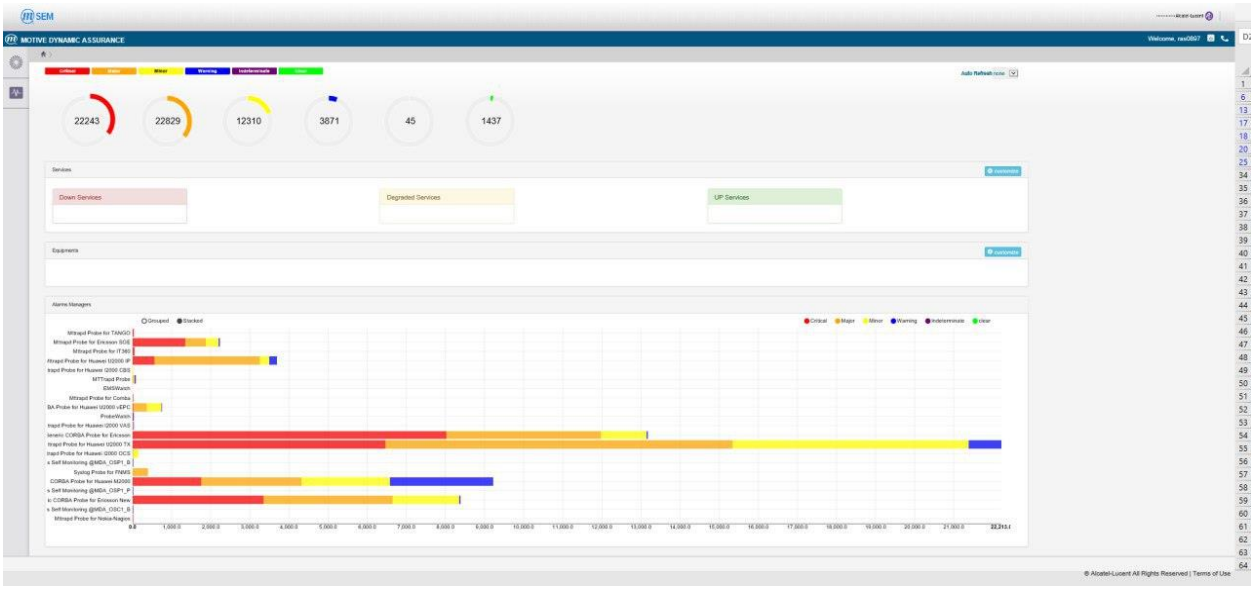

Fig. 3.8: Total alarms of Bangladesh in SSO Portal

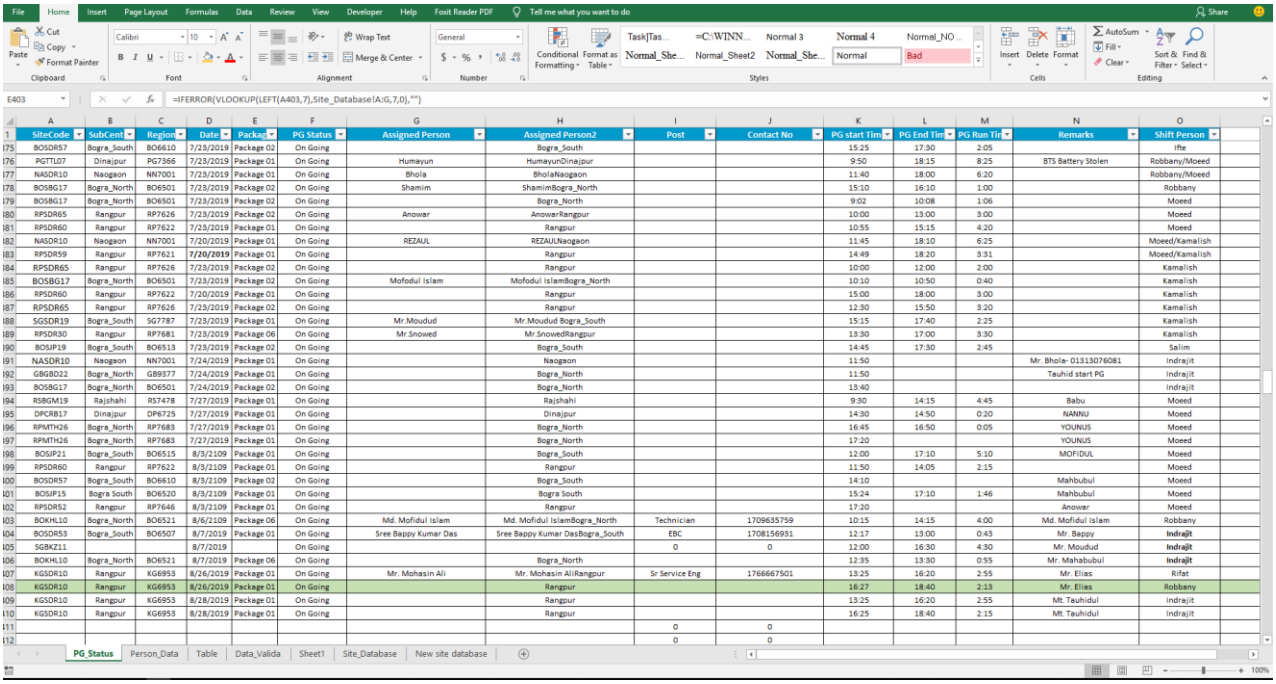

Fig. 3.9: Total PG run tracker

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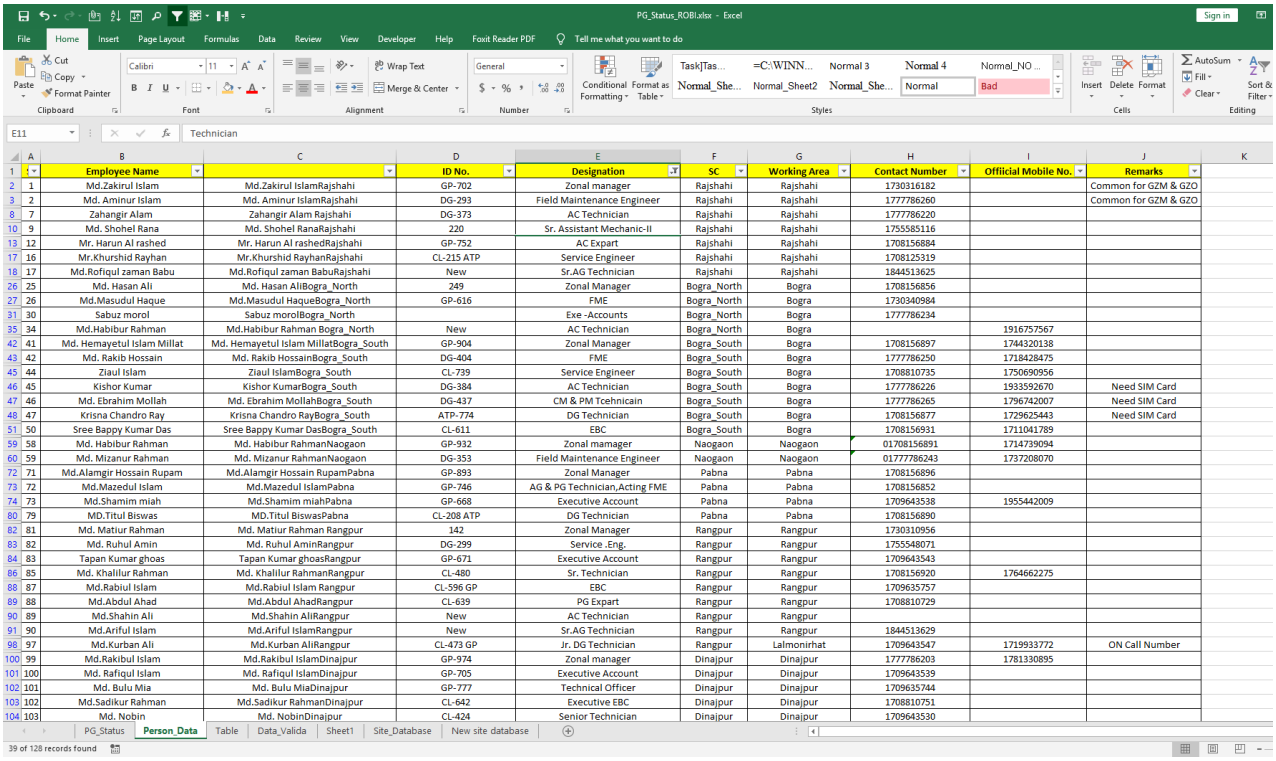
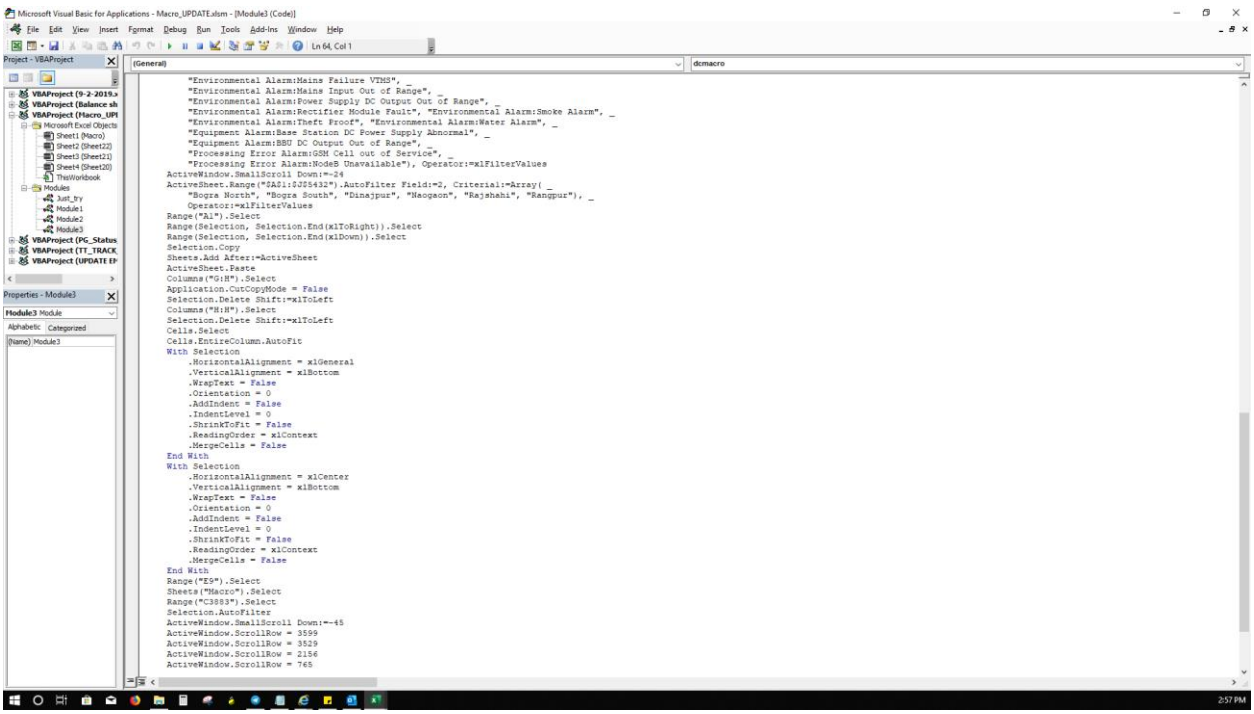


	Employee Name		ID No.	Designation	SC	Working Area	Contact Number	Official Mobile No.	Remarks
1	Md.Zakirul Islam	Md.Zakirul IslamRajshahi	GP-702	Zonal manager	Rajshahi	Rajshahi	1730316182		Common for GZM & GZO
2	Md. Aminur Islam	Md. Aminur IslamRajshahi	DG-293	Field Maintenance Engineer	Rajshahi	Rajshahi	1777786260		Common for GZM & GZO
7	Zahangir Alam	Zahangir Alam Rajshahi	DG-373	AC Technician	Rajshahi	Rajshahi	1777786220		
9	Md. Shohel Rana	Md. Shohel RanaRajshahi	220	Sr. Assistant Mechanic-II	Rajshahi	Rajshahi	1755585116		
12	Mr. Harun Al rashed	Mr. Harun Al rashedRajshahi	GP-752	AC Expart	Rajshahi	Rajshahi	1708156884		
16	Mr.Khurshid Rayhan	Mr.Khurshid RayhanRajshahi	CL-215 ATP	Service Engineer	Rajshahi	Rajshahi	1708125319		
17	Md.Rofiqul zaman Babu	Md.Rofiqul zaman BabuRajshahi	New	Sr.AG Technician	Rajshahi	Rajshahi	1844513625		
25	Md. Hasan Ali	Md. Hasan AliBogra_North	249	Zonal Manager	Bogra_North	Bogra	1708156856		
26	Md.Masudul Haque	Md.Masudul HaqueBogra_North	GP-616	FME	Bogra_North	Bogra	1730340984		
30	Sabuz morol	Sabuz morolBogra_North		Exe -Accounts	Bogra_North	Bogra	1777786234		
34	Md.Habibur Rahman	Md.Habibur Rahman Bogra_North	New	AC Technician	Bogra_North	Bogra		1916757567	
41	Md. Hemayetul Islam Millat	Md. Hemayetul Islam MillatBogra_South	GP-904	Zonal Manager	Bogra_South	Bogra	1708156897	1744320138	
42	Md. Rakib Hossain	Md. Rakib HossainBogra_South	DG-404	FME	Bogra_South	Bogra	1777786250	1718428475	
44	Ziaul Islam	Ziaul IslamBogra_South	CL-739	Service Engineer	Bogra_South	Bogra	1708810735	1750690956	
45	Kishor Kumar	Kishor KumarBogra_South	DG-384	AC Technician	Bogra_South	Bogra	1777786226	1933592670	Need SIM Card
46	Md. Ebrahim Mollah	Md. Ebrahim MollahBogra_South	DG-437	CM & PM Tcehnicain	Bogra_South	Bogra	1777786265	1796742007	Need SIM Card
47	Krisna Chandro Ray	Krisna Chandro RayBogra_South	ATP-774	DG Technician	Bogra_South	Bogra	1708156877	1729625443	Need SIM Card
50	Sree Bappy Kumar Das	Sree Bappy Kumar DasBogra_South	CL-611	EBC	Bogra_South	Bogra	1708156931	1711041789	
58	Md. Habibur Rahman	Md. Habibur RahmanNaogaon	GP-932	Zonal mamager	Naogaon	Naogaon	01708156891	1714739094	
59	Md. Mizanur Rahman	Md. Mizanur RahmanNaogaon	DG-353	Field Maintenance Engineer	Naogaon	Naogaon	01777786243	1737208070	
71	Md.Alamgir Hossain Rupam	Md.Alamgir Hossain RupamPabna	GP-893	Zonal Manager	Pabna	Pabna	1708156896		
72	Md.Mazedul Islam	Md.Mazedul IslamPabna	GP-746	AG & PG Technician,Acting FME	Pabna	Pabna	1708156852		
73	Md.Shamim miah	Md.Shamim miahPabna	GP-668	Executive Account	Pabna	Pabna	1709643538	1955442009	
79	MD.Titul Biswas	MD.Titul BiswasPabna	CL-208 ATP	DG Technician	Pabna	Pabna	1708156890		
81	Md. Matiur Rahman	Md. Matiur Rahman Rangpur	142	Zonal Manager	Rangpur	Rangpur	1730310956		
82	Md. Ruhul Amin	Md. Ruhul AminRangpur	DG-299	Service .Eng.	Rangpur	Rangpur	1755548071		
83	Tapan Kumar ghoas	Tapan Kumar ghoasRangpur	GP-671	Executive Account	Rangpur	Rangpur	1709643543		
85	Md. Khalilur Rahman	Md. Khalilur RahmanRangpur	CL-480	Sr. Technician	Rangpur	Rangpur	1708156920	1764662275	
87	Md.Rabiul Islam	Md.Rabiul Islam Rangpur	CL-596 GP	EBC	Rangpur	Rangpur	1709635757		
88	Md.Abdul Ahad	Md.Abdul AhadRangpur	CL-639	PG Expart	Rangpur	Rangpur	1708810729		
89	Md.Shahin Ali	Md.Shahin AliRangpur	New	AC Technician	Rangpur	Rangpur			
90	Md.Ariful Islam	Md.Ariful IslamRangpur	New	Sr.AG Technician	Rangpur	Rangpur	1844513629		
97	Md.Kurban Ali	Md.Kurban AliRangpur	CL-473 GP	Jr. DG Technician	Rangpur	Lalmonirhat	1709643547	1719933772	ON Call Number
99	Md.Rakibul Islam	Md.Rakibul IslamDinajpur	GP-974	Zonal manager	Dinajpur	Dinajpur	1777786203	1781330895	
100	Md. Rafiqul Islam	Md. Rafiqul IslamDinajpur	GP-705	Executive Account	Dinajpur	Dinajpur	1709643539		
101	Md. Bulu Mia	Md. Bulu MiaDinajpur	GP-777	Technical Officer	Dinajpur	Dinajpur	1709635744		
102	Md.Sadikur Rahman	Md.Sadikur RahmanDinajpur	CL-642	Executive EBC	Dinajpur	Dinajpur	1708810751		
103	Md. Nobin	Md. NobinDinajpur	CL-424	Senior Technician	Dinajpur	Dinajpur	1709643530		

Fig. 3.10: Employees List



```
        "Environmental Alarm:Mains Failure VTMS", _
        "Environmental Alarm:Mains Input Out of Range", _
        "Environmental Alarm:Power Supply DC Output Out of Range", _
        "Environmental Alarm:Rectifier Module Fault", "Environmental Alarm:Smoke Alarm", _
        "Environmental Alarm:Theft Proof", "Environmental Alarm:Water Alarm", _
        "Equipment Alarm:Base Station DC Power Supply Abnormal", _
        "Equipment Alarm:BBU DC Output Out of Range", _
        "Processing Error Alarm:GSM Cell out of Service", _
        "Processing Error Alarm:NodeB Unavailable"), Operator:=xlFilterValues
ActiveWindow.SmallScroll Down:=-24
ActiveSheet.Range("$A1:$J$5432").AutoFilter Field:=2, Criteria1:=Array( _
    "Bogra North", "Bogra South", "Dinajpur", "Naogaon", "Rajshahi", "Rangpur"), _
    Operator:=xlFilterValues
Range("A1").Select
Range(Selection, Selection.End(xlToRight)).Select
Range(Selection, Selection.End(xlDown)).Select
Selection.Copy
Sheets.Add After:=ActiveSheet
ActiveSheet.Paste
Columns("G:H").Select
Application.CutCopyMode = False
Selection.Delete Shift:=xlToLeft
Columns("H:H").Select
Selection.Delete Shift:=xlToLeft
Cells.Select
Cells.EntireColumn.AutoFit
With Selection
    .HorizontalAlignment = xlGeneral
    .VerticalAlignment = xlBottom
    .WrapText = False
    .Orientation = 0
    .AddIndent = False
    .IndentLevel = 0
    .ShrinkToFit = False
    .ReadingOrder = xlContext
    .MergeCells = False
End With
With Selection
    .HorizontalAlignment = xlCenter
    .VerticalAlignment = xlBottom
    .WrapText = False
    .Orientation = 0
    .AddIndent = False
    .IndentLevel = 0
    .ShrinkToFit = False
    .ReadingOrder = xlContext
    .MergeCells = False
End With
Range("E5").Select
Sheets("Macro").Select
Range("C3883").Select
Selection.AutoFilter
ActiveWindow.SmallScroll Down:=-45
ActiveWindow.ScrollRow = 3599
ActiveWindow.ScrollRow = 3529
ActiveWindow.ScrollRow = 2156
ActiveWindow.ScrollRow = 765
```

Fig. 3.11: Macro for alarms

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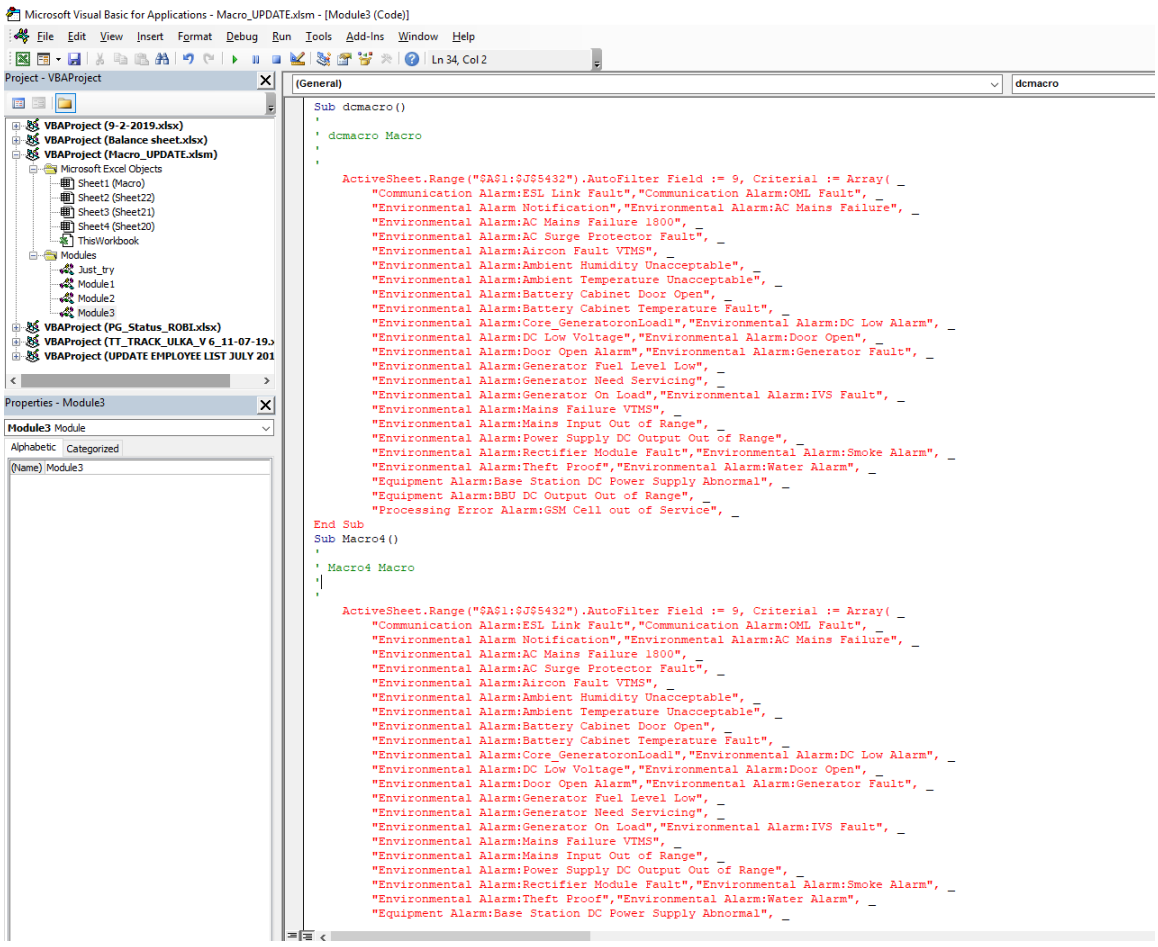

Fig. 3.12: Codes in Macro

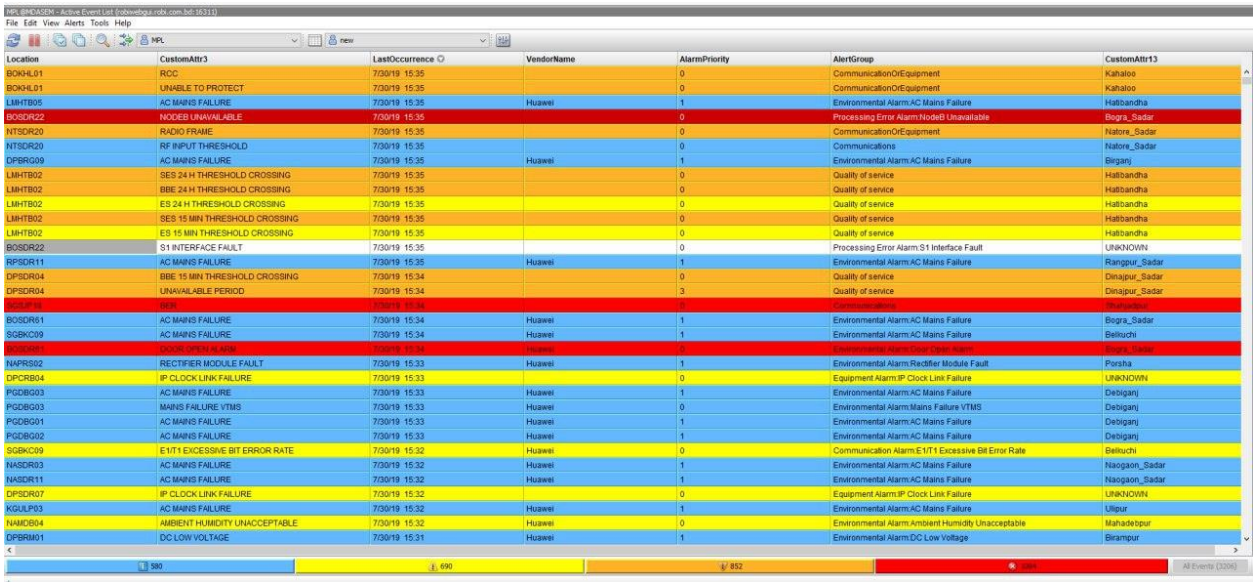

Fig. 3.13: Alarms on SEM System

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AT SITE ID	Sub Center	Package	Location	CustomAttr3	LastOccurrence	AlertGroup
RS7464	Rajshahi	Package 01	RSDGP08	AC MAINS FAILURE	7/30/2019 14:05	Environmental Alarm:AC Mains Failure
RS7412	Rajshahi	Package 02	RSCGT13	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 14:04	Environmental Alarm:Ambient Temperature Unacceptable
PG7361	Dinajpur	Package 02	PGATR07	MAINS INPUT OUT OF RANGE	7/30/2019 14:01	Environmental Alarm:Mains Input Out of Range
RS7413	Rajshahi	Package 02	RSCGT12	GENERATOR ON LOAD	7/30/2019 14:01	Environmental Alarm:Generator On Load
RS7413	Rajshahi	Package 02	RSCGT12	DOOR OPEN ALARM	7/30/2019 14:01	Environmental Alarm:Door Open Alarm
BO6528	Bogra North	Package 01	BOSBG16	MAINS INPUT OUT OF RANGE	7/30/2019 14:00	Environmental Alarm:Mains Input Out of Range
NN7000	Naogaon	Package 01	NASDR18	AC MAINS FAILURE	7/30/2019 13:59	Environmental Alarm:AC Mains Failure
RS7421	Rajshahi	Package 01	RSBLA17	AC MAINS FAILURE	7/30/2019 13:56	Environmental Alarm:AC Mains Failure
SG7782	Bogra South	Package 02	SGSJP19	MAINS INPUT OUT OF RANGE	7/30/2019 13:56	Environmental Alarm:Mains Input Out of Range
RP7619	Rangpur	Package 02	RPPGC18	MAINS INPUT OUT OF RANGE	7/30/2019 13:50	Environmental Alarm:Mains Input Out of Range
RP7647	Rangpur	Package 01	RPSDR49	MAINS INPUT OUT OF RANGE	7/30/2019 13:46	Environmental Alarm:Mains Input Out of Range
RP7646	Rangpur	Package 01	RPSDR52	MAINS INPUT OUT OF RANGE	7/30/2019 13:46	Environmental Alarm:Mains Input Out of Range
RP7612	Rangpur	Package 02	RPPGN16	AC MAINS FAILURE	7/30/2019 13:42	Environmental Alarm:AC Mains Failure
RP7611	Rangpur	Package 02	GBSDL11	AC MAINS FAILURE	7/30/2019 13:42	Environmental Alarm:AC Mains Failure
RS7429	Rajshahi	Package 01	RSRJP19	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 13:42	Environmental Alarm:Ambient Temperature Unacceptable
NM7183	Rangpur	Package 01	NPSDP05	AC MAINS FAILURE	7/30/2019 13:22	Environmental Alarm:AC Mains Failure
RP7681	Rangpur	Package 01	RPSDR30	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 13:17	Environmental Alarm:Ambient Temperature Unacceptable
GB9379	Rangpur	Package 02	GBGBD23	GENERATOR ON LOAD	7/30/2019 13:08	Environmental Alarm:Generator On Load
BO6552	Bogra North	Package 01	BOSDR40	POWER DOWN	7/30/2019 13:07	Environmental Alarm Notification
BO6552	Bogra North	Package 01	BOSDR40	OML FAULT	7/30/2019 13:04	Communication Alarm:OML Fault
BO6552	Bogra North	Package 01	BOSDR40	GSM CELL OUT OF SERVICE	7/30/2019 13:04	Processing Error Alarm:GSM Cell out of Service
BO6552	Bogra North	Package 01	BOSDR40	GSM CELL OUT OF SERVICE	7/30/2019 13:04	Processing Error Alarm:GSM Cell out of Service
BO6552	Bogra North	Package 01	BOSDR40	GSM CELL OUT OF SERVICE	7/30/2019 13:04	Processing Error Alarm:GSM Cell out of Service
BO6552	Bogra North	Package 01	BOSDR40	ESL LINK FAULT	7/30/2019 13:04	Communication Alarm:ESL Link Fault
BO6552	Bogra North	Package 01	BOSDR40	NODEB UNAVAILABLE	7/30/2019 13:03	Processing Error Alarm:NodeB Unavailable
BO6552	Bogra North	Package 01	BOSDR40	NODEB UNAVAILABLE	7/30/2019 13:03	Processing Error Alarm:NodeB Unavailable
SG7803	Bogra South	Package 02	SGROY01	AC MAINS FAILURE	7/30/2019 12:49	Environmental Alarm:AC Mains Failure
SG7790	Bogra South	Package 01	SGROY15	AC MAINS FAILURE	7/30/2019 12:49	Environmental Alarm:AC Mains Failure
TG7955	Dinajpur	Package 02	TGSDR22	GENERATOR ON LOAD	7/30/2019 12:41	Environmental Alarm:Generator On Load
BO6552	Bogra North	Package 01	BOSDR40	DC LOW VOLTAGE	7/30/2019 12:15	Environmental Alarm:DC Low Voltage
TG7956	Dinajpur	Package 01	TGPGN06	AC MAINS FAILURE	7/30/2019 12:13	Environmental Alarm:AC Mains Failure
TG7956	Dinajpur	Package 01	TGPGN06	DOOR OPEN ALARM	7/30/2019 12:05	Environmental Alarm:Door Open Alarm
CN7196	Rajshahi	Package 01	NWSDR20	AC MAINS FAILURE	7/30/2019 11:42	Environmental Alarm:AC Mains Failure
RP7679	Rangpur	Package 01	RPPGC19	IVS FAULT	7/30/2019 11:38	Environmental Alarm:IVS Fault
BO6512	Bogra South	Package 02	BOGBT18	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 11:09	Environmental Alarm:Ambient Temperature Unacceptable
RS7469	Rajshahi	Package 02	RSPBA19	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 11:04	Environmental Alarm:Ambient Temperature Unacceptable
DP6710	Dinajpur	Package 01	DPSDR33	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 10:59	Environmental Alarm:Ambient Temperature Unacceptable
JY6921	Naogaon	Package 01	JYKTL07	IVS FAULT	7/30/2019 9:43	Environmental Alarm:IVS Fault
GB9379	Rangpur	Package 02	GBGBD23	MAINS FAILURE VTMS	7/30/2019 9:09	Environmental Alarm:Mains Failure VTMS
TG7956	Dinajpur	Package 01	TGPGN06	DC LOW VOLTAGE	7/30/2019 9:02	Environmental Alarm:DC Low Voltage
BO6552	Bogra North	Package 01	BOSDR40	AC MAINS FAILURE	7/30/2019 8:59	Environmental Alarm:AC Mains Failure
BO6515	Bogra South	Package 01	BOSJP21	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 8:33	Environmental Alarm:Ambient Temperature Unacceptable
DP6835	Dinajpur	Package 01	DPBRG16	AMBIENT TEMPERATURE UNACCEPTABLE	7/30/2019 8:11	Environmental Alarm:Ambient Temperature Unacceptable
BO6610	Bogra South	Package 01	BOSDR57	RECTIFIER MODULE FAULT	7/30/2019 5:48	Environmental Alarm:Rectifier Module Fault

Fig. 3.14: Our Final Alarms after sorting

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3.4 Challenges

At starting of my internship, I faced interesting challenges. Like first I have attended office at 8 AM. That's is really very tough for me. Also have to work at office all day long from 8 AM to 5 PM. that was really very difficult for me. It was my first office environment that's why I have to learn many office rules in a very short time. I have to communicate with lots of people. I learn how to work with the and how to deal with them. I also have to do night shifting duty on NOC. It was really a very big challenge for me.

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CHAPTER 4

COMPETENCIES AND SMART PLAN

4.1 Competencies Earned

- Monitored network and resolved all issues that occurred on same At Grameenphone Network.
- Performed troubleshoot on system and resolved all issues in process.
- Coordinated with senior level engineering group and site contacts for resolving all technical issues.
- Monitoring all Critical, Major, and Minor of BTS related alarm through GP web soc webpage.
- Monitoring the Back Bone network as well as high capacity links through x-bot.
- Provide different types of technical information to FO team by checking GP web soc webpage.
- Maintaining the MS Excel logbook for prepared different types of report based on customer requirement.
- Follow up different types of work orders based on customer requirement.
- Power alarm monitoring for backbone round the clock.
- SMS notification to concerned engineers for different faults.
- Alarm escalation according to the guideline.
- Maintaining the MS word and MS Excel log book for prepared different types of report based on customer requirement.

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4.2 Smart Plan

By Intern on Metal Plus NOC now I am concerned to the future of my career now. In intern period, I get real life knowledge that will help my future career in Telecom sector. It has very high demand in modern technology. I learned some practical things in my internship period in an office environment. Now I will try my best to increase this knowledge and practice more and more. My future plan is completely learning about Network Engineering, then implementation in real world.

4.3 Reflections

By doing Internship on Metal Plus we get the practical experience and knowledge in the field of Network Engineering. It helps me to get experience in engineering job. In my intern period, I learned telecom related Practical knowledge. Telecom sector is a smart and energetic job at this time. This Internship will help me to be get a smart job. Internship gives advanced tricks and trips that skillful by the professional.

Fig. 4.1: Metal Plus NOC Conference Room

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CHAPTER 5

CONCLUSION AND FUTURE CAREER

5.1 Discussion and Conclusion

My Internship on Metal Plus Ltd has been completed in 30 April 2019. By internship, I gain knowledge of many things which is discuss in previous chapter. Now a day's all communication system depends on Telecom network. This internship gives me a chance to gain particular career knowledge before permanents obligations are made. I am really lucky to get internship on Metal Plus NOC.

5.2 Scope for Further Career

In our country in Bangladesh there are many lots of company. In this companies Metal Plus Ltd. is one of the largest and popular company. Main services in this company they provided are Maintenance main backbone of network field. They take care all network tower of all telecom operator in the Bangladesh. Therefore, by intern on MPL NOC it's really help me to get an honorable job on this company. Infect after completing my four month of internship they offered me to join MPL as a NOC Engineer. I join on Metal Plus Ltd. immediately after completing my internship with an honorable salary.

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References

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[2] Metal Plus website: http://www.metalplusltdbd.com/CompanyProfile.aspx (Last accessed on 31-07-2017 08:06pm)

[3] SWOT Image: https://medium.com/thrive-global/how-to-complete-a-personal-swot-analysis-2f8769aebd5e: (Last accessed on 31-07-2017 08:06pm)

[4] Active Part: https://knowledgescrap.blogspot.com/2012/06/difference-in-active-and-passive.html (Last accessed on 31-07-2017 08:06pm)

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APPENDICES

Appendix A: Internship Reflection

I am very thankful to finish my internship. At first, I want to give a boundless thanks to my supervisor, to AHMED AL MAROUF sir without whom it's impossible for us to complete it. He is continuously to prepare to response all of my questions and clear my thought for allocated tasks. For this internship in a few months a lot of changed happened for me. This internship is open a great opportunity to pass in a new era. Reflection on my intern I achieve numerous real-life connectivity and lots Experience.

Appendix B: Company Details

METAL PLUS LTD

PBL Tower (12th floor),
17 North C/A, Gulshan Circle-2,
Gulshan, Dhaka-1212.

Phone: +88 02 9884549
Email: info@metalplusltdbd.com

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Rezaul Huque Nayeem Report

ORIGINALITY REPORT

23%	12%	0%	22%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

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