INDUSTRIAL TRAINING REPORT:
TENAGA NASIONAL BERHAD

SPECIAL PROJECT: E-BILIK SYSTEM

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THE INDUSTRIAL TRAINING
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UNIVERSITI TEKNOLOGI MARA KELANTAN

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DECLARATION

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Date of submission: 11 July 2017

ABSTRACT

The trainee undergoes an industrial training from 1 February 2017 to 30 June 2017 at Tenaga Nasional Berhad, Kota Bharu. The company main business is the largest electricity utility in Malaysia. Their activities represent the entire electricity production and supply value chain. The trainee been places in the Human Resource Department under supervisor of Mr. KhairulAzuan Bin Ibrahim. All the training, guide, and work is given by the supervisor. The trainee needs to involve in daily activities at government client site. Moreover, the trainee has been given a project E-Bilik to manage the bookings in the department.Furthermore, the trainee also gain knowledge how real industry work and it give a clear picture how real worldwork.

Keywords: e-bilik,human resource department, industrial training

ACKNOWLEDGMENT

I am very grateful here to Allah S.W.T that I was given a chance to undergo and complete my internship program at Tenaga Nasional Berhad and able to prepared this report. Next, thanks to Mr. KhairulAzuan Bin Ibrahim and Tenaga Nasional Berhad for give an opportunity to do an industrial training at the organization and Mr. KhairulAzuan Bin Ibrahim who personally guide and teach me about work operation and web development.

I also like to thank to my lecturer Madam NurulannisaBinti Abdullah who act as an industrial coordinator and Madam SitiAswaniBintiDato' MohdGhazali as my faculty supervisor

Lastly, I also want to thank to my parents for moral support throughout my industry training.

Thank you.

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CHAPTER 1:

INTRODUCTION

1.1 Industrial Training Background

Tenaga Nasional Berhad (TNB) is the largest electricity utility in Malaysia and one of the largest in the region, with an asset base totalling RM110.7 billion. With a history spanning 65 years, TNB is also the most experienced energy player in the country, responsible in keeping the lights on for all residents of Peninsular Malaysia, Sabah and Labuan.

Our core businesses span the entire value chain of electricity production and supply encompassing Generation, Transmission and Distribution. Our Generation Division operates six thermal power stations and three major hydroelectric power generating schemes in addition to supporting the operations and maintenance of three Independent Power Producers (IPPs). Our Transmission Division connects power generated by TNB and IPPs throughout Peninsular Malaysia with Distribution's network as well as directly to large industrial customers via the National Grid. Our Distribution Division supplies end users, with a keen focus on delivering a world-class customer experience.

Through our subsidiaries, we are also involved in energy-related operations such as the manufacture of transformers, high-voltage switchgears and cables; the provision of professional consultancy services; architectural, civil, electrical engineering works and services, and repair and maintenance. Supporting both our core and non-core businesses, we have a research and development function that looks into technologies that add value to all our operations.

In recent years, TNB has become a champion of Renewable Energy (RE) as par of our commitment to promote a greener and more sustainable energy sector. We are responsible for signing Renewable Energy Purchase Agreements (REPAs)with RE producers and for the administration of the Feed-in Tariff which funds the supply of RE onto the National Grid.

We aspire to grow our presence within the region, lending our expertise to Nations experiencing a surge in power demand as a result of rapid socio-economic development. Towards this end, a new division, Energy Ventures, has been established with the mandate to explore possible ventures for us to participate in within Southeast Asia and the Middle East.

To safeguard the sustainability of our operations, we believe in adding value to all our stakeholders. We invest in the professional development of our 36,146 employees while supporting them to achieve a healthy work-life balance. We are guided by policies and best practices in our dealings with vendors, business associates and the investment community. We engage intensely with the Government and its agencies to ensure the smooth evolution of the Malaysian Electricity Supply Industry (MESI). We also integrate ourselves fully into the communities where we have a presence via educational and other socially empowering activities.

At the same time, we acknowledge the need to protect and preserve the environment and have embarked on numerous initiatives under our comprehensive Environmental Management System (EMS) to reduce our environmental impact.

TNB has been a key contributor to the Nation's social and economic development over the years. We are committed to maintaining the status quo as we transform into a more efficient and effective organisation that is able to create a better. Brighter.future for the Nation and its people.

1.1.1 Integrity

1.1.1.1 Principle 1 : Adhere to all set rules, regulations and guidelines

1.1.1.2 Principle 2 : Perform to our best ability with very high standards whilst continuously improving the quality of our services

1.1.1.3 Principle 3 : Adopt an open and honest attitude in all aspects

1.1.1.4 Principle 4 : Deliver products and services to customers as pledged

1.1.1.5 Principle 5 : Have pride in contributing towards TNB's success

1.1.2 Customer Focus

1.1.2.1 Principle 1 : Deliver high quality products and services at par with premier international corporate bodies

1.1.2.2 Principle 2 : Provide best possible services to customers

1.1.2.3 Principle 3 : Realize that customer support is important to TNB

1.1.2.4 Principle 4 : Understand customers needs and to fulfill to the best of our capability

1.1.2.5 Principle 5 : Retain customers loyalty by continuously monitoring their needs

1.1.3 Business Excellence

1.1.3.1 Principle 1 : Show our commitment to operate competitively

1.1.3.2 Principle 2 : Strive to acquire the relevant knowledge and skills

1.1.3.3 Principle 3 : Conduct our businesses in a timely and effective manner

1.1.3.4 Principle 4 : Build and practice team spirit

1.1.3.5 Principle 5 : Be sensitive towards TNB financial performance

1.1.3.6 Principle 6 : Benchmark ourselves against market leaders in our effort for continuous improvement

1.1.4 Caring

1.1.4.1 Principle 1 : Conduct our business with TNB's interests in mind

1.1.4.2 Principle 2 : Acknowledge employees contribution and be sensitive to their needs

1.1.4.3 Principle 3 : Assist employees to develop their potentials

1.1.4.4 Principle 4 : Serve our customers and fellow employees in the same way we would like to be treated

1.1.4.5 Principle 5 : Always be sensitive to the needs of the society and the environment

1.1.4.6 Principle 6 : Undertake social obligations without jeopardizing TNB's interes

1.2 Industrial Training's Objective

The objectives of Industrial Training are as follow:

1.2.1 To gain experiences in organizational skills and professional responsibility. 1.2.2 To expose students to the ethics and etiquette of the industry.

1.2.3 To help students acquire interpersonal skills by meeting with professionals that is related to their field of study.

1.2.4 To make sure students will learn how to complete given tasks efficiently and also fosters good relationship with the superiors and fellow subordinates

1.2.5 To provide an opportunity for students to learn and cope themselves with the real-life working environment.

1.2.6 To help students spot their very own level of skills and understanding in the stuff that is related to course that they attended.

1.2.7 To help the organization in order to perform their daily process and operation with the help of the skill, knowledge and idea from the student.

1.3 Background of the Organization

Tenaga Nasional Berhad (TNB) is the largest electricity utility in Malaysia. With our core business of providing electricity to the country's businesses, homes and industries, we are a key contributor to Nation building. Our activities represent the entire electricity production and supply value chain.

In recent years, we have also embarked on our sustainability agenda through efforts such as Renewable Energy and other environmental as well as social initiatives as we seek to add value to all our stakeholders. We believe these activities will not only take TNB into the future, but also continue to grow our business in the long-term.

With our 67 years of existence, we pride ourselves as Malaysia's leading electricity utility with a presence throughout Peninsular Malaysia, Sabah and Labuan. We have also established a name for ourselves in the region, making TNB one of the largest electricity companies in Asia as we transform ourselves into a Domestic and Regional Champion.

1.3.1 Customer Base : 9.2million Customers In Peninsular Malaysia, Sabah And Labuan

Our customers consist mainly of commercial, industrial and residential customers. Our industrial customers engage in the manufacture of goods and services. Although they make up the smallest segment of our customers, they also account for the majority of our electricity sales. Our commercial customers are our second-largest source of electricity sales, carrying out the business and commercial activities which drive our economy. Our residential customers represent the majority of Malaysia's 31.7 million population. As our largest market, they drive us to deliver excellence in our products and services.

Table 1: Organization Information

Organization Name	**Tenaga Nasional Berhad**
Year Establish	**1952**
Address	**HEAD QUARTERS Tenaga Nasional Berhad**
Office Number	**+6 03 2296 5566**
Fax Number	**+6 03 2283 3686**
Website Address	**https://www.tnb.com.my/**

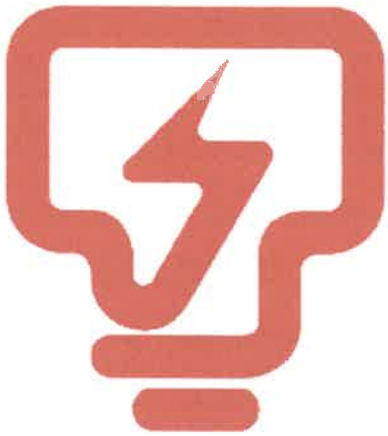


Figure 1 :TNB Logo

1.4 Vision

"To Be Among the Leading Corporations in Energy and Related Businesses Globally"

1.5 Mission

"We Are Committed to Excellence in Our Products and Services"

1.6 Objective

1.6.1 TNB's strategic goals and objectives

1.6.1.1 Providing customer high confidence and satisfaction on quality of the supplied electric.

1.6.1.2 Want to upgrade machinery into digital technology for electricity process and the uses of technology to increase production and perform high quality product.

1.6.1.3 The strength of teamwork spirit as trade among management and workers

1.6.1.4 The uses of ICT in producing electricity more creative and innovative

1.6.2Philosophy

Our main philosophy is we endeavor to be adventurous yet humble, energetic yet sensible, and above all, to maintain respect for our environment. Our brands are our lifeblood, and we celebrate their successes at every occasion. Our motto: "Better, Brighter:"

1.6.3CompanyServices

1.6.3.1 REMACO

TNB Remaco is recognised as Malaysia's premier utility specialist.

1.6.3.2 TNB Fuel

TNB fuel (TNBf), under the energy ventures division, is a wholly owned subsidiary of Tenaga NasionalBerhad (TNB).

1.6.3.3 TNB Energy Services

TNB energy services SdnBhd is a wholly owned subsidiary of TNB specializing in the provision of green energy solutions and services for the development, consultancy, operation

and maintenance (O&M) of renewable energy (RE) projects. Said solutions and services include solar hybrid systems (SHS), solar farms, building integrated photovoltaic system (BIPV), mini-hydro systems (MHS), biomass and biogas.

1.6.3.4 TNB Engineering Corporation

Established in 1993, TNB engineering corporation has built its reputation as a trusted utility player with provision of thermal energy storage district cooling systems, co-generation systems, facility management systems and other new green-relatedtechnologies.

1.7 OrganizationalStructure

CARTA ORGANISASI EKSEKUTIF
PENGURUS BESAR NEGERI (KELANTAN)
BAHAGIAN PEMBAHAGIAN, TNB

PENGERUSI BESAR NEGERI (KELANTAN)
TN HJ HJ MD YUSUF BIN MD YUSOF

KETUA JURUTERA NEGERI
TN HJ HJ AHMAD TERMIZI BIN MOHD DAUD

PENGURUS KAWASAN
(KOTA BHARU)
TN HJ HJ AMRAN BIN HJ CHE OTHMAN

PENGERUSI (PERKHIDMATAN PENGURUSAN & PEMBANGUNAN NEGERI
EN HJ KHAIRI BIN BIN MOHAMMODIN

PENGURUS KAWASAN
(TANAH MERAH)
EN AKMTAR BIN ASHAARI

EKS. (PERKHIDMATAN PENGURUSAN & PEMBANGUNAN ORGANISASI) NEGERI
PN SITI KARTINI BINTI HJ SAMZAH

JURUTERA KESELAMATAN, KESIHATAN PEKERJAAN & ALAM SEKITAR
TN HJ MOHD YANI BIN ZAKARIA

PENASIHAT KESELAMATAN NEGERI
TN SYED AHMAD AIZZIMAR BIN SYED ISA

EKS. (PEMBANGUNAN SUMBER MANUSIA & PERKHIDMATAN PENTADBIRAN) NEGERI
EN MOHD ROSLI BIN JUSOH

TKS. (PEMBANGUNAN KONTRAK) NEGERI
EN SINON BIN YAAKOB

PENGURUS CAWANGAN (BACHOK)
TN HJ ISMAIL BIN HAMZAH

PENGERUSI CAWANGAN (TUMPAT)
TN HJ ZAMRI BIN ABDUL KADIR

PENGURUS CAWANGAN (PASIR PUTEH)
EN MOHD PITHUDDILAH BIN HJ RAHIM

PENGURUS CAWANGAN (PASIR MAS)
EN MOHD ROHAIZHAR BIN AMPPIN

PENGURUS CAWANGAN (GUA MUSANG)
EN MOHD PADHLI BIN MOHAMMAD

PENGURUS CAWANGAN (MACHANG)
EN KHAIRIT ADA BIN ABDUL KADIR

PENGURUS CAWANGAN (JELI)
EN SULONG BIN SULAIMAN

PENGURUS CAWANGAN (GUA MUSANG)
EN MOHD FIRI BIN HJ ZAKARIA

EKS. (BAL. ZIKRAL KOMUNIKASI) NEGERI
TN HJ SHAHRIZAN BIN HJ IBRAHIM

PEN.PENGURUS
(PENGURUSAN PERKHIDMATAN PEMBAYAR) NEGERI

EKS. TADBIR (KAWALAN KUALITI) NEGERI
EN KAMAL AZRI BIN DAHALAN

MANAGEMENT TEAM

DATUK SERI IR. AZMAN BIN MOHD
President / Chief Executive Officer

DATUK WIRA ROSLAN AB RAHMAN
Chief Corporate Officer

DATUK ZAINUDIN IBRAHIM
Vice President, Generation

DATUK IR. BAHARIN BIN DIN
Vice President, Distribution

DATO' IR. HO PENG CHOONG
Vice President, Transmission

DATUK FAZLUR RAHMAN BIN ZAINUDDIN
Chief Financial Officer/Vice President, Group Finance

DATO' MUHAMMAD RAZIF BIN ABDUL RAHMAN
Vice President, Human Resources

IR. SYED ABU HANIFAH BIN SYED ALWI
Chief Procurement Officer

DATO' ROSLINA BINTI ZAINAL
Vice President, Regulatory Economics & Planning

NAZMI BIN OTHMAN
Chief Investment Management Officer

HAJI FAZIL BIN IBRAHIM
Chief Information Officer

DATO' HAJI NOR AZMAN MUFTI
Vice President, Energy Venture

NORAZNI BINTI MOHD ISA
Company Secretary

1.8 Location

Figure 3 : The Location to Tenaga National Berhad Kota Bharu

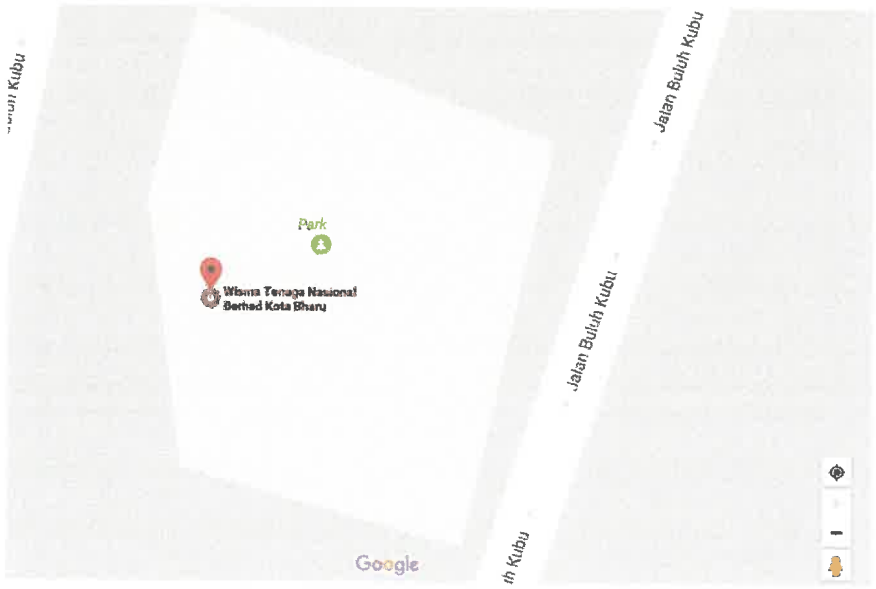


Figure 4 : Maps to Tenaga National Berhad Kota Bharu

1.9 Logo Description

The Corporate Logo for Tenaga Nasional Berhad (TNB) symbolizes the Company's continuing goal to provide services to the national needs with renewed emphasis on our dynamic future. Symbol The Corporate Identity for TNB is based on an easily recognized application of electricity – the light bulb. The form of the bulb is highly stylized, giving a sense of vitality and of the future. It is a clean, efficient design and formed almost entirely by one single line, resolving inside the bulb shape with a lightning symbol, dramatizing TNB's electrical energy function. The shape of the bulb suggests the form of a "T" – representing "tenaga" (energy). Corporate Name The name of Tenaga Nasional Berhad concisely summarizes the Company's role. It is depicted in the Corporate Logo with a clean, sophisticated typeface that projects TNB's exciting future. The lettering is italicized to represent the dynamic role that TNB will play in the nation's progress. The typeface is bold, to depict the Company's inherent strength, confidence and reliability. Corporate ColorsThe logo symbol is in a brilliant red to symbolize energy. It is a most impactful color connoting excitement and confidence. The Corporate Title is in a cool, solid blue – giving a sense of corporate strength and dignity, a perfect complement to the red logo. Red and blue together also reflect the colors of the national flag – appropriate for a vital national service.

CHAPTER 2:

ORGANIZATION

INFORMATION

2.1 Departmental Structure (Human Resource Department)

BahagianSumberManusia (BSM) located at 5th floor, WismaTNB Kota Bharu. The head of Human Resource Department (HRD) is MohdRosli Bin Jusoh. There are a lot of units in Human Resource Department (HRD) which are Unit KomunikasiKorporat(UKKO),Unit Pengambilan& Pembangunan Staf (UPPS), Unit Perkhidmatan&Persaraan (UPS), Unit KemajuanKerjaya (UKK), Unit Pembangunan Organisasi (UPO), Unit Pentadbiran& Pembangunan Staf (UPHS) and Unit PengurusanMaklumat (UPM). The trainee is placed in Human Resource Department and the supervisor of my training is MrKhairulAzuan Bin Ibrahim as PembantuTadbir (Latihan&Kenderaan) PengurusanSumberManusia&PerkhidmatanPentadbiranNegeri Kelantan. Below is the departmental structure of Human Resource Department (HRD).

2.2 Department Function.

This Human Resource Department has several function that are as below :

2.2.1 Linking its human resource activities to business strategies and acting as a Business Partner.

2.2.2 Its accountable for the Division's cost effective operations.

2.2.3 HR Department also provides human resource services to the Group, such as human resource planning & development, human resource management and human resource internal affairs.

2.2.4 HR Department ensures that human resource policies, procedures and practices are in line with the Group's Business Strategy and Core Values.

2.2.5 HR Department deals with industrial relations, staff welfare & administration, and managerial & leadership training.

2.3 Supervisor's & Student's Particular

2.3.1 Supervisor's Particular

Name : KHAIRUL AZUAN BIN IBRAHIM

Position : PembantuTadbir (Latihan&Kenderaan)

2.3.2 Student's Particular

Name : FARHA AINA BINTI A'IDRUS

Table 2 : Department Information

Name of department	**Human Resource Department (HRD)**
Campus	**Wisma Tenaga Nasional Berhad, Kota Bharu**
Operating Hours	**Sunday - Thursday: 8.00 A.M. - 5.00** **P.M. Rest: 1.00 P.M. - 2.00 P.M.** **Friday & Saturday : CLOSED**
Address	**Tenaga Nasional Berhad** **BahagianPembahagiaanTNB,** **WismaTNB,** **JalanTok Hakim,**
Phone Number	**09-7451000 / 09-7451100**
Fax Number	**09-7449161 / 09-7473611**
E-mail	**www.TNB.com.my**
Website	**www.TNB.com.my**

CHAPTER 3 :

INDUSTRIAL TRAINING

ACTIVITIES

3.1 Training Activities

The tasks that the trainee carried out and involve during 20 weeks of Industrial Training of Tenaga Nasional Berhad Kota Bharu include :

3.1.1 LogsheetFor Transportation

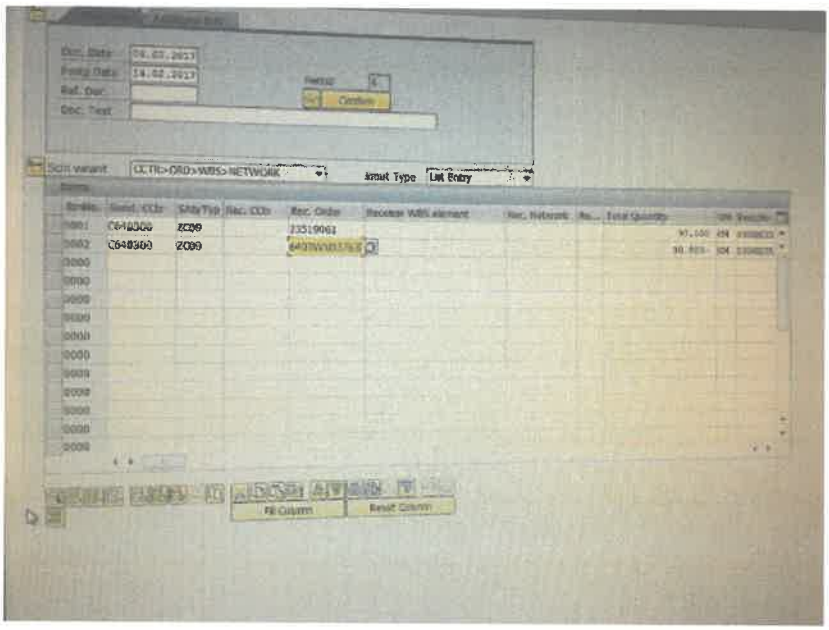


Figure 5 : Example of Logsheet in making

This logsheet is under the Logistic Department but for year 2017, the department have to be under HR Department because of certain problem, so the trainee need to complete the logsheet. Logsheet need to be key-in in the SAP Logon system. The logsheet purpose is to know the mileage of the vehicle. When the driver come and send the logsheet book, the trainee need to key in in the system. In the SAP logon system, they have to key in date, record order, the plate number, the location they go and many more. All the information the trainee need to key in just take from the logsheet book. Each vehicle have their own logbook. So that the Executive of Logistic just take the book to see the mileage.

3.1.2 Attend The Budget Training

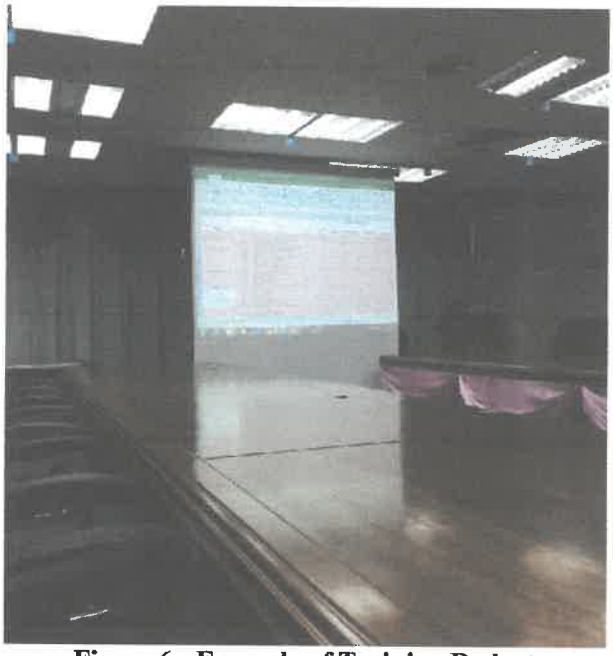


Figure 6 : Example of Training Budget

The trainee need to attend the Budget for year 2018 because there is not enough staff. The trainee also need to attend because the trainee need to do the calculation in Microsoft Excel. The trainee need to understand how to do the calculation and using the format. The trainee attended the training for 2 days.

3.1.3 Budget 2018

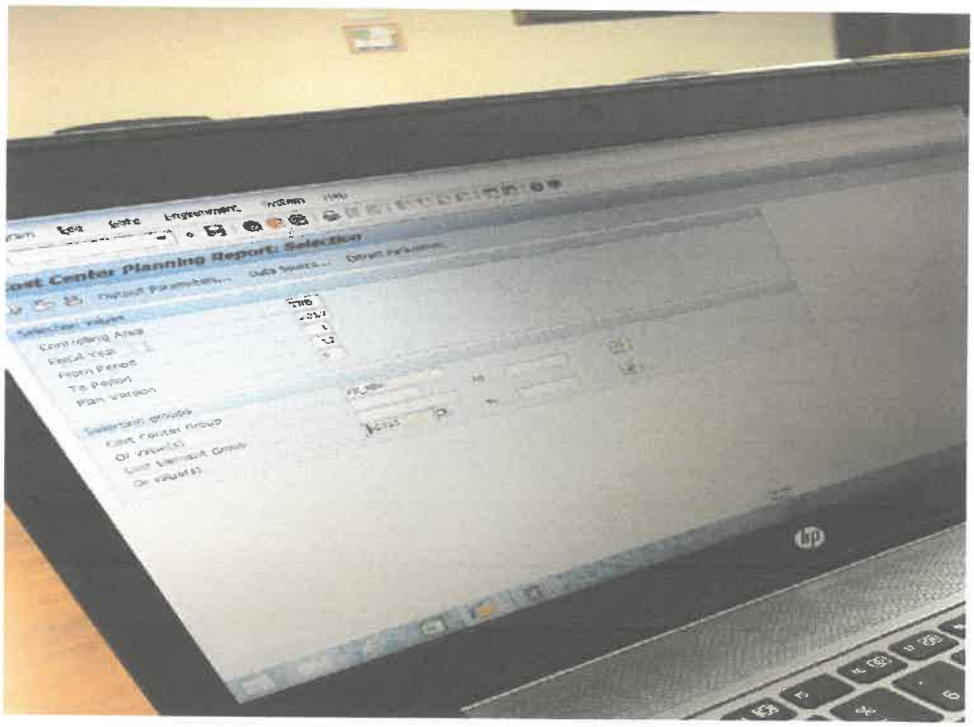


Figure 7 : Example of Budget OPAX 2018

This budget need to be done by the trainee. But before they start, they need to attend the training how to calculate it. The trainee need to do the budget for Kelantan state which contains 13 branch in Kelantan. The trainee calculate the budget for 2018 but there must take the history from 2014 because they want to increase the budget and must tally with the amount.

3.1.4 Attend The Distribution Program

Figure 8 : Example of Distribution Program

The trainee need to attend the distribution monthly meeting. In the meeting, they discuss the program, the budget for the monthly come and out and many more. At the meeting, the trainee have been ask to take photo when the meeting have start and when the discussion start, the trainee have been ask to note the important things.

3.1.5 Attend TheOpening Ceremony of "BilikGerakan"

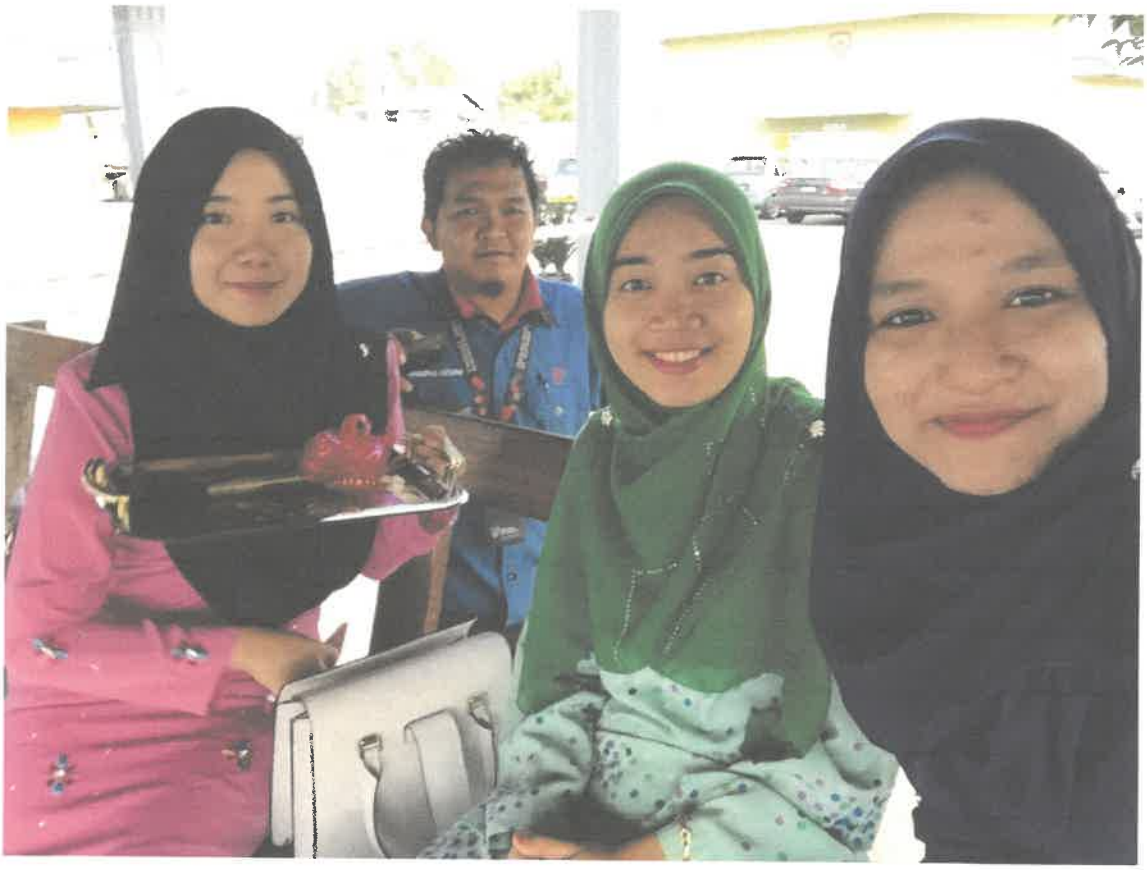


Figure 9 : Example of Opening Ceremony Program

On this day, the trainee have to attend the Opening Ceremony in Yard Lundang with the supervisors and staff. On this day, the trainee have been ask to take the photo when the program is start. The program start with Opening ceremony by Dato' IrYuslan as the General Manager of Kelantan. On this day also, the trainee have been ask to arrange the chairs and arrange the prizes that will be given after the ceremony going to finish.

3.1.6 Tenaga Nasional Berhad Wellness Day

Figure 10 : Photos On The Program TNB Wellness Day

On this day, in every branch they will make a program TNB Wellness Day. In this program, the trainee have to take care of the PA system such as change the songs, put the microphone, take picture and many more or also known as one of the crew for the program. There is also many activities that the trainee also can join because all the staff also join it. The trainee also have to arrange the prizes for the winners and take photos.

3.1.7 Booth at Kolej Kemahiran Tinggi Mara Pasir Mas

Figure 11 : Photos of Organized Booth in KKTM

On this day, the trainees and the staff which is Madam Zurina, MrBaharuddin, MrKhabir Sufi, MrHasdi and other staffs have to take care the booth of TNB at KolejKemahiran Tinggi Mara at Pasir Mas. This is to make the student gain knowledge from this book or if they want to check their house bill (for the parents or outsider that come) they can check from the booth. They just give their identification card number or their account number if they remember. The trainee have been teach how to explain and check the bills. Moreover, the trainee also have to explain about the University Tenaga Nasional for continuing their studies.

3.1.8 Go Green Day

Figure 12 : Photos of Go Green Program

Every year, all TNB branch will make a program Go Green Day and everyone have to wear Green Shirt on that day. On this day, there are Opening ceremony which is done by DatoIrYuslan the General Manager of Tenaga Nasional Berhad in Kelantan. On this day, the trainee have been ask to take photo, prizes and microphone when the General Manager giving the speech. On this day also, the trainee have been ask to setup the projector at the Lobby because this program involve all the staff except the Distribution Department.

3.1.9 Attend the Program organized by Financial Department

Figure 13 : Photos of Financial Department Program

This is the program that have been handle by Mr Kamal Azmi as Executive of Financial in Tenaga Nasional Berhad and DrSamsudin Ghani. The program held in Meeting Room Level 5. The program title is "JomTurun Padang BersamaPengguna". The meeting is the preparation to handle the program. The trainee have to be the crew of the program. The program will be held in KokLanas. In meeting, they ask the trainee to make the program flow, the arrangement of the place and many more. Also, the trainee also have been ask to responsible in manage the prizes such as toaster, iron, rice cooker and many more for the customer that come and make payment or update their details.

3.1.10 Filing In Record Room

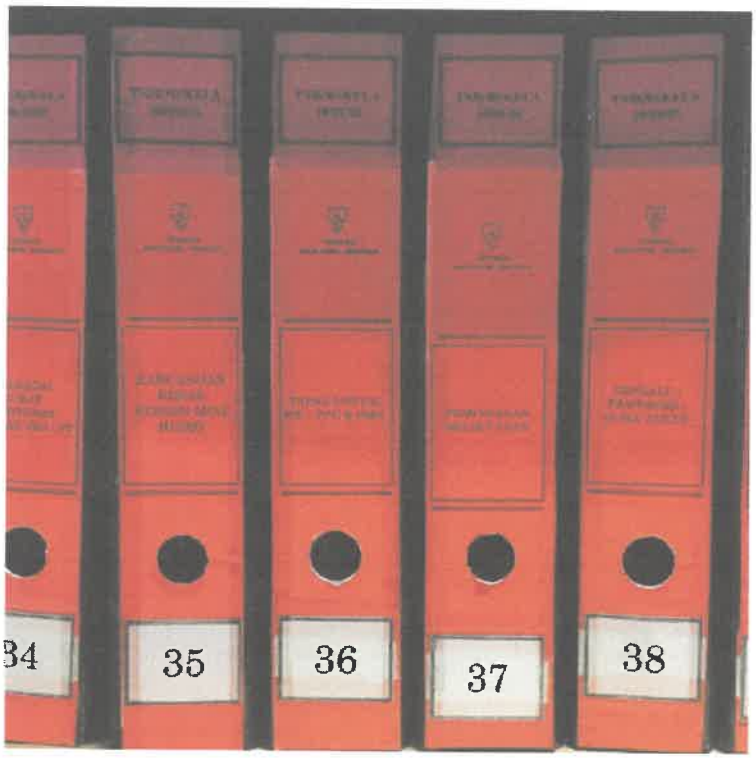
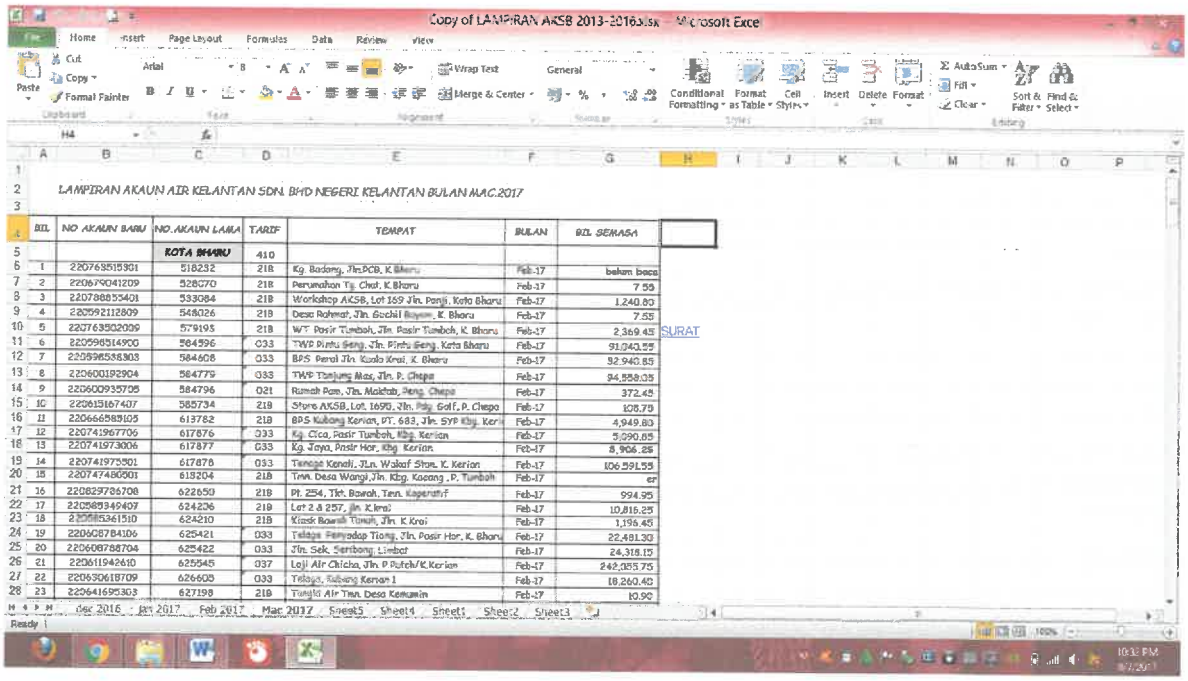


Figure 14 : Photos of Filing in the HRD

Most of the day, there are new file in the department because HR Department is the one that contains the file room. So everyone in other level come to the department to store the file. The trainee have been ask to responsible in labelling the file based on the colour and the number label. The number have to ask the staff because they already have the number but they do not label it.

3.1.11 Print out all the bills in early month



LAMPIRAN AKAUN AIR KELANTAN SDN. BHD NEGERI KELANTAN BULAN MAC 2017

BIL	NO. AKAUN BARU	NO. AKAUN LAMA	TARIF	TEMPAT	BULAN	BIL SEMASA
		KOTA BHARU	410			
1	220763515901	518232	218	Kg. Badang, Jln.PCB, K.Bharu	Feb-17	belum baca
2	220679041209	528070	218	Perumahan Tg. Chat, K.Bharu	Feb-17	7.55
3	220788855401	533084	218	Workshop AKSB, Lot 169 Jln. Panji, Kota Bharu	Feb-17	1,240.80
4	220592112809	548026	218	Desa Rahmat, Jln. Guchil Bayam, K. Bharu	Feb-17	7.55
5	220763502009	579193	218	WT Pasir Tumboh, Jln. Pasir Tumboh, K. Bharu	Feb-17	2,369.45
6	220596514900	584596	033	TWP Pintu Geng, Jln. Pintu Geng, Kota Bharu	Feb-17	91,040.55
7	220596586803	584608	033	BPS Perai Jln. Kuala Krai, K. Bharu	Feb-17	92,940.85
8	220600192904	584779	033	TWP Tanjung Mas, Jln. P. Chepa	Feb-17	94,558.05
9	220600935705	584796	021	Rumah Pam, Jln. Maktab, Peng. Chepa	Feb-17	372.45
10	220613167407	585734	218	Store AKSB, Lot 1690, Jln. Pdg. Golf, P. Chepa	Feb-17	108.79
11	220666585105	613782	218	BPS Kubang Kerian, PT. 683, Jln. SYP Kbg. Ker	Feb-17	4,949.80
12	220741967706	617876	033	Kg. Cica, Pasir Tumboh, Kbg. Kerian	Feb-17	5,090.85
13	220741973006	617877	033	Kg. Jaya, Pasir Hor, Kbg. Kerian	Feb-17	8,906.25
14	220741975501	617878	033	Tenaga Kenali, JLn. Wakaf Stam, K. Kerian	Feb-17	106,591.55
15	220747480901	618204	218	Tmn. Desa Wangi,Jln. Kbg. Kacang , P. Tumboh	Feb-17	er
16	220823736708	622650	218	PT. 254, Tkt. Bawah, Tmn. Kaperatif	Feb-17	994.95
17	220589349407	624206	218	Lot 2 & 257, Jln. K.Krai	Feb-17	10,816.25
18	220585361510	624210	218	Kiosk Bawah Tanah, Jln. K.Krai	Feb-17	1,196.45
19	220608784106	625421	033	Telaga Penyadap Tiang, Jln. Pasir Hor, K. Bharu	Feb-17	22,481.30
20	220606788704	625422	033	Jln. Sek. Seribong Limbat	Feb-17	24,316.15
21	220611942610	625545	037	Loji Air Chicha, Jln. P Pateh/K.Kerian	Feb-17	242,055.75
22	220630618709	626608	033	Telaga, Kubang Kerian 1	Feb-17	18,260.40
23	220641695303	627198	218	Tangki Air Tmn. Desa Kemumin	Feb-17	10.90

Figure 15 : List of Amount bills

Every month, the trainee have been ask to print out all the monthly bill which is "Air Kelantan", JabatanPelajaranNegeri, JabatanKebajikanMasyarakat, Infra Quest, KeretaApi Tanah MelayuBerhad and Pos Malaysia. These bill need to be print then the trainee need to be key in the amount in the Microsoft Excel. The bills need to be key in every month then when the printing and key in is done, the trainee need to pass the bills to the meter reader and the meter reader will pass it to the customers. The bills need to be print in two copy. One pass to the meter reader and one more need to put in the file and give the file to Financial Department. After the Financial Department key in the amount of the bill, the file need to be stored in BahagianPengguna Department. They have their own store to store all the bills every month.

3.1.12 Billing and Customer Relationship Management

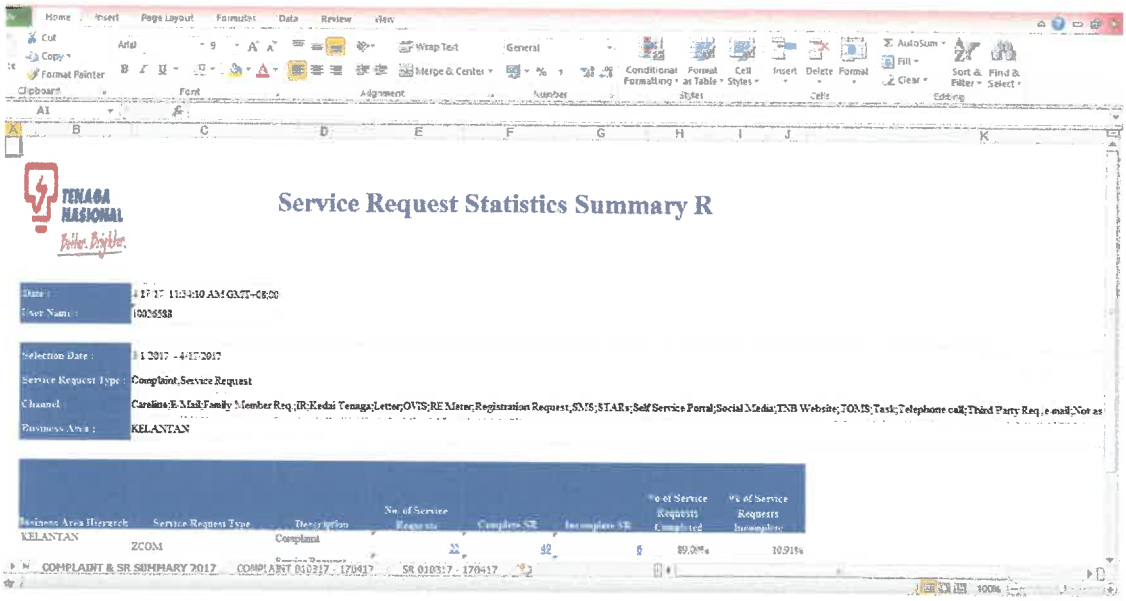


Figure 16 : Photos of Organized Booth in KKTM

For BCRM Billing and Customer Relationship Management there are two components that they are going to control which is Complaints and Service Request. Both of the components have been made by customer that are having problems or they want to add some service. They just go to the "BilikGerakan" in Level 5 of TNB. Then the Saff will note the complaint or service needed then upload in the system which is the system only can open in the "BilikGerakan". The computer is only for BCRM.

3.1.13 "LampuJalan" For Kelantan State

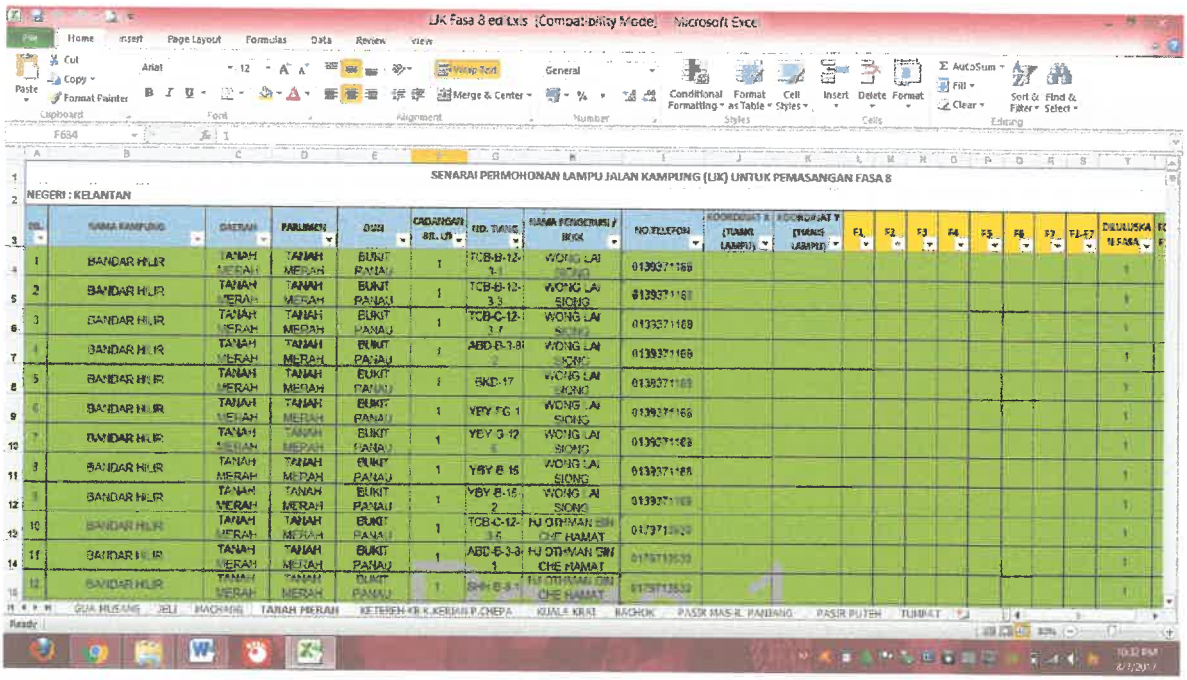


Figure 17 : List of LJK

For one week, the trainee have been ask to filter the "LampuJalan". "LampuJalan" is the one that contains all the detail about "LampuJalan" in Kelantan. MrKhabir Sufi have ask the trainee to filter up the "LampuJalan" according to how many or the amount of the "LampuJalan". For example, for Tanah Merah. The "LampuJalan" in JalanSentosahave 5 and the limit of the "LampuJalan" in one road is 7. So the JalanSentosa is not the limit. If one road has limit such as 8 or 9 in one road, the trainee need to mark with red colour. So that Mr Khabir will take note from the documents.

3.1.14 "KemRemajaBestari"

Figure 18 : Photos of KRB Program

This poster have been edit and done by the trainee before the program start. The trainee also attend to the program and stay one night at the hotel because the trainee have been ask to be the facilitator for the participant. On the day, the trainee got the responsible to manage the participant registration and give the talk about the attire of the day.

SPECIAL

PROJECT

3.2 SPECIAL PROJECT

3.2.1 INTRODUCTION

3.2.1.1 PROJECTOVERVIEW

The trainee has been given a special project by TNB to developed a system called eBilik to handle the meeting that are going to held in the meeting room. The system aim is to be used in the Human Resource Department to easy their work in booking the meeting room so that if the room is full, they will know from the system. If the room is full and is being used, the system will not appear the date.

As the trainee related with the Information System Management field, it is effective when the trainee been assigned to develop a new system to be used at this organizations. In addition, develop a system also be one of the main requirement for the trainee need to be completed in period of time during the industrial training. I have been given this task because there is no system related to the booking meeting room. In the Human Resource Department, there is always held the meeting because the room is always full. The requirement have been ask by my supervisor is in the system have the booking request and the user can get the confirmation.

There is a requirement from the Human Resource Department whereas they have faced a problem in manage the meeting room. Before this, the meeting room have to be book by manual. Sometimes the in charged forgot to note the booking. So there will be redundant booking. This is because this department did not applied any method whether a manual even a systematic method that have been applied in order to handle the booking that have been made. So this system has been develop in order to enhance more the daily

task activities in this department. In order to fulfill the objective of this Industrial Training, the trainee was required to develop a full new system for the Human Resource Department of Tenaga Nasional Berhad Kota Bharu. The system that being tasked and proposed to the trainee was called "Sistem E-BILIK". This system was being developed under the request of MrKhairulAzuan Bin Ibrahim as the person incharged for the Program in the meeting room in TNB, who is also as the organization supervisor for the trainee and was supervised under MrAsyraff Bin Ismail as the Executive Information Technology and the Technician Assistant Engineer of Building Department MrHaziq Bin Abdullah. The main function why this system was develop is to manage, administer, save and print out the booking form when being issued and when want to be used as the proof for the booking process has been done.

This system only can be retrieved by the staff of the TNB and can be approved by the admin. It mean that the users who make the booking have to fill the booking date and title of the program and the admin will approved the booking. The user need to retrieved the booking is being accepted is through the system. For an example, A book the meeting room for "Meeting Pelitawanis" and he need to fulfill the form. Then the admin will see and approved it. The user need to open again the system after one or two days to see whether the booking is being accepted or cancelled by the admin because the room is full for other program. Other than that, the system also provide some features like the admin can deleted any unnecessary booking that has been entered into the system but it is not related with the department, delete the form that the program have been held. Second is the admin also can update the information that being given by the users maybe the wrong date have been key in. Third is the admin can print out the form for filing if there is any

error and broken down the database, so this will be the backup if the problem happen. This system is included with a user manual in the help section to help the beginner-users to use this system without any difficulties.

3.2.2 Problem Arise

In Human Resource Department, the record booking meeting room is record manually. Therefore it is quite hard for them to track the booking if other person want to make other booking .Moreover it uses a log book from several past years to record the booking. So if the log book misplaces or missing, there have no backup. By proposed the e-Bilik, staffs can track the flow of the equipment. If they still used the manual way in record the user bookings, it might be out of date. This is because others are using system in order to record the data. This system will be more effective and efficient to staff.

3.2.3 Objective

The objective of this e-Bilik is to facilitate staffs in order to record all the data of the bookings. The system will become more effective and efficient. It will get the best result in recording data in system rather than manually. The objectives are asfollows:

3.2.3.1 Save data and information in electronic ways.

Before this, the maintenance department not implement any method even manual or electronics to handle the bookings from the users. Then they also having a difficult problem when want to retrieve the record and data from the bookings. When the user ask, they can't find the bookings. So when this system being implement in this department, the staff can easily save and retrieve back the data and record as they just need to enter list of booking in the system and no need to worry again.

3.2.2.2 To manage the bookings effectively

Before of this, the bookings that is received being handle by Clerk in the Human Resource Department, Madam Ghana BintiKoming. But she can't manage the bookings properly because they only used e-mail to book and Madam Ghana will note it in the log book. Sometimes, there have no action when they have book. So when the system have been implement, there will be safe in terms of security of information that have been store. By presence of this system, this department can easily entered the data and receive the bookings faster. This has enhance more the department administration process as they can increase their work of productivity.

3.2.2.4 Avoid the loss and damage of information.

Saving the data inside the database is safer than saving it in a piece of paper that lastly will be nowhere to go. This system can help the admin to enter the details of the bookings form. In addition, the trainee also has teaches the admin to auto backup the database once in two week in order as a precaution step if there is a computer error happen. other than that, the data being stored can be easily retrieve when they is needed without considering on how much time they have been keep into the system. This has make the record being keeping in safe and no unauthorized users can access the system and access the data without any permission and this can avoid the data from being misused.

3.2.3 The function of developed system should be able to:

3.2.3.1 Receive all the information submitted users by self-key in the data.

3.2.3.1 Delete unnecessary/out-of-date reports.

3.2.3.2 Edit the information that were already taken care of

3.2.3.3 Save all the necessary information in the database.

3.2.3.4 Print the report needed for a proof.

3.2.3,5 Search related data given the keyword such as from the program title

3.2.3.6 Prevent unauthorized user from accessing the system.

3.2.4 System Development Life-cycle.

The system must have several phases such as planning, analysis, design, implementation and also maintenance.

3.2.4.1 Planning

The trainee started the planning of the system by identified, analyze and collect all the data that relate with the system that will be conducted. In this method.trainee has asking many question that relate with the bookings meeting room that will be inserted inside the system.. All the data and information getting being recorded in an paper that being inserted into the computer for a better ways. According the situation, a lot of discussion needs to be done to obtain the ideas and implement the system e-Bilik especially with the MrKhairulAzuan such as the advantage and disadvantage of using the automatically procedures because before this they are using the manual system. Other than that, any improvement can be done to provide a better system.

3.2.4.2. Analysis

Analysis is the most important part which in analysis phase. In this is a current system and problems are made context there are no current or existing system has been applied and being used in this So there will be a new system being organization. created. In order perform it, the trainee has gathered and asking to about the information that will be need to the inserted into the system which is gained from the one who inspired this system must be create that is MrKhairulAzuan Bin Ibrahim. The problem being discovered here is that there are no systematic even manual way to manage the bookings meeting room and in order to avoid it, an electronic system being prefer in order to save the data with more secure and can be retrieved when being asked easily. There also some improvement being added into the system which is it can generate a report. The required tools for the projects are hardware, software and time operation.

3.2.4.3 Design

Design is not so important in developing this system as the users of the system is prefer more it being design in a very simple ways as they all is very older and it is better to use simple system rather than hard with a high design. It will be complicated for system the users to use it. In this system, the process is only one that is only the admin will inserted the form. In other word, the input and output of the system is only being doing by the admin only. There also many page being inserted that link to each other in order to produce a workflow process while inside the form there will be many field that need to be fill by the admin to insert the information. Other features is search the form, deleted the form, updating the form and also generate a report also being adding into the system for a more effective system generated.

3.2.4.4 Implementation

This is the most critical phase whereas it involved with the coding need to be created in order to produce a system that can be used as planned. A code being generated by using the Php My Admin and MySQL Database to save the data. After that the documentation also being done in order to complete up the report form. A documentation must be clearly being documented as it must ensure all the component, file and also others related information and data about this system being documented all of them correctly. In order to make the users of this system being able to use this system, a user training procedure must be created so that the users can use the system well so that the users can used the system in right way. Other than that, some precaution and backup steps has been implemented to make sure the system is working well and smoothly without any problem through the system that the trainee develop. Also, the test will be conducted by the trainee but it only involved the supervisor of the trainee and the Executive of Information technology in the company. Also, the user manual have been made so that it will guide them when they are using the system.

3.2.4.5 Maintenance

This phase exist in system operation where it consist of implementation of changes that software might experience over a period of time, or implementation of the new requirement or updated of software. Maintenance phase also involving any handling issue that may exist in the software even after the testing phase. This phase also monitors the system performance , rectifies bugs, and request changes are made. In the maintenance phase, three actively activities might happen which are bug fixing, upgrading and also enhancement. Other than that, when the trainee have finish the industrial training, the IT department will take the place in handling this new system and they are going to upgrade the system.

3.2.5 Entity Relational Diagram (ERD)

Figure 21 : Entity Relational Diagram (ERD)

3.2.5.1 BUSINESS RULES

3.2.5.1.1 One staff can make many booking

3.2.5.1.2 Many booking can be made by one staff

3.2.5.1.3 One admin can approve many booking

3.2.5.1.4 One booking can be approve by one staff

3.2.5.1.5 One staff can see their many booking status by one admin

3.2.5.1.6 One admin can approved many booking status by many staff

3.2.6 Context Diagram of Logical System E-BILIK System

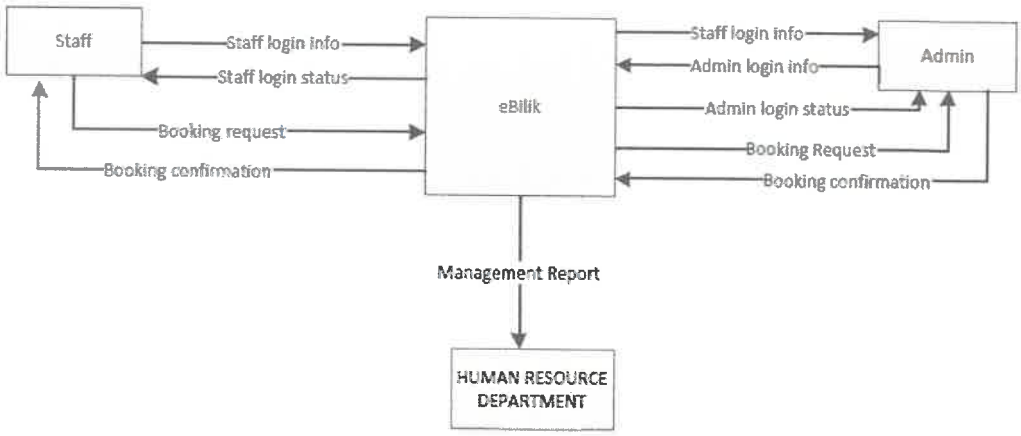


Figure 22 : Context Diagram

3.2.7Data Flow Diagram (DFD) of E-BILIK System

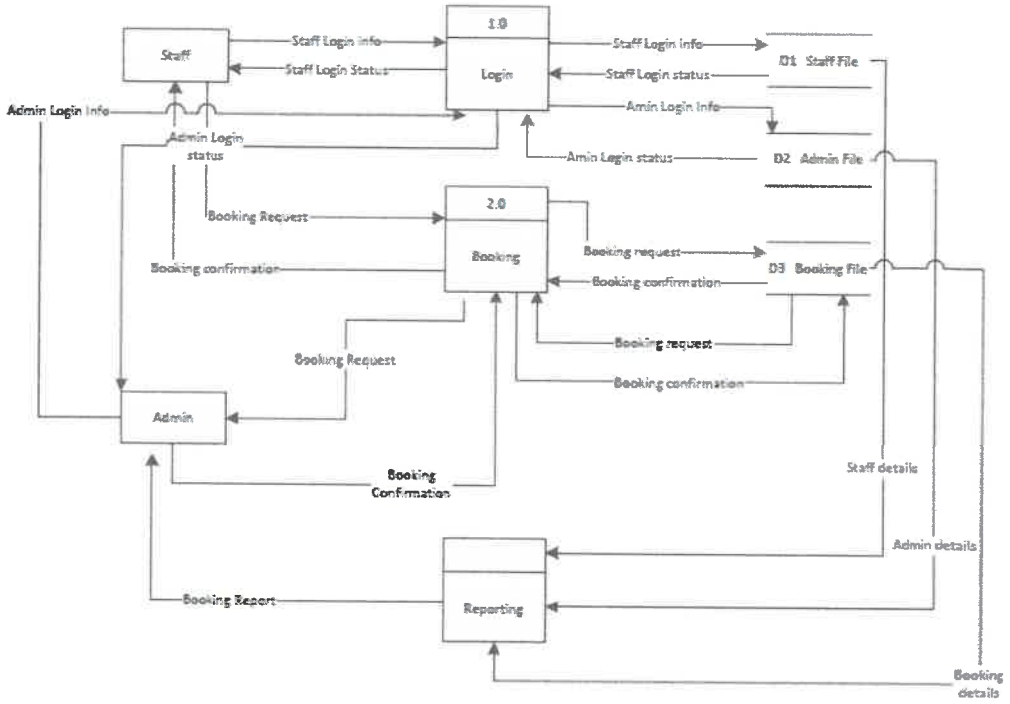


Figure 23 : Data Flow Diagram

3.2.8 Technical Feasibility

It is crucial to consider these following requirements to ensure this system development runs smoothly :

Hardware Requirement	Software Requirement
• **A PC / Laptop** • **Operating System : Windows 8** • **Processor : Intel Core i5** • **Printer Canon** • **4GB Flash Drive** • **4GB RAM**	• Adobe Dreamweaver • Web server Application : WAMP Server • My SQL Database : Php My Admin • Adobe Photoshop CS3 • Microsoft Office Project 2010 • Microsoft Office Word 2010

Table 2 : Technical Feasibility

3.2.9 Economic Feasibility

Tools	Costs
Hardware	
• **Personal Computer ACER**	RM 1,799.00
• **External Rewritable Drive**	
• **4GB Flash Drive**	RM 25.00
• **CD Rom**	RM 9.00
• **Printer CANON**	RM 250.00
Software	
• **Microsoft Windows 8**	Licensed
• **Php My Admin SQL**	Free Download
• **Wamp Server**	Free Download
• **Microsoft Office 2010**	Licensed
• **Adobe Photoshop CS3**	Free Download
• **Adobe Dreamweaver CS3**	Free Download
Others	
• **A4 paper**	RM 10.00
• **Printer Ink**	RM 70.00
TOTAL BUDGET COST	**RM 2,163.00**

Table 4 : Economical Feasibility

CHAPTER 4:

CONCLUSION

4.1 Application of Knowledge, Skills and Experience taught

Industrial Training with Tenaga Nasional Berhad Kota Bharu for 20 weeks gives the trainee many knowledge, skills and experience that the trainee gain whether in department or also that outside the department on the other hand, the trainee have gained not only the technical skills but also soft skills such as management skills, groupings kills, communication skills, time management skills creative thinking skills and interpersonal skills. But for the mainly thing that the trainee gained is in term of the system development whereas it has teach the trainee on how to develop a system. With already experience and skill of the trainee from the faculty, the trainee has find many alternative to seek and survive in term of develop a system that be used for more improvement and enhancement in term of department administration. During the industrial training, the trainee has been given a task to develop a full system for the Huma Resource Department which is "Sistem E-Bilik". This system is mainly focused on a booking management in Tenaga Nasional Berhad. The trainee have proposed this system because the trainee have seen the way they organized the booking is very poor.

As all know.when the trainee develops the system by himself and it automatically gained the trainee a knowledge because the trainee can apply what he has learn at the faculty to the organization. This can help the trainee to expose and practically applied it already knowledge to gain another new knowledge when at the organization. On the other hand, the trainee also can improve their skills to develop the automatically system to organization and set up the system from the beginning. In addition, when the trainee develop the system to the organization it can give the trainee new experience when the trainee discuss about the system with others staff, supervisor and also the staff that has been responsible to use the system. Besides that, the trainee can expose their skill to the organization by develop a system to the organization. The trainee also has some

experience, skills and also knowledge in term of maintenance and repairing the computer that can be used to teach, show and telling the other staff in the organization. For an example the trainee has teach to some of the staff who are interested in dealing with the computer and also to the young staff rather than old staff as this will make them easily to more understand. This is helpful because when the staff is equip with the knowledge and skill on how to format the computer when blue screen happen, the staff itself can perform it when the trainee is finished from the industrial training.

In addition in order to enhance more the understanding of staff that interested in learning the method, the trainee also has shown some tutorial to them so that they can more easily understand it. This experience and skill not only focused on the computer but also to other stuff like printer and also photocopier machine

On the other hand, the trainee also can expose and getting many new knowledge in term of administer and manage the staff attendance, leave schedule, and many more when the trainee was dealing with punch card system at the the corporate department. Punch card system being used by the organization to record, store, manage and a some issue related with the staff especially related to the attendance of all the staff. This system has help the corporate department as it assist in making the full report of each staff in a month and it can become as the proof when the staff having a trouble or absent to the organization. As the trainee also in the same field of system, the trainee being more easily to adapt and used the system and also can able to understanding the features of the system faster than others. During the industrial training at the organization, the trainee also gained the knowledge by involved the seminar or meeting and go to site. As all know, at the university the trainee just focus on theories only but when the trainee go to the

organization, the trainee cam learn more and apply the knowledge and will improve the communication skills with the staff and audience. On the other hand, the experience that the trainee has at the organization is one of the bonuses to the trainee that other people do not have it and it can be the trainee more confidence to have a better job in future.

Lastly is the trainee can enhance more the communication skills as at this organization, the trainee has involved with the site visit at many places that make the trainee to deal with many contractors. Also, the trainee have been ask to be in the registration table when there is any program. Here the trainee can applied the communication skill and also soft skill to communicate and make the registration process be more effective, faster and also simple. As we know deal with many people has test the trainee patience level, but the trainee has succeed to overcome it because at the faculty, the trainee has been trained well to deal with many people, to work in a group and also to decide the best choice a better result.

4.2 Personal Thoughts and opinion (Reflective Tone)

Been assigned to doing an industrial training at Tenaga Nasional Berhad Kota Bharu has make the trainee to learn many things that related with the trainee subject field itself. There are too many information, knowledge and skill have been gained and learned at this place. There also a knowledge that the trainee not know been learned here. Something new about the organization daily task also has been interpreted into the trainee itself even it is not related with the trainee field. Other than that, the trainee also has been teaching by the staff here about on how the real work environment play it role. This is different from the environment at the faculty because there are so many things that need to be learned by the trainee in order to enter the new work environment.

Involved in a system development requires the trainee search for what's the problem

faced by the unit and find a way to solve them in term of providing new systematic system in order to help a organization to overcome the problem happen. The trainee also needs to apply all the theory in obtaining user requirements. Every staff has their own need whereas it been tried by the trainee to make it true and possible. The trainee also learned how to organize work, how to face the challenges and how to satisfy the user to consider all their needs in the system. Overall, the trainee needs to find a way to make user's tasks. In order to do this, the easier trainee has develop one system name E-BILIK system that been used by the Human Resource Department to handle all of the bookings in Tenaga Nasional Berhad.

After that, the trainee feels the organization always give the opportunity to show the knowledge and skill that the trainee has to make the organization confidence about the knowledge of the trainee. This organization has a very steady work environment because there are no force in doing a job been applied to the trainee even also to the staff. Top position manager always been working together with their low level staff in order to perform a task. In other mean, they all work hard together without considering the position level in order to finish a job. As the trainee is only one that related with the Information Technology field, it required the trainee to handle and solved all the problem related with the technology tools like computer, printer and also photocopier machine. It mean that the trainee always been called to solved a problem at same time but the staff here are very negotiating whereas they will to wait until one job finish then can continued to solved others job. The staff also are very tolerating, good and accept the trainee as their own organization staff even the trainee is not. This is what make the trainee feel more comfortable to having an industrial practical here as good as well.

Next is the trainee also feel that this organization has fixed with the trainee industrial

training requirement as many thing that trainee learned can be applied here especially in factor of system developer and also technology used. Been stay here for 5 month is very useful and benefit to the trainee as the trainee can help many others staff in performing their daily task and activity. On the other hand, the during the industrial training the trainee feels more confident because almost every day the trainee practice to wear the formal attire and it looks like the real situation to the trainee to have more confident level when the trainee communicate and shown the real physical to other staff, customer and public people. Practical training program is beneficial to help the trainee to understand the work environment and be prepared physically and mentally to face the real working world when the trainee finished the study. In general, the Practical Training Program allows the trainee to understand more about their field of study and give a clearer picture to move forward in the near future.

4.3 Lesson Learnt

There are some lessons that the trainee have gained at the industrial as training such as:

4.3.1 The trainee should always be updated with current news and information especially in Information Technology field.

As the trainee is the only one that relate with the information technology department, the other staff always asking about the technology and also other news, opinion and also suggestion. This has make the trainee to always alert, explore, expose and also know about the most current information. This can help to expose other staff into the field of technology. Other than that, it become as the trainee responsibility to brief and also tell the others even the things that they didn't ask. On the other hand, the trainee also must know about the active learning design elements ensure that the trainee learns and retains the

industrial training objectives through active participation. It allows the participants to explore or experiment with the information or task presented. The information presented gives the trainee an opportunity to infer various principles and strategies for effective performance.

4.3.2 The trainee also known about the leadership skills.

Leadership is very important in manage the activity or project been assigned. For an example a project visit school, the trainee need to applied the leadership skills to others trainee member who is new in practical training by giving some information in many ways. Leadership is not only need to be applied in a group, even in individual, the trainee also need to know on how to lead themselves. For signed do it. In the an example, the will do a task even being a to trainee not organization, leadership skills must have in everybody because it important to achieve their goals and the leadership also can be hard to define and it means different things to different people. In the transformational leadership model, the leaders set direction and help themselves and others to do the right thing to move forward. To do this they create an inspiring vision, and then motivate and inspire others to reach that vision. They also manage delivery of the vision, either directly or indirectly and build their teams to make them ever stronger in organization.

4.3.3 The trainee learnt about the strategy tools that they used to maintain their quality.

Strategy tools is most important in organization because it shown their ability to execute the organization and business unit strategies successful. Also, to maintain the strategies the organization lead directly to the achievement strategies and the trainee can learnt from that and used when they finish their industrial training. On the other hand, the strategies tool is important and it meaning that all levels of strategy support and enhance

each other to ensure that the organization is successful.

4.3.4 Work hard to solve the problem arises no matter how.

There are too many task been assigned and been given to the trainee in time of industrial training. The task involve whether related to what trainee learn in faculty and also on what trainee not learnt. For an example on how to solve and find a ways to arrange and sorting the document "Budget 2018" at this organization, the trainee has given an opinion that to categorize the document. This to ensure that there will be easier and faster in term of amended the documents properly. For a task that involve, task about to repair a printer that is already damage and not been used for 2 years. As the trainee is not familiar with the task given, the trainee has make a step by learning online tutorial in YouTube website whereas finally the trainee is successful to repair it. This is what been said work hard on every task given.

4.3.5 The trainee learnt how to make a decision making to improve their knowledge.

At the organization, the staff also showed the trainee how to make a decision making properly. Besides that, they teach the trainee how to adapt problem with the real situation and can solve the problem with the positive ways. On the other hand, the trainee learnt some simple techniques to make the decision making skills more effective and efficient. Also, decision making is important because it also may have been a better choice that had not been considered, or the right information may not have been available at the time. Because of this, it is important to keep the information of all important decisions and the reasons why these decisions were made, so that improvements can be made in the future. This also provides justification for any decision taken when something goes wrong.

4.3.6 The trainee learnt how to use the communication skills at the organizations.

In any situation communication skills is very important to the trainee because it can show their own personality. At the organization, the trainee also learnt communication skills with the staff, with the boss and also with the customer that the trainee meets every day. Besides that, communication skills also more focus on their process such as from sender to the receiver, message, channel and also have the feedback from others. Also, at the organization, the trainee can improve the communication skills more affective and can develop the trainee more improve the speaking, observing, listening and also understanding the skills that the trainee learnt.

4.4 Limitations and Recommendations

4.4.1 Limitations

4.4.1.1 Less of Knowiedge about the IT among employees

Naturally, the staff or employee at Tenaga Nasional Berhad Kota Bharu do not have enough knowledge, experience and also information about the information system technology skill such as the usage of excel, power point and another application that occur on computer. The more main issue is the staff did even know how to install a software into their system and also they don't know how to burn a cd if they need. This is because when being asked, they more prefer to use email. The awareness among them also is low as they need to know, realize and understand that with the help of the technology, their work become faster and more effective than doing it in manual ways. Some of them also even not shut down their computer when going back to home and just let the computer stay until he come back to office, here there is very lack of awareness as they need to know that the computer itself can be burned out when the motherboard is overheat and it also will contribute to the burning and also motherboard and battery damage inside the CPU.

4.4.1.2 Pirate version of window being installed in most computer in this organization.

Mostly over ratio 9/10 computer inside this organization Tenaga Nasional Kota Bharu has using fake window and also some unregistered application in their administrative daily task. As this application costly but the most important data and record about all staff attendance. This is not appropriate and effective way to be applied this organization. As this

can ensure and contribute for the loss of the data and information in the punch card system when the machine break down, then it will make the organization having a problem. Other than that, computer staff also being in same problem this become problem to the department as each of their staff computer being installed with the SAP LOGON System being used to administer and manage all the project and task that relate with the Tenaga Nasional Berhad. So it will cause and contribute for larger problem when we using pirate version on installed window.

4.4.1.3 Unorganized Records.

At the organization, the documents are very important to be kept properly from others because it is confidential and evidence. At Tenaga Nasional Berhad Kota Bharu, some departments just kept the documents at the shelf without numbering and arrange follow by the number. Besides that, the staffs that handle about the documents do not take it serious because they do not know how to arrange properly the record systematically. As this organization is related with many document that is very vital because it show as an evidence. For an example is the billing and the details of the customer but it just been put everywhere without being considered it value to the organization itself. As there are many old group of people here.it is been not so important for them to be alert about the record arrangement and administration.

4.4.2 Recommendations

As for the recommendation, the trainee suggests a few things that should be taken into consideration during the practical training and also for the organization to be more effective and efficient. These suggestion include:

4.4.2.1 The organization need to expose all their staff into the importance of technology knowledge.

This step is vital as it can ensure every people are alert, aware, have knowledge and know on how to handle their operation that relate with the technology usage like computer and printer. When they are alert and know about the technology, their job will become easier as they are already know about some the knowledge about in using the technology. For an example, the staff will no longer having difficulties in doing a work that relate with the computer software like by using the Microsoft word, excel and so on. This is because when they are more alert about the knowledge, they will be able to absorb any knowledge that relate with their daily task. Other than that, the organization also can invite an expert to give a talk and train the staff into a new and easy skill in handling the technology especially usage of computer. Then a seminar and visit to other IT company also can be handled as it also can contribute for more addition of the knowledge. Then the most vital steps can is every staff that who is more expert in using the computer and software need to teaches others staff especially who is in old age. This attitude will give good results but also compulsory needed in order to gain a benefits for all of the staff to overcome the problem of less IT knowledge among staff.

4.4.2.2 Implement an original software and window in every computer.

The organization itself should be aware with the used of the pirate software and window as the serious damage they can caused problem. For to the data and information

when the computer being in an example, punch card system used for catching and storing the has been installed at a data about the employee attendance computer with a pirate window version. This is the serious problem if not want any not being overcome as soon as possible as they did this damage of the data stored inside the system. In addition, computer also is an old version running with a low hard drive and also a processor is too slow. This is wrong as the system RAM and is a tool that been used every day, assist in task operation, and hold a huge amount of data stored inside it database and it should not be doing that. It should and compulsory to be installed on original like windows to ensure no problem occurred in future.

4.4.2.3 Systematic and effective

Record management should be applied and need to alert and know on how to manage and keep all of their record more secure, systematic, effective and also efficient so that record with a value will be keep and being maintain safely. A secure record management will ensure that there will be no misplaced and loss of record and in addition it also can avoid from the valuable record being get to unauthorized persons. Other than that, a systematic and proper arrangement of the record itself will ensure that it will be easy to be retrieve when it is in demand to be used when it require. To apply this statement, this organization need to applied the record storage and record system so that all the record can be arrange, store and keep with more systematic. By helping from the electronic system tools, many benefits can be gain like can avoid from the duplication of same record that can reduce the storage space used to store the record. After that as this organization been dealing with many record, documents and data, it is very compulsory to apply all the above method so that their record will be manage and maintain into more systematic way than before.

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(Samsuddin Ghani, personal communication, April 12,2017)

(Kamal Azmi, personal communication, May 1,2017)

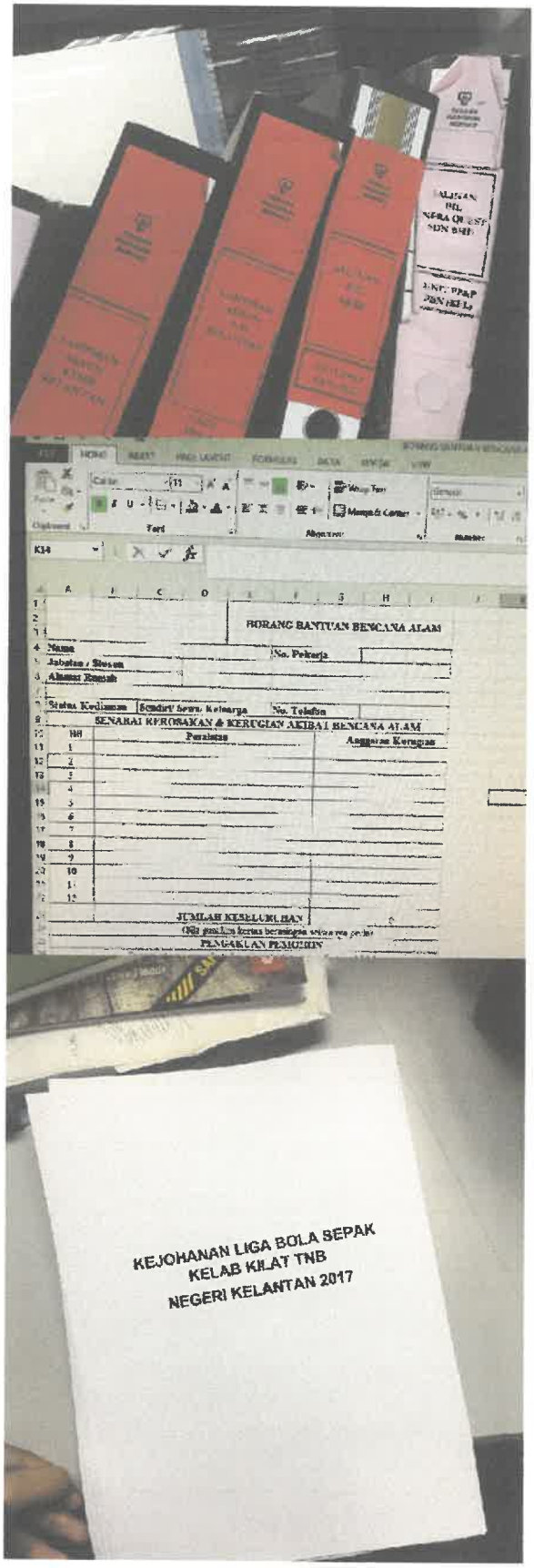
Tenaga Nasional Berhad.(1994). *Tenaga Nasional Berhad.*Retrieved from www.tnb.com.my/

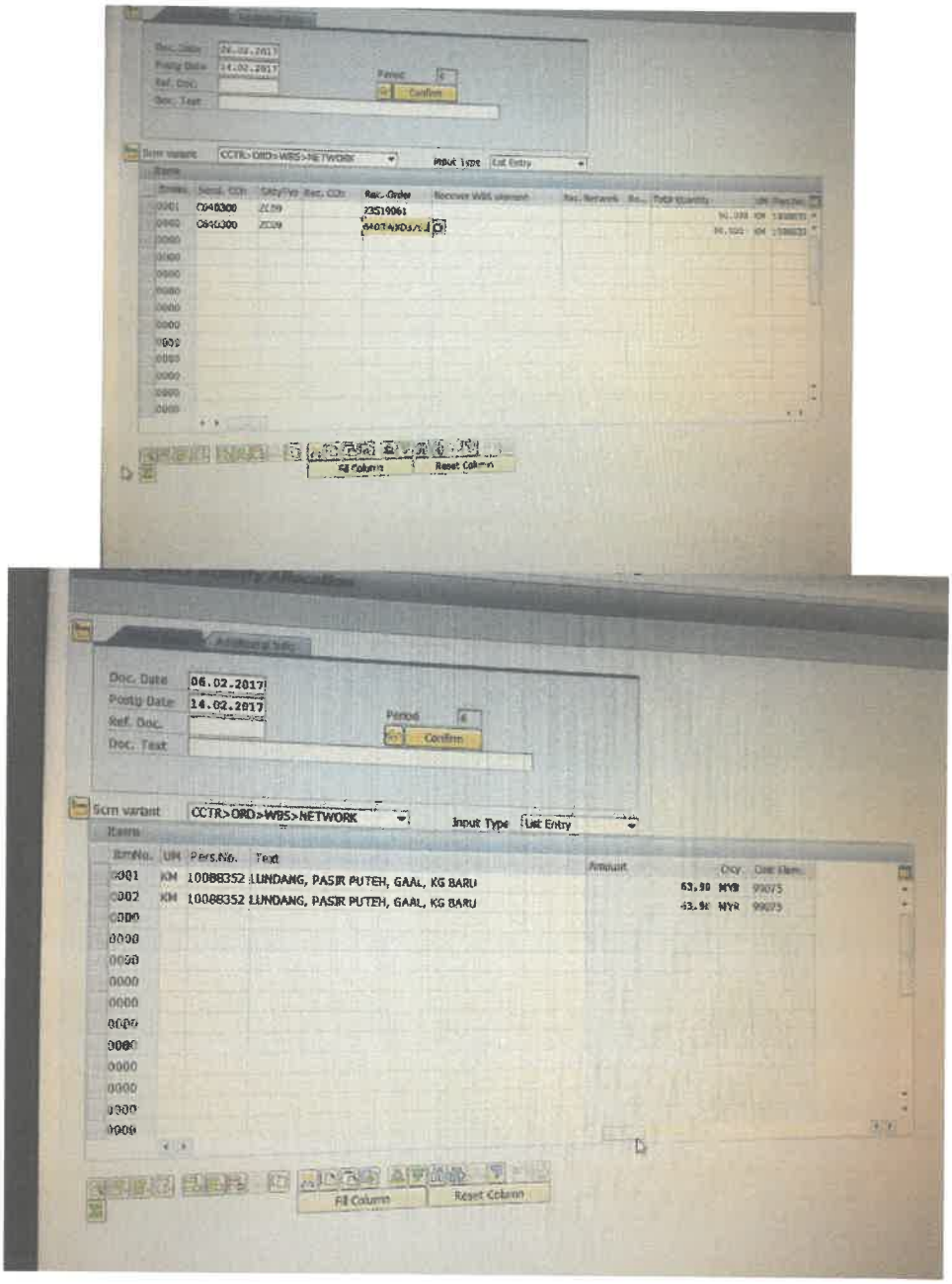
W3school. (2011). *PHP Tutorial.* Retrieved from http://www.w3schools.com/php

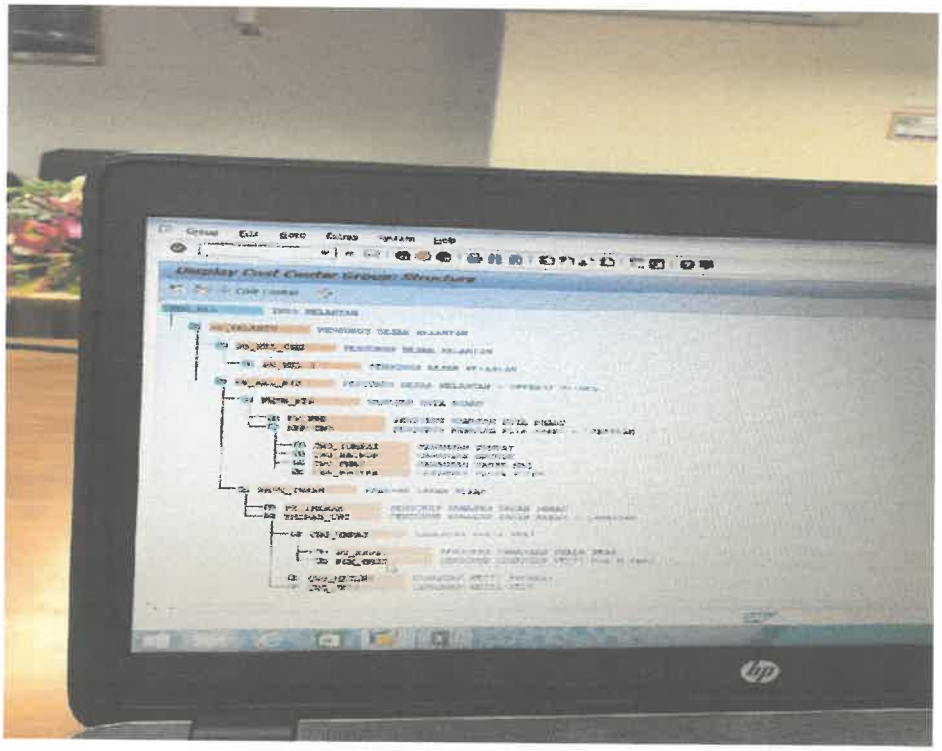
APPENDICES

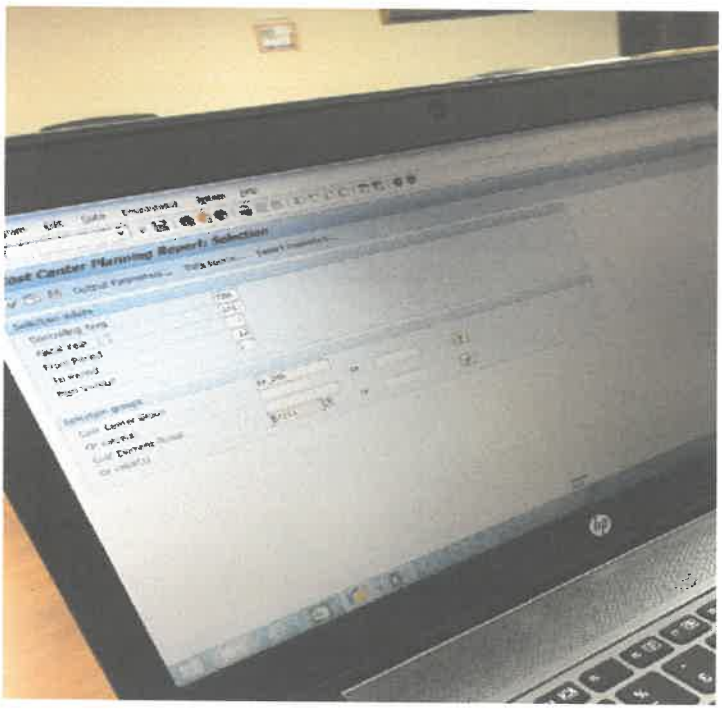
APPENDIX A

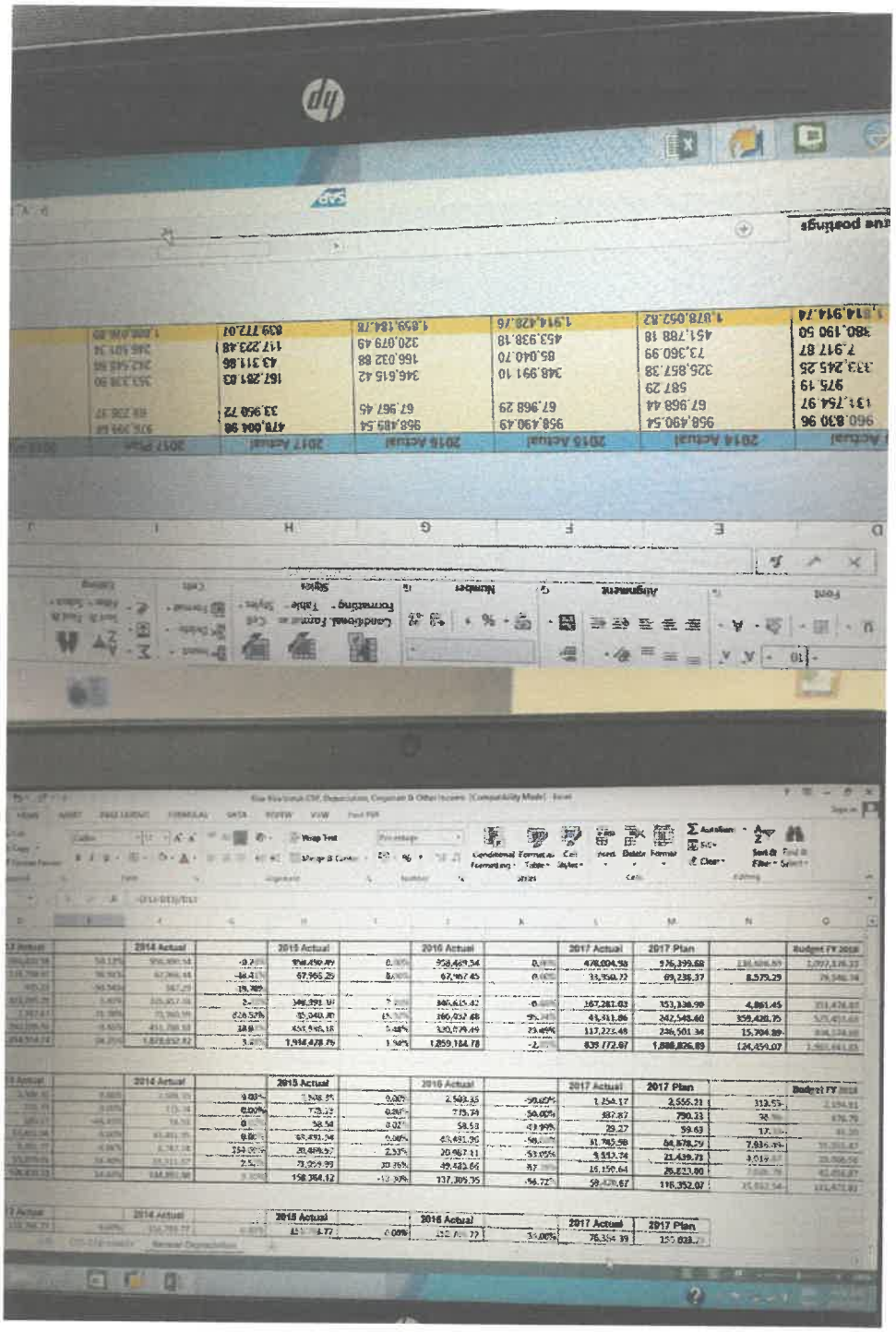
(Image on Activities)

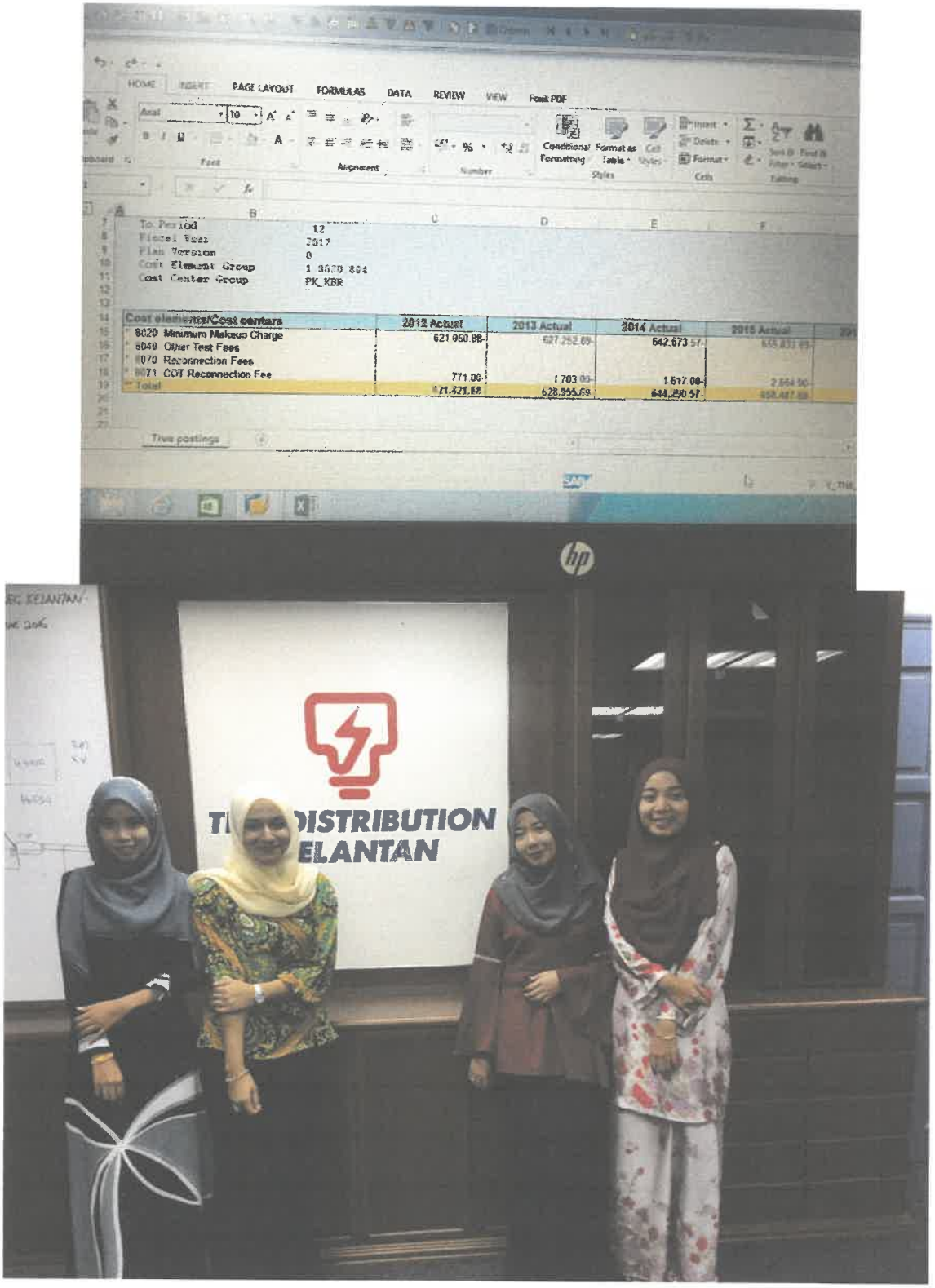

BORANG BANTUAN BENCANA ALAM
No. Pekerja
SENARAI KEROSAKAN & KERUGIAN AKIBAT BENCANA ALAM
Perabot
Anggaran Kerugian
JUMLAH KESELURUHAN
PENGAKUAN PEMOHON
KEJOHANAN LIGA BOLA SEPAK
KELAB KILAT TNB
NEGERI KELANTAN 2017

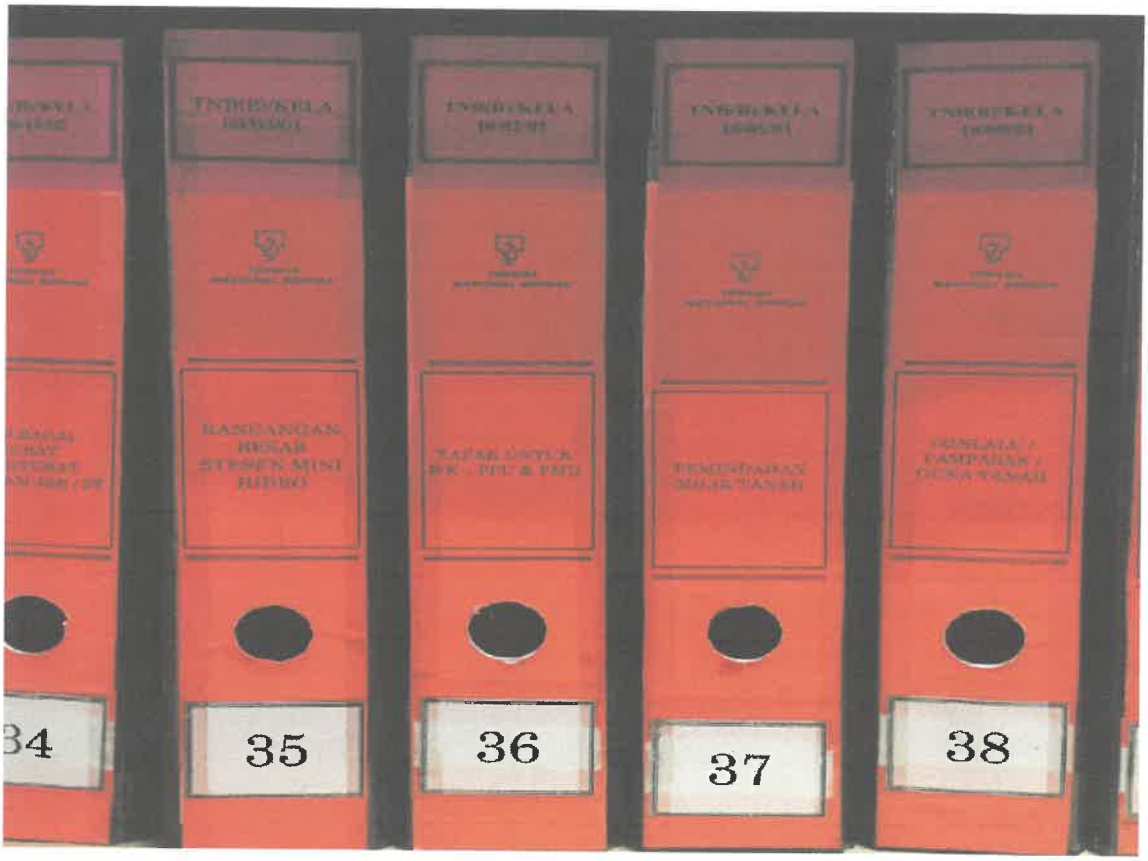

Doc. Date 06.02.2017
Postg Date 14.02.2017
Ref. Doc.
Doc. Text
Period 6
Confirm
Scrn variant CCTR>ORD>WBS>NETWORK
Input Type List Entry
Items
ItmNo. UM Pers.No. Text
0001 KM 10088352 LUNDANG, PASIR PUTEH, GAAL, KG BARU
0002 KM 10088352 LUNDANG, PASIR PUTEH, GAAL, KG BARU
Fill Column
Reset Column








HOME
PAGE LAYOUT
FORMULAS
DATA
REVIEW
VIEW
Foxit PDF
To Period 12
Fiscal Year 2017
Plan Version 0
Cost Element Group 1 3020 804
Cost Center Group PK_KBR
Cost elements/Cost centers
2012 Actual
2013 Actual
2014 Actual
2015 Actual
8020 Minimum Makeup Charge
621 050.88-
627 252.69-
642 673.57-
8040 Other Test Fees
8070 Reconnection Fees
8071 COT Reconnection Fee
771.00
1 703.00-
1 617.00-
Total
621 821.88
628 955.69
644 290.57-
Tree postings
DISTRIBUTION
ELANTAN


34
35
36
37
38

CARTA
Ke
BILIK GERAKAN

ATHLETIC
DEPT. 1948

ATHLETIC
DEPT. 1948

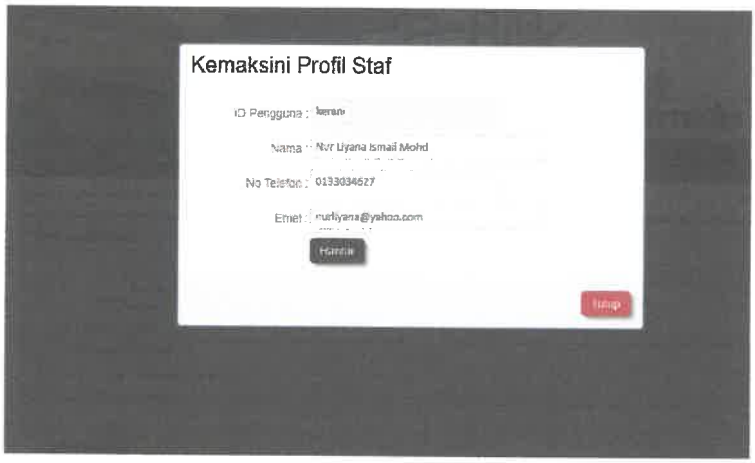
ATHLETIC
DEPT. 1948

APPENDIX B

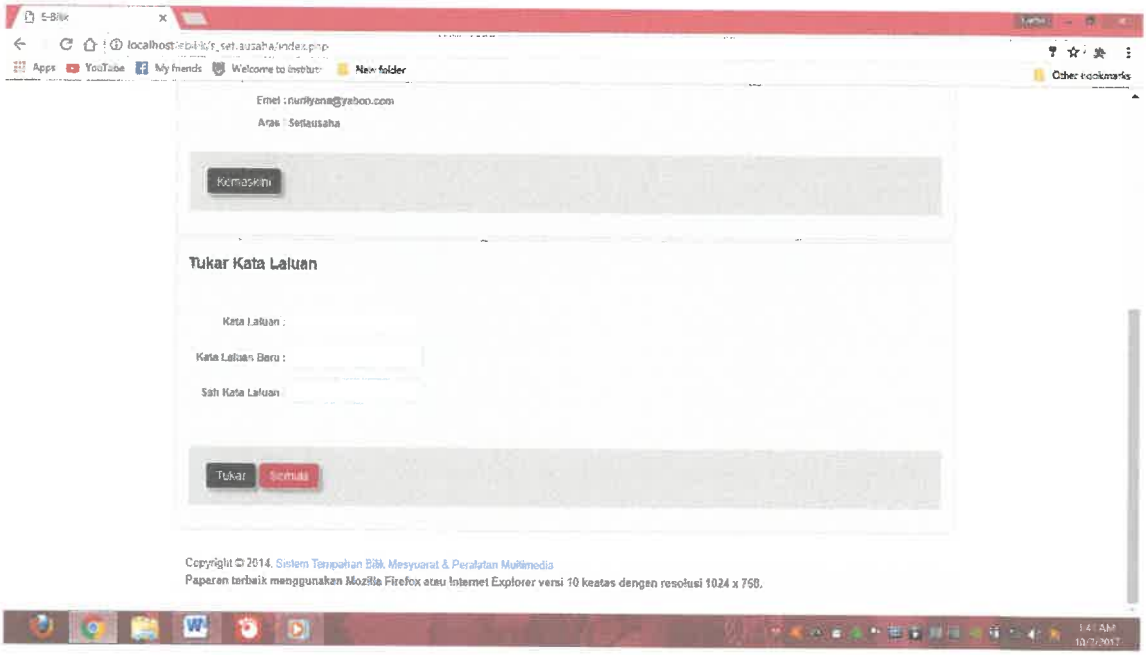
(Screen Shot Of The System)

Log in Page E-BILIK System

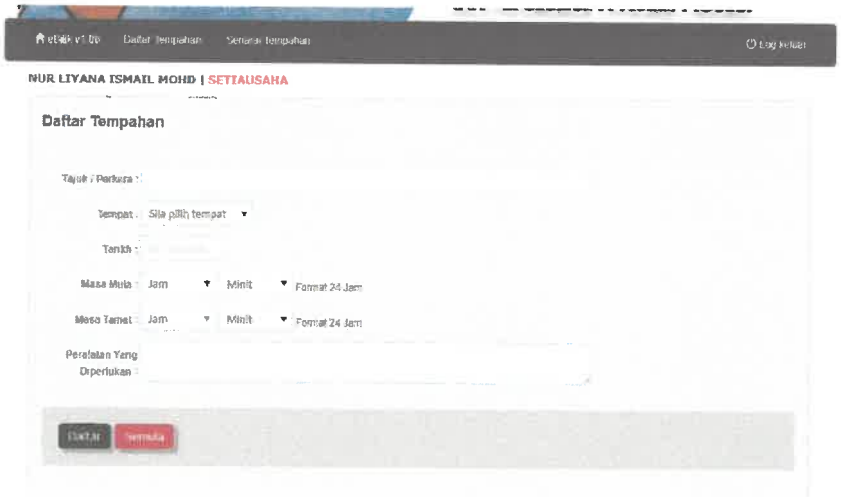
Main Page of E-BILIK System



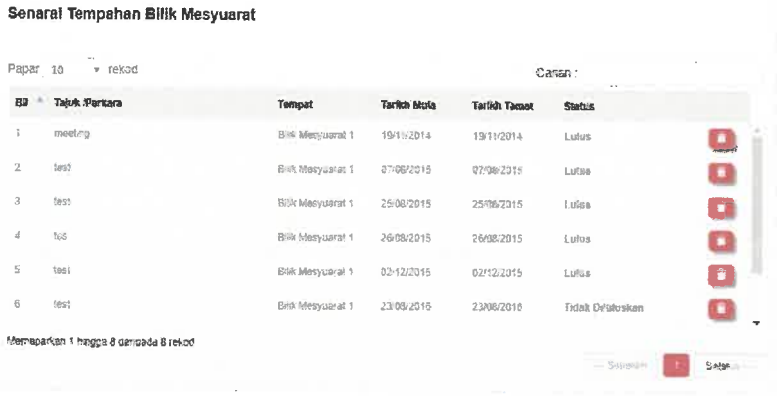
Update Page of E-BILIK System



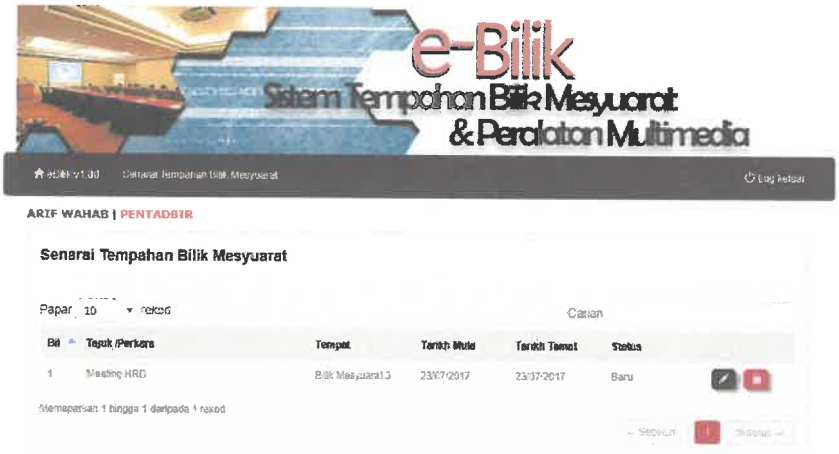
Change the Password in E-BILIK System



Booking Form of E-BILIK System



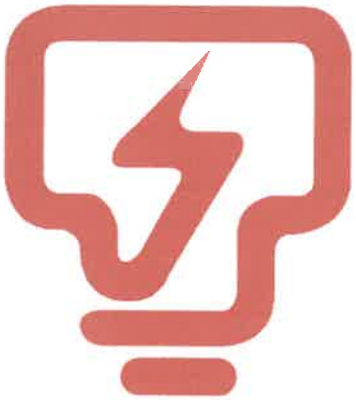
List of Bookings in E-BILIK System



List of booking E-BILIK System (Only can be retrieved by the Admin)

APPENDIX C

(User Manual of E-BILIK System)



TENAGA NASIONAL

PANDUAN PENGGUNA

E-BILIK

TENAGA NASIONAL BERHAD

KOTA BHARU

APA ITU SISTEM E-BILIK?

E-BILIK IALAH SISTEM YANG MEMBERI
KESENANGAN KEPADA PENGGUNA
TENAGA NASIONAL BERHAD KOTA BHARU.

IANYA UNTUK MEMBUAT TEMPAHAN
DI DALAM TENAGA NASIONAL BERHAD
BEKENAAN DENGAN PROGRAM YANG
BAKAL DIADAKAN DI SANA.

BILIK-BILIK YANG DAPAT DI TEMPAH

BILIK MESYUARAT LEVEL 1

BILIK MESYUARAT LEVEL 2

BILIK MESYUARAT LEVEL 3

BILIK MESYUARAT LEVEL 4

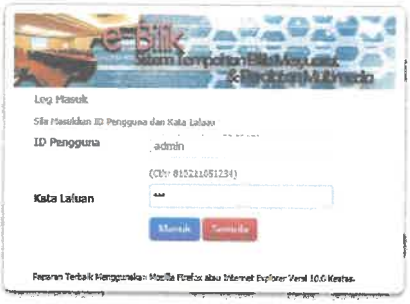
BILIK MESYUARAT LEVEL 5

BILIK MESYUARAT LEVEL 6

E-BILIK UNTUK
BAHAGIAN SUMBER MANUSIA,
TENAGA NASIONAL BERHAD
KOTA BHARU

PENGGUNA

LOG MASUK KE DALAM SISTEM E-BILIK



Cara-cara :

1. **BukaAplikasi Internet yang terdapat di dalam computer andadancari "Localhost".**
2. **TekanpadaSistem E-BILIK Sistemuntukmasukkedalam.**
3. **Silamasukkan "ID Pengguna" dan "Kata Laluan" untukmemasukisistem.**
4. **Tekan "MASUK" untukselanjutnya**
5. **Tekan "SEMULA" jikaadasebarangkesalahan.**

MUKA DEPAN SISTEM E-BILIK

Cara-cara :

1. **IniadalahmukadepanSistem E-BILIK**
2. **Pilih mana-mana butanguntukselanjutnya**
3. **Jikaandamemilihbutang**

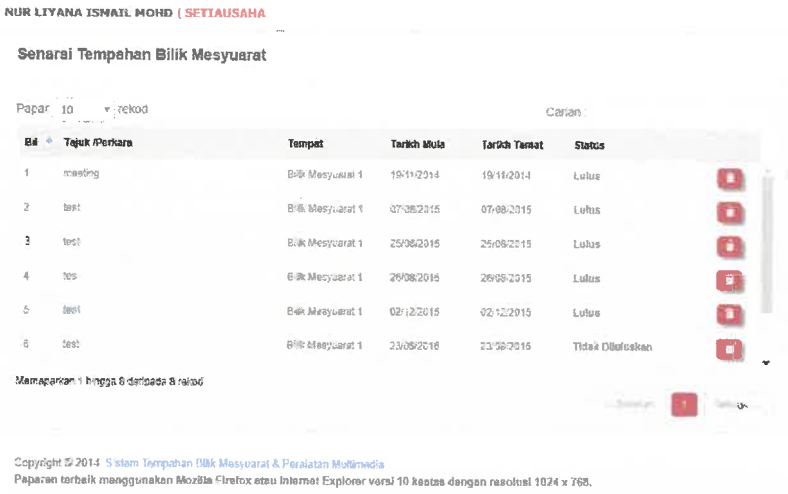
, iaakankeluarMukaTempahan

MEMBUAT TEMPAHAN BILIK

Cara-cara :

1. **JikaandamemilihDaftarTempahan, Mukatempahanakankeluar. Andabolehmulamembuattempahan.**
2. **Isi setiaptempatkosong di dalamsistem**
3. **Selepasitu, tekanTempah**

SENARAI TEMPAHAN



Cara-cara :

1. **IniadalahMuka yang mengeluarkansenaraitempahan yang telahdibuat.**
2. **Andabolehmelihattempahan yang di tempeh di lamanini.**
3. **Anda juga bolehmembatalkantempahan yang**

dibuatdenganmenekanbutangmerah

MENUKAR KATA LALUAN

Cara-cara :

1. **Iniadalahuntukkemaskini kata laluananda.**
2. **Andabolehmenukar kata laluanTekanmenekanbutangTukar**

A

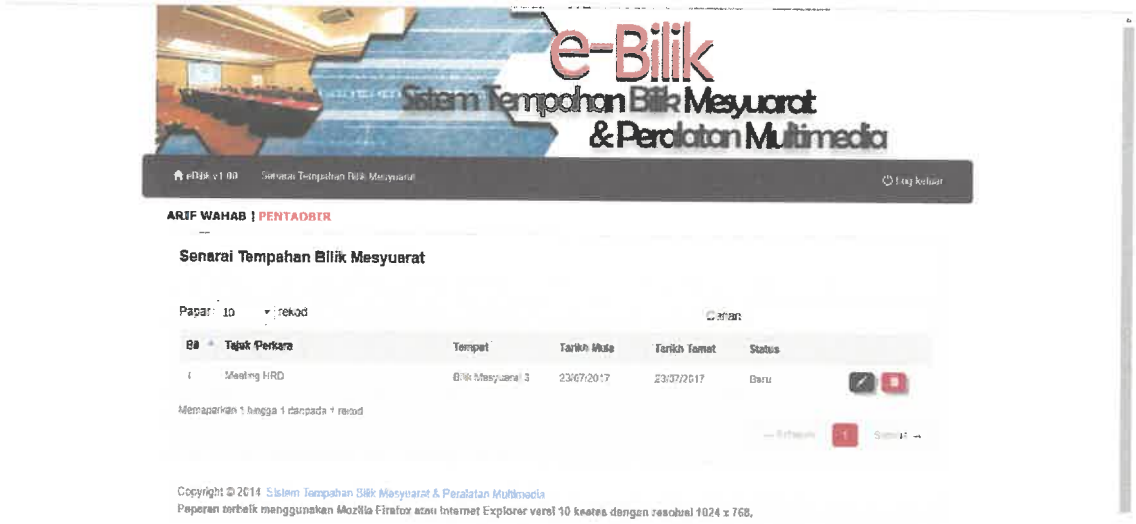
D

M

I

N

SENARAI TEMAPAHAN UNTUK DI AMBIL TINDAKAN



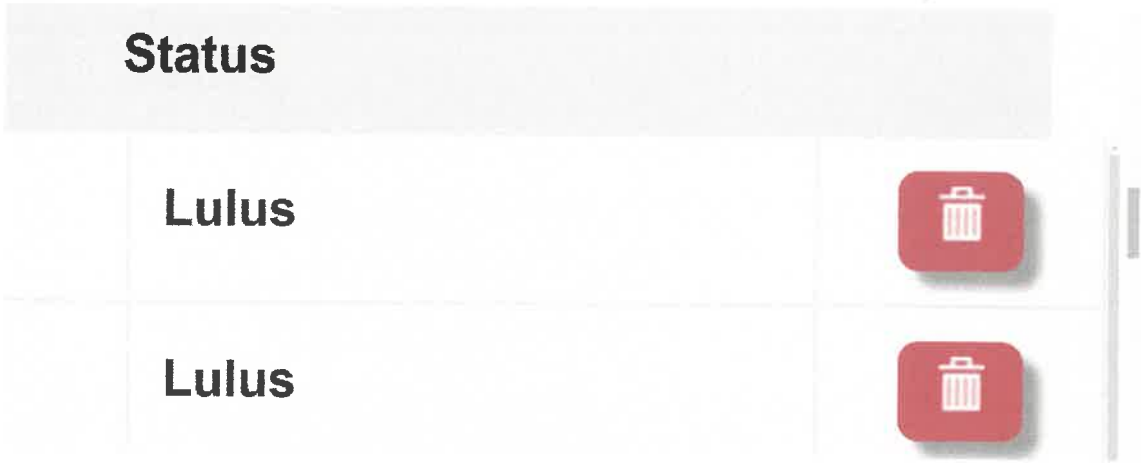
Iniadalahsenaraitempahan yang perludiluluskanolehAdmin.

Cara-cara :

1. **Admin perlutekanbutang** **untukmelihattempahan yang dibuat.**

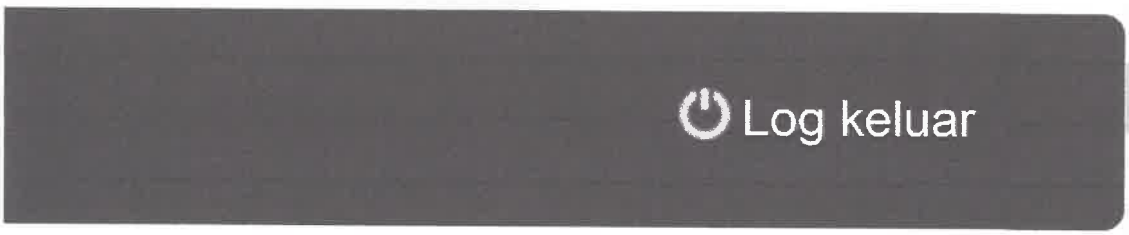
Cara-cara :

1. **Admin bertanggungjawabdalammeluluskantempahan yang dibuat**
2. **Admin akanmeluluskntempahanbergantungkepadakekosonganbilik.**
3. **Admin akanmengambil masa 24 jam untukmeluluskan**



Iniadalahcontohkepadapenggunajikamerekamembuattempahandantempahanmereka lulus.

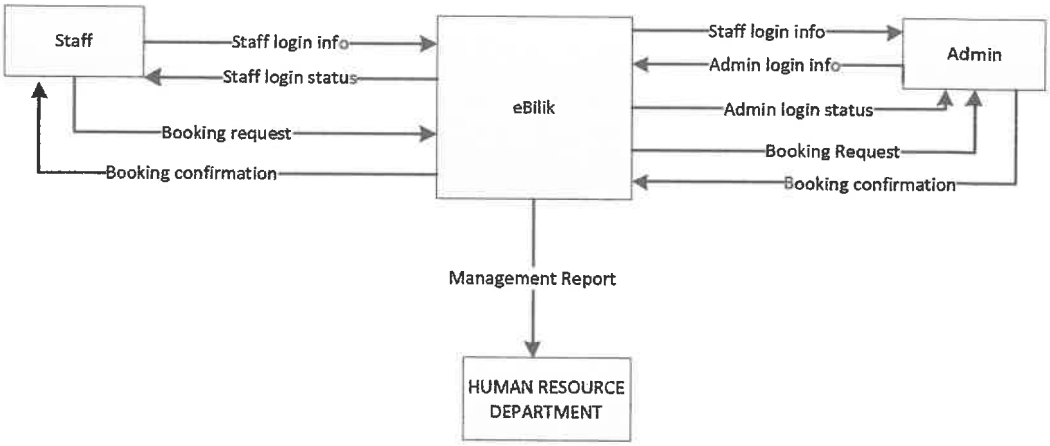
LOG KELUAR DARIPADA SISTEM



Sebelummenutupsistem, penggunaperlu "Log Keluar".

APPENDIX D

(Context Diagram)


Staff
Staff login info
Staff login status
Booking request
Booking confirmation
eBilik
Staff login info
Admin login info
Admin login status
Booking Request
Booking confirmation
Admin
Management Report
HUMAN RESOURCE DEPARTMENT

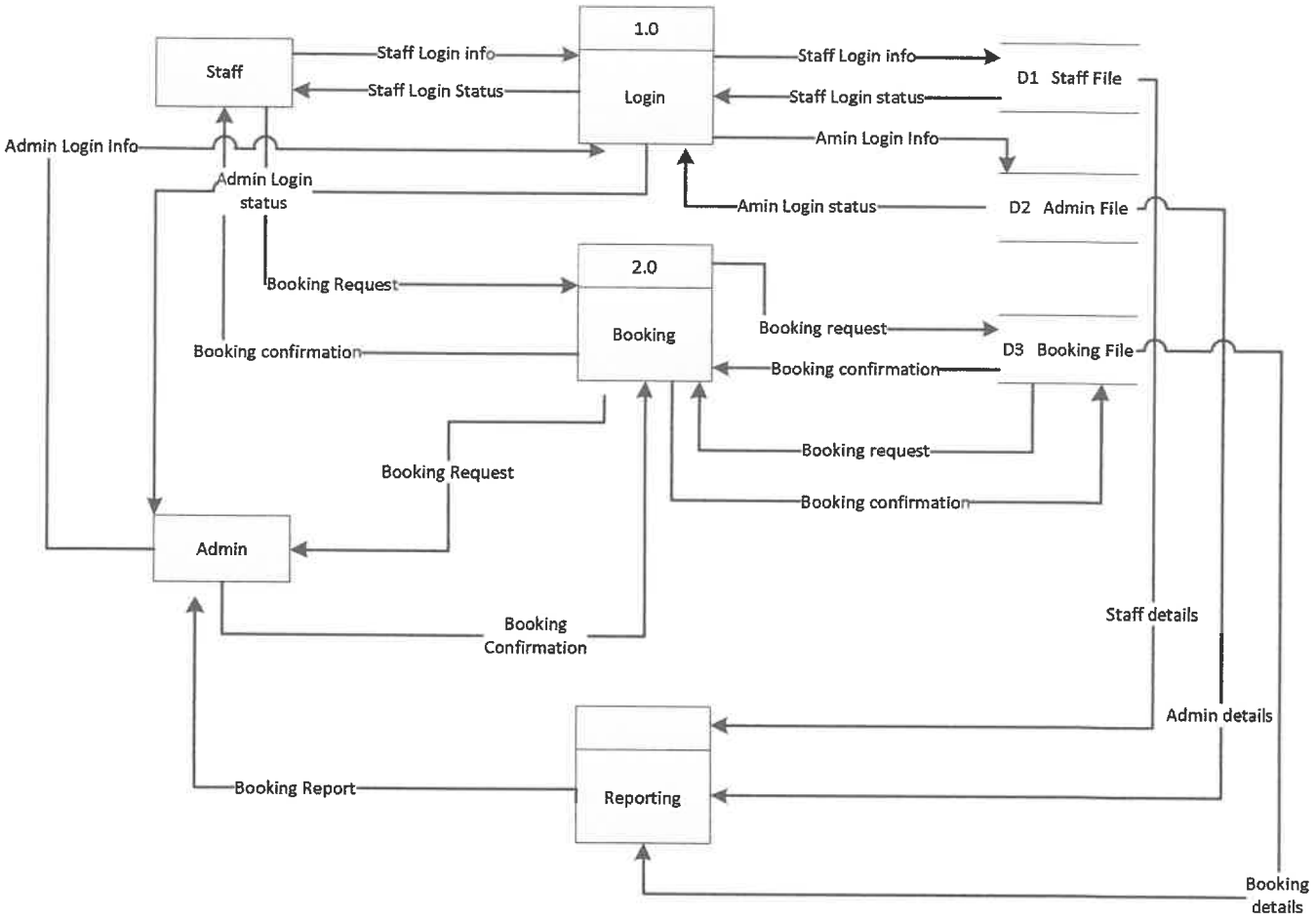
APPENDIX E

(Entity Relational Diagram (ERD))

Staff
idStaff INT
FName INT
LName VARCHAR(45)
StaffPass VARCHAR(45)
StaffTel VARCHAR(45)
StaffAras VARCHAR(45)
StaffStatus VARCHAR(45)
StaffMel VARCHAR(45)
BookingStatus VARCHAR(45)
Indexes
1
Admin
idAdmin INT
FName VARCHAR(45)
LName VARCHAR(45)
AdminTel VARCHAR(45)
AdminMel VARCHAR(45)
AdminAras VARCHAR(45)
BookingStatus VARCHAR(45)
Staff_idStaff INT
Indexes
Booking
idBooking INT
TitlePro VARCHAR(45)
Venue VARCHAR(45)
DateStart VARCHAR(45)
DateEnd VARCHAR(45)
StatusBook VARCHAR(45)
idStaff VARCHAR(45)
Bookingcol VARCHAR(45)
Admin_idAdmin INT
Indexes
Staff_has_Booking
Staff_idStaff INT
Booking_Bookingcol VARCHAR(45)
Indexes

APPENDIX F

(Data Flow Diagram(DFD))


1.0
Staff
Staff Login info
Staff Login Status
Login
Staff Login info
Staff Login status
D1 Staff File
Admin Login Info
Admin Login status
Amin Login Info
Amin Login status
D2 Admin File
2.0
Booking Request
Booking
Booking request
Booking confirmation
D3 Booking File
Booking confirmation
Booking request
Booking Request
Booking confirmation
Admin
Booking Confirmation
Staff details
Admin details
Reporting
Booking Report
Booking details

APPENDIX H

(Gantt Chart of E-BILIK System Progress)

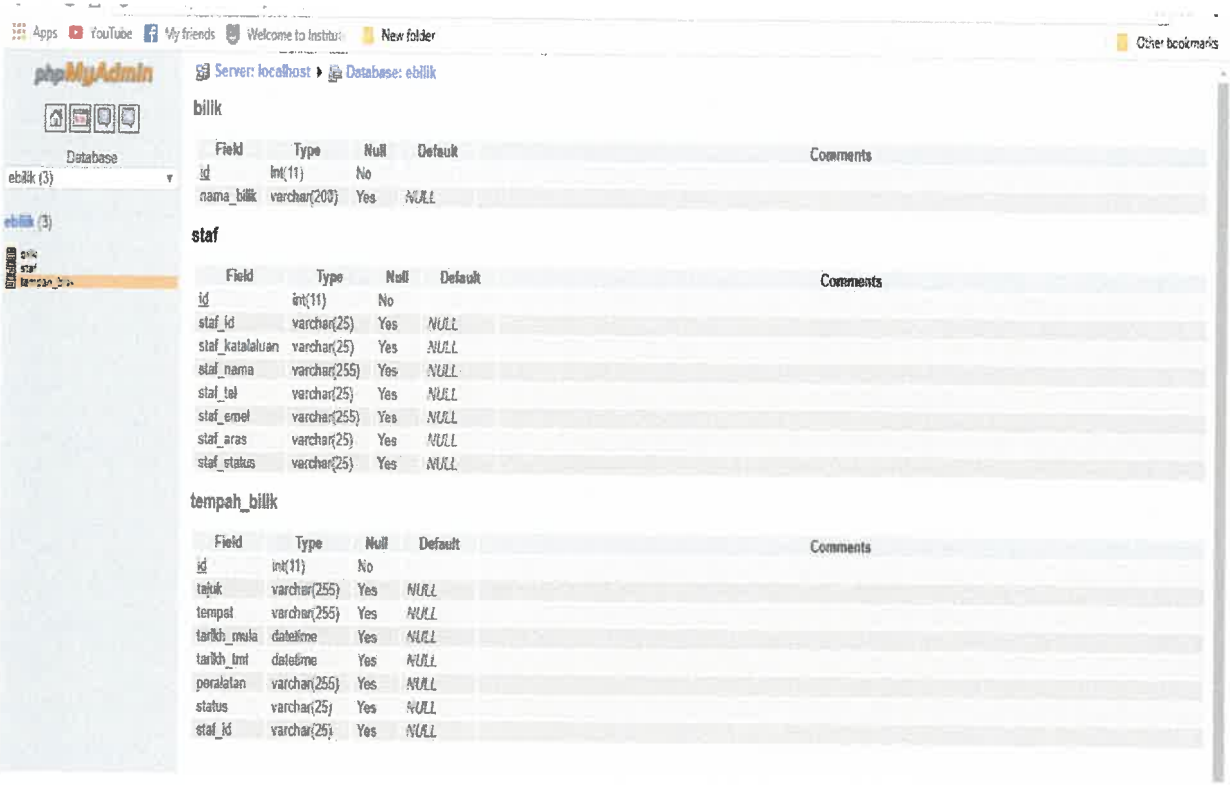
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		**E-BILIK**	**102 days**	**Wed 1/2/17**	**Thu 22/6/17**		
2		**Planning**	**10 days**	**Wed 1/2/17**	**Tue 14/2/17**		
3		**Determine requirement**					
4		Project identification	5 days	Wed 1/2/17	Tue 7/2/17		
5		Problems / Oppurtunity of System	5 days	Wed 1/2/17	Tue 7/2/17	4	
6		**Brain storming**	**5 days**	**Tue 7/2/17**	**Mon 13/2/17**	5	
7		Project concept	2 days	Wed 1/2/17	Thu 2/2/17		
8		Software/ Hardware determining	3 days	Sun 5/2/17	Tue 7/2/17	7	
9		**Analysis / Software Requirements**	**15 days**	**Wed 15/2/17**	**Tue 7/3/17**		
10		**Analysis system need**				3	
11		Structuring the requirement	5 days	Wed 15/2/17	Tue 21/2/17		
12		Determine requirement	5 days	Sun 26/2/17	Thu 2/3/17		
13		**Design**	**30 days**	**Sun 12/3/17**	**Thu 20/4/17**		
14		Design system process requirement	20 days	Sun 12/3/17	Thu 6/4/17		
15		Design system model	25 days	Thu 16/3/17	Wed 19/4/17	14	
16		**Implementation & Maintenance**	**45 days**	**Sun 23/4/17**	**Thu 22/6/17**		
17		Develop system concept development	45 days	Sun 23/4/17	Thu 22/6/17		
18		Implement the system	45 days	Sun 23/4/17	Thu 22/6/17	17	

Project: lllll(backup)
Date: Wed 12/7/17

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Manual Progress
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Progress	

APPENDIX I

(Data Dictionary of E-BILIK System)


Apps
YouTube
My friends
Welcome to Institut
New folder
Other bookmarks
phpMyAdmin
Database
eblik (3)
Server: localhost ▸ Database: eblik
bilik
Field Type Null Default Comments
id int(11) No
nama_bilik varchar(200) Yes NULL
staf
Field Type Null Default Comments
id int(11) No
staf_id varchar(25) Yes NULL
staf_katalaluan varchar(25) Yes NULL
staf_nama varchar(255) Yes NULL
staf_tel varchar(25) Yes NULL
staf_emel varchar(255) Yes NULL
staf_aras varchar(25) Yes NULL
staf_status varchar(25) Yes NULL
tempah_bilik
Field Type Null Default Comments
id int(11) No
tajuk varchar(255) Yes NULL
tempat varchar(255) Yes NULL
tarikh_mula datetime Yes NULL
tarikh_tmt datetime Yes NULL
peralatan varchar(255) Yes NULL
status varchar(25) Yes NULL
staf_id varchar(25) Yes NULL

APPENDIX J

(Software Function Details)

Notepad++	Notepad++ is a free (as in "free speech" and also as in "free beer") source code editor and Notepad replacement that supports several languages. Running in the MS Windows environment, its use is governed by GPL License. Based on the powerful editing component Scintilla, Notepad++ is written in C++ and uses pure Win32 API and STL which ensures a higher execution speed and smaller program size. By optimizing as many routines as possible without losing user friendliness, Notepad++ is trying to reduce the world carbon dioxide emissions. When using less CPU power, the PC can throttle down and reduce power consumption, resulting in a greener environment. This noted we used to do the programming and coding.
Wamp server software (Free)	WAMP stands for "Windows, Apache, MySQL, and PHP." WAMP is a variation of LAMP for Windows systems and is often installed as a software bundle (Apache, MySQL, and PHP). It is often used for web development and internal testing, but may also be used to serve live websites. You will be able to tune your server without even touching the setting files. Wamp Server is the only packaged solution that will allow you to reproduce your production server. This wamp serves we used to access the local host and database
MySQL	MySQL, pronounced either "My S-Q-L" or "My Sequel," is an open source relational database management system. It is based on the structure query language (SQL), which is used for adding, removing, and modifying information in the database. Standard SQL commands, such as ADD, DROP, INSERT, and UPDATE can be used with MySQL. This MySQL we used to store the database in our system.

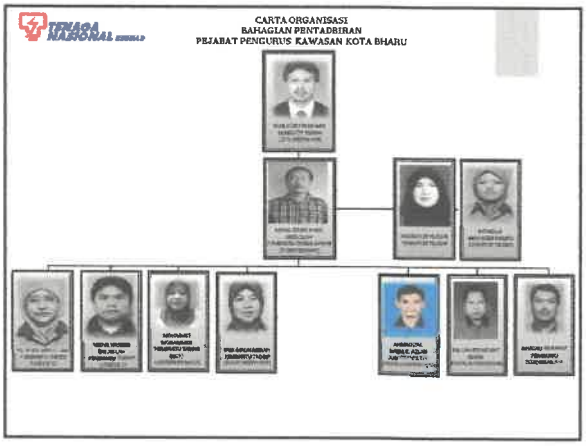
SELAMAT DATANG
KE WISMA TNB
KOTA BHARU

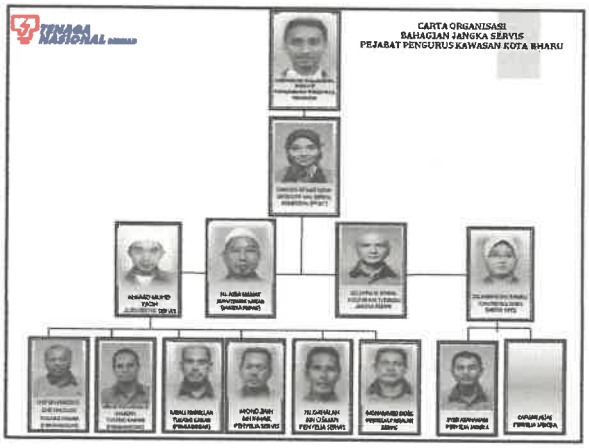
CARTA ORGANISASI EKSEKUTIF
PENGURUS KAWASAN (KOTA BHARU)
POWERING THE NATION

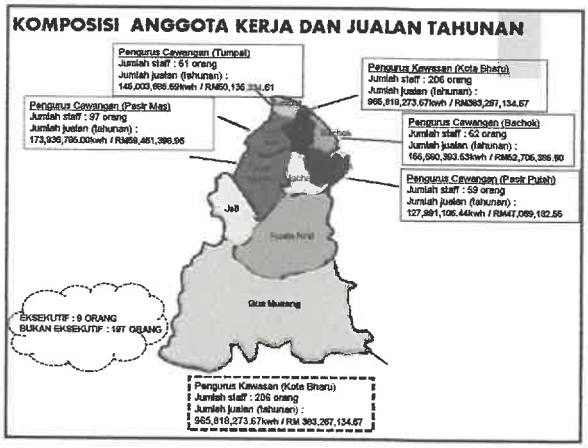
CARTA ORGANISASI
PEJABAT PENGURUS KAWASAN KOTA BHARU

CARTA ORGANISASI
BAHAGIAN PERANCANG & PEMBINAAN
PEJABAT PENGURUS KAWASAN KOTA BHARU

CARTA ORGANISASI
BAHAGIAN KEWANGAN & SENGGARAAN
PEJABAT PENGURUS KAWASAN KOTA BHARU

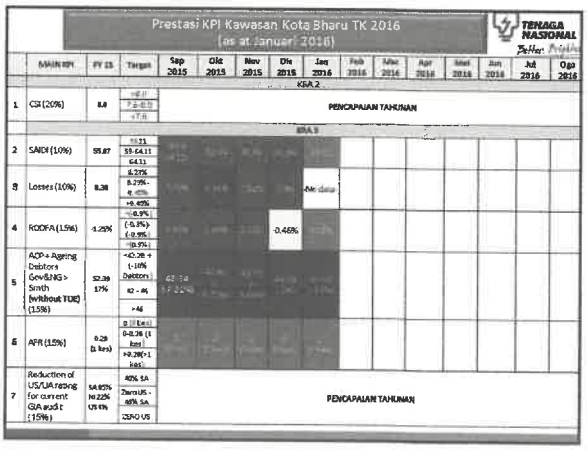

CARTA ORGANISASI
BAHAGIAN PENTADBIRAN
PEJABAT PENGURUS KAWASAN KOTA BHARU





DATA-DATA
PENGURUS KAWASAN KOTA BHARU
FY 2017 AS AT NOVEMBER
(1 – 3)

Pengurus Kawasan Kota Bharu	
Bilangan Pengguna	136,508
Pengguna LPC	817
Pengguna OPC	135,691
Data Jualan (RM) FY 2016	RM 107,894,302.87



PERUNTUKAN JAWATAN MENGIKUT GRED
PENGURUS KAWASAN KOTA BHARU

[illegible]	[illegible]
TT13-14	2
TT11-12	5
TT09-10	24
TT09-10(Tukang)	2
TT07-08	44
TT05-06	25
[illegible]	[illegible]
TD08-09	1
TD06-07	2
TD04-05	2
TD03-04	6
[illegible]	[illegible]
PP11-12	2
PP09-10	4
PP07-08	26
[illegible]	[illegible]
PS07-08	4
PS05-06	4
PS03-04	22
[illegible]	[illegible]
IT07-08	1
[illegible]	[illegible]
JUMLAH	193

ANGGOTA KERJA MENGIKUT GRED
PENGURUS KAWASAN KOTA BHARU

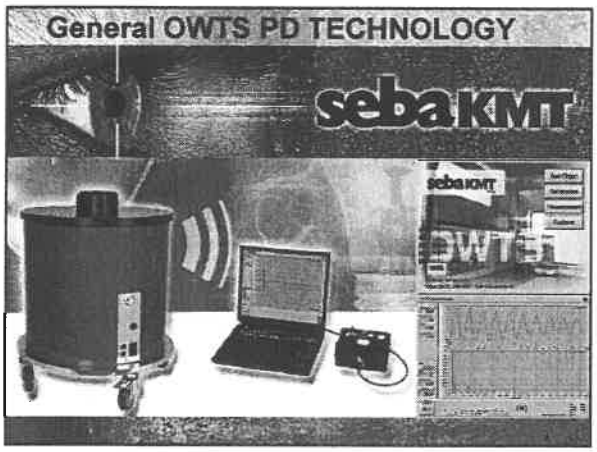
[illegible]	[illegible]
TT13-14	2
TT11-12	7
TT09-10	23
TT09-10(Tukang)	2
TT07-08	41
TT05-06	36
[illegible]	[illegible]
TD08-09	1
TD06-07	2
TD04-05	7
TD03-04	8
[illegible]	[illegible]
PP11-12	2
PP09-10	4
PP07-08	27
[illegible]	[illegible]
PS07-08	4
PS05-06	4
PS03-04	22
[illegible]	[illegible]
IT07-08	1
[illegible]	[illegible]
JUMLAH	193

No	Scope of Audit	Owner	
1	Supply Application	EPPP	
2	Planning Of Distribution System	JPP	
3	Engineering Services	JKS	
4	Material Management & Metering Services	JKS & EPPP	
5	Construction Of Distribution System	JPP	
6	Connect Supply	EPPP	
7	Metering Maintenance	EPPP	
8	Accounts Management	EPPP	
9	Billing & Collection	EPPP/APO	
10	Operations & Maintenance	JKS	
11	Complaints Management	EPPP	
12	Restore Supply	JKS	
13	Financial Management	APO	
14	Human Resources & Administration	ET(SA)	
15	Safety & Health	JKS	
16	Strategic Management & Organizational Development	(Habahan)	
17	IT Support	SA	
18	Quality Manual General Procedures	BOD	
19	Compliance Audit (RAANS)		
20	Management Control System (MSC)		
21	EKKM	JPP	
22	LPC Management	EPPP	

Senarai Eksekutif Pejabat Pengurus Kawasan (Kota Bharu)

Bil	Nama	Jawatan	No Telefon
1	Ir. Hj. Arman bin Che Othman	Pengurus Kawasan	019 - 9840042
2	Muhammad Haslan Bin Ismail	Eksekutif PPP	019 - 9105024
3	Ir.Mohd Asrul Hisyam bin Setapa	Jurutera Perancang	019 - 9394177
4	Mazlan bin Awang	Eksekutif Kewangan	019-9596005
5	Mohd Amir Faiz Bin Mohamad Nor	Jur.Kendalian Senggaraan	017 - 8833327
6	Wan Rusli bin Wan Mat	Eksekutif Tadbir	019 - 9818191
7	Nik Azhar bin Mohamad	Eksekutif Teknik (JPP)	019 - 3818349
8	Fauzi bin Mat Nor	Eksekutif Teknik (JKS)	019 - 2644857
9	Zuraida bin Mat Deris	Eksekutif (PPP)	019-9599674

TERIMA KASIH



TRANSPLUS SDN. BHD.
(133957-T)
sebaKMT

PD Diagnosis on Medium Voltage Cables with Oscillating Voltage (OWTS)

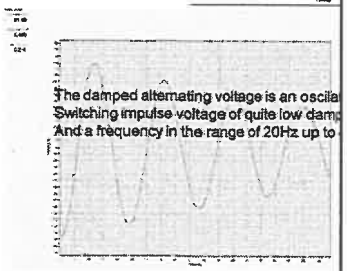
TRANSPLUS SDN. BHD.
(133957-T)
sebaKMT

Basics

- Apa yang teredam AC Voltan?
- Apa yang pelepasan separa?
- parameter penting utama PD-diagnosis
- PD kesalahan fizik - sumber PD biasa dalam XLPE dan PILC
- corak PD

sebaKMT

What is damped AC voltage ?



1. The damped alternating voltage (DAC) is an oscillating switching impulse voltage (OSI) of quite low damping and a frequency in the range of 20Hz up to 400Hz.

2. Damped AC voltages are accepted test voltages for on-site testing:
   i. IEC 60060-3 High Voltage test techniques –Part 3: Definitions and requirements for on-site testing
   ii. IEEE 400 Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems
   iii. IEEE 400.3 Guide for PD Testing of Shielded Power Cable Systems in a Field Environment

TRANSPLUS SDN. BHD.
(133957-T)
sebaKMT

Apakah "Partial Discharge"?

- "Partial Discharge"(PD) adalah kecil percikan api elektrik atau pelepasan yang berlaku dalam kecacatan dalam penebat. Pelepasan tidak merapatkan penebatan antara konduktor dan kecacatan yang boleh menjadi
  - sepenuhnya dalam penebat ("Cavities"),
  - Di sepanjang antara bahan penebat (contohnya., Pada aksesori)
  - atau di sepanjang permukaan (Penamatan atau potheads).

- Ciri-ciri "Partial Discharge" bergantung kepada jenis, saiz, dan lokasi kecacatan, bahan penebat, voltan digunakan, suhu kabel, dan juga berbeza-beza dengan masa. Kerosakan yang disebabkan oleh PD bergantung kepada beberapa faktor dan boleh berkisar dari yang amat kecil menyebabkan kegagalan dalam beberapa hari untuk tahun.

TRANSPLUS SDN. BHD.
(133957-T)
sebaKMT

Parameter Penting Utama PD- Diagnosis

- **Ground Noise Level**
  Bunyi sumber bunyi luaran seperti stesen radio, corona dari talian OH, isyarat keadaan asas buruk
  PD di bawah paras bunyi tanah boleh tidak ditentukan tahap bunyi tanah di laman web biasanya antara 20 hingga 100 pc

- **Partial Discharge Inception Voltage - PDIV:**
  Tahap voltan di mana pertama denyutan PD diukur adalah untuk dilihat, ditentukan oleh peningkatan langkah demi langkah yang PDIV ujian voltan harus lebih tinggi daripada uo (nominal service voltage) ini bermakna kabel adalah di bawah perkhidmatan biasa keadaan PD percuma kabel new dipasang harus PD membebaskan sehingga 2 Uo!

- **Partial Discharge Extinction Voltage -PDEV:**
  PDEV sering bawah PDIV: PD yang bermula di atas Uo dalam kes voltan yang dapat memadamkan bawah PDEV voltan nominal perlu berada di atas Uo!

- **PD Level at Uo:**
  Purata dan max. Level PD dalam pc pada voltan nominal. Untuk jenis tertentu penebat dan aksesori trending empirikal atau tahap menghadkan diketahui.

Kesalahan fizik PD

Mengapa kita perlu diagnosis PD?

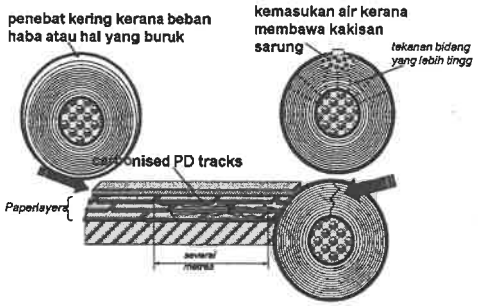
- ***Untuk menilai keadaan kabel PILC lama dan aksesori mereka***
- ***Kawalan kualiti - pengurangan kos membawa kepada menurunkan kualiti mutu kerja pada sistem kabel dipasang baru***
- ***Untuk menyiasat kesalahan sistematik kerana sendi dipasang buruk dan penamatan***
- ***Untuk menyiasat jelas kesalahan Shorttime bumi di rangkaian PILC dengan resonans dibumikan STARPOINT***
- ***Untuk mengurangkan atau mengelakkan gangguan perkhidmatan***
- ***Penilaian keadaan untuk sokongan keputusan dalam pengurusan aset***

Typical PD trending and limiting values

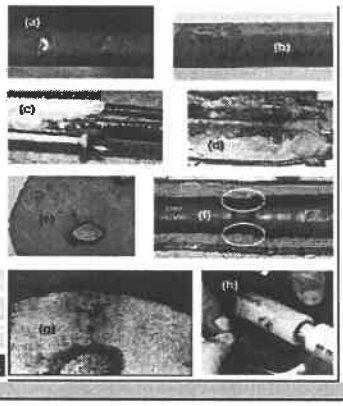
Cable Element	Type	Trend / Limit
Insulation	Paper	up to 10.000 pC
	PE /XLPE	<20 pC
Joints	Oil Insulation	> 10.000 pC
	Oil /Resin Insulation	5.000 pC
	Silicone / EPR Insulation	500 to 1.000 pC
Terminations	Oil Terminatio	5.000 pC
	dry Terminatio	3.500 pC
	Shrink-/ Slip-on Terminations	200 pC

Source : Noun NL ; Statistic from Nuon Alkmaar

Sebab untuk PD dalam PILC



Insulation Degradation in MV Power Cables:



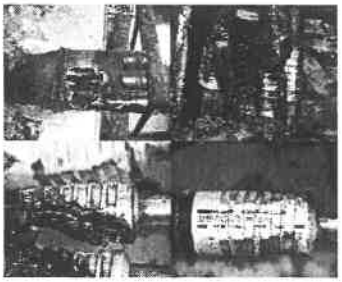
a) "Cavities" kerana tuangkan kabel lenturan
b) Tracking antara lapisan penebat kertas
c) pencemaran penebat Bersama
d) Tuangkan epoxy resin pengerasan
e) "Cavities" dalam penebat resin
f) "Cavities" pada sendi kabel jenis mengecut
g) Treeing pada konduktor
h) Treeing atas permukaan penebat polimer

PD – Kesalahan dalam PILC- cable segments

PD pada sendi dan penamatan:
- Pemasangan kegagalan, terutama pada sendi peralihan
- Ketiadaan massa dalam aksesori kabel
- Ketirisan dalam sendi peningkatan tekanan medan elektrik dalam sambungan konduktor buruk peningkatan
- Impuritiy berdasarkan tekanan bidang elektrik di semicon luar

Ciri menjejaskan:
- "Self-healing" kerana mengembara besaran di bawah beban yang tinggi PD intensiti sehingga 1000 pC mempunyai kestabilan jangka panjang

Peraturan asas:
- PD-peringkat di Uo dalam pelbagai beberapa 100 pC boleh diterima
- PD-peringkat dalam sendi 1000 pC di Uo - ukuran berulang kemudian untuk memeriksa trend !! Pemetaan disyorkan, menggantikan pada tahap yang tinggi segmen
- Kabel baik adalah bebas daripada PD di bawah perkhidmatan voltan Uo

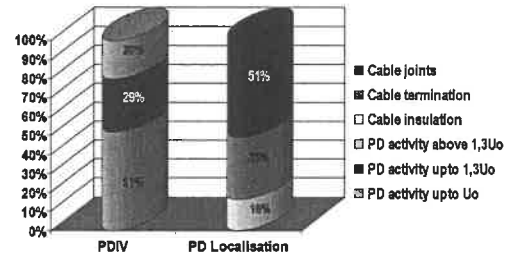


Source: TU Delft

Kesalahan PD dalam kabel bertebat kertas berdasarkan tepi yang tajam pada konduktor. Sebabnya boleh menjadi sebagai contoh hasil kerja yang miskin.

sebaKMT

Experiences PDIV and PD locations in PILC



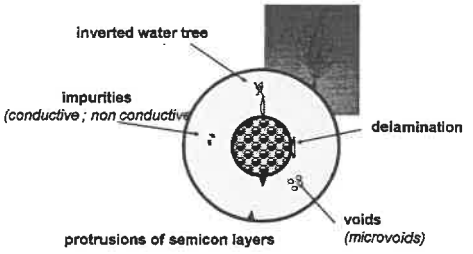
NUON

Source : Noun NL ; Statistic from Nuon Alkmaar

sebaKMT

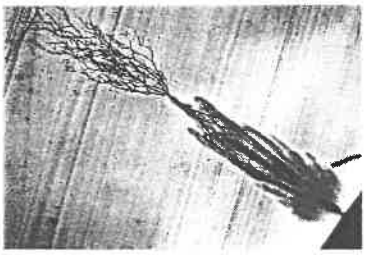
Sebab PD dalam penebat kabel lama XLPE

kabel XLPE moden tidak harus mempunyai kesalahan apa-apa!



sebaKMT

Pokok Elektrik Dimulakan Pada Pokok Dibolong Besar Semasa Ujian Langkah



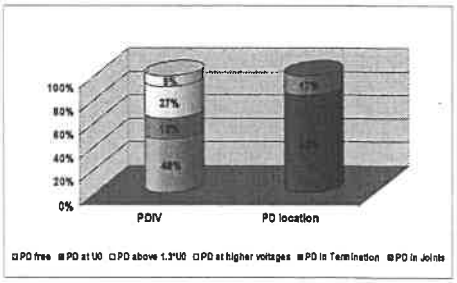
Pengesanan pokok air tidak adalah aplikasi diagnosis PD!

Pokok elektrik berkembang sangat cepat dan menyebabkan pecahan kabel dalam masa yang singkat, juga di bawah syarat-syarat perkhidmatan!

Kesalahan itu mesti dihapuskan dengan VLF-Testing!

sebaKMT

Pengalaman PDIV dan PD lokasi di kabel XLPE



NUON

Source : Frank Wester ; Statistic from Nuon Alkmaar

sebaKMT

PD – Kesilapan dalam XLPE power cables

PD dalam penebat kabel PE / XLPE:

Kotoran atau perubahan dalam separuh lapisan penjalanan luar perubahan "pokok air" di "pokok elektrik"

kabel lama generasi pertama

cth dimulakan dengan voltan ujian

Water Trees do not create PD at all !!

- Kerosakan mekanikal semicon luar — Disebabkan oleh pengaruh luar dalam polimer kesalahan kabel kunci boleh ditentukan dan setempat dengan mudah

"Pokok Elektrik" membawa kepada pecahan penebat di bawah perkhidmatan
keadaan di pelbagai masa minggu / bulan

Exept treeing berdasarkan proses penghijrahan dan penyebaran bahan tambahan; pelepasan separa tidak boleh diukur!

sebaKMT

PD –Kesilapan dalam XLPE power cables

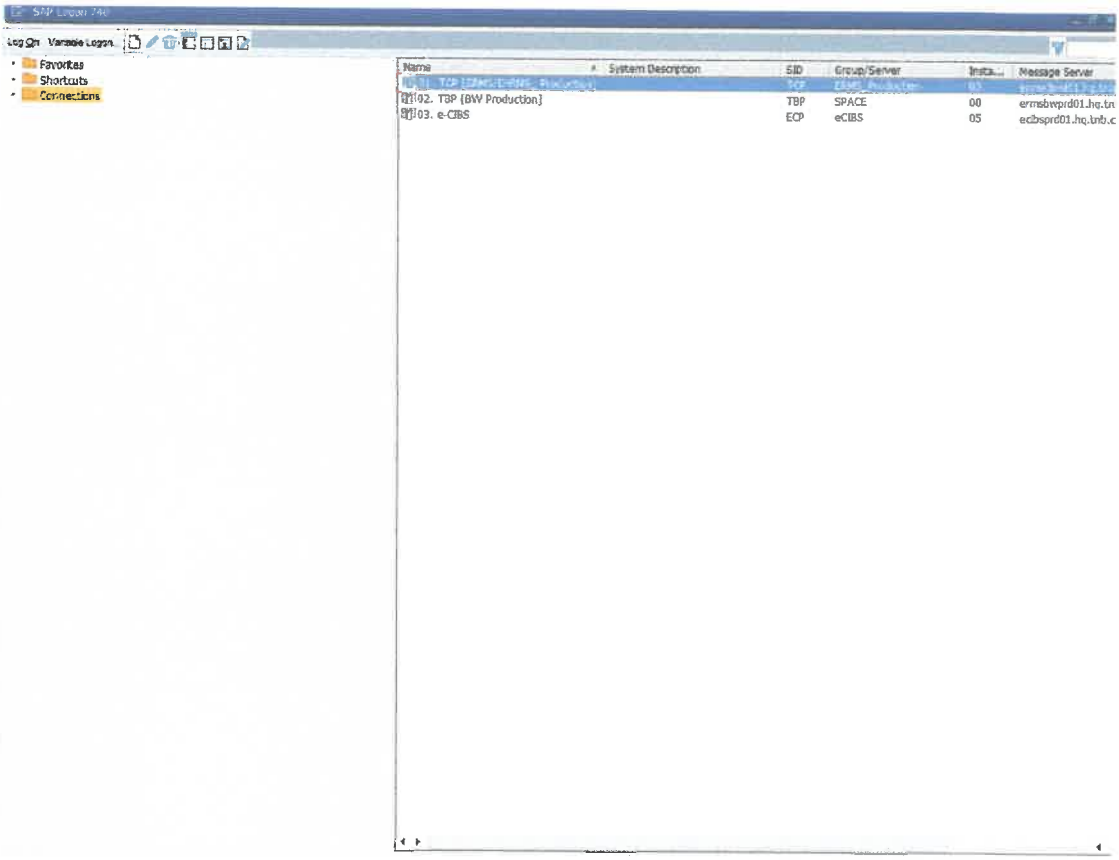
PD Pada Sendi Dan Penamatan:

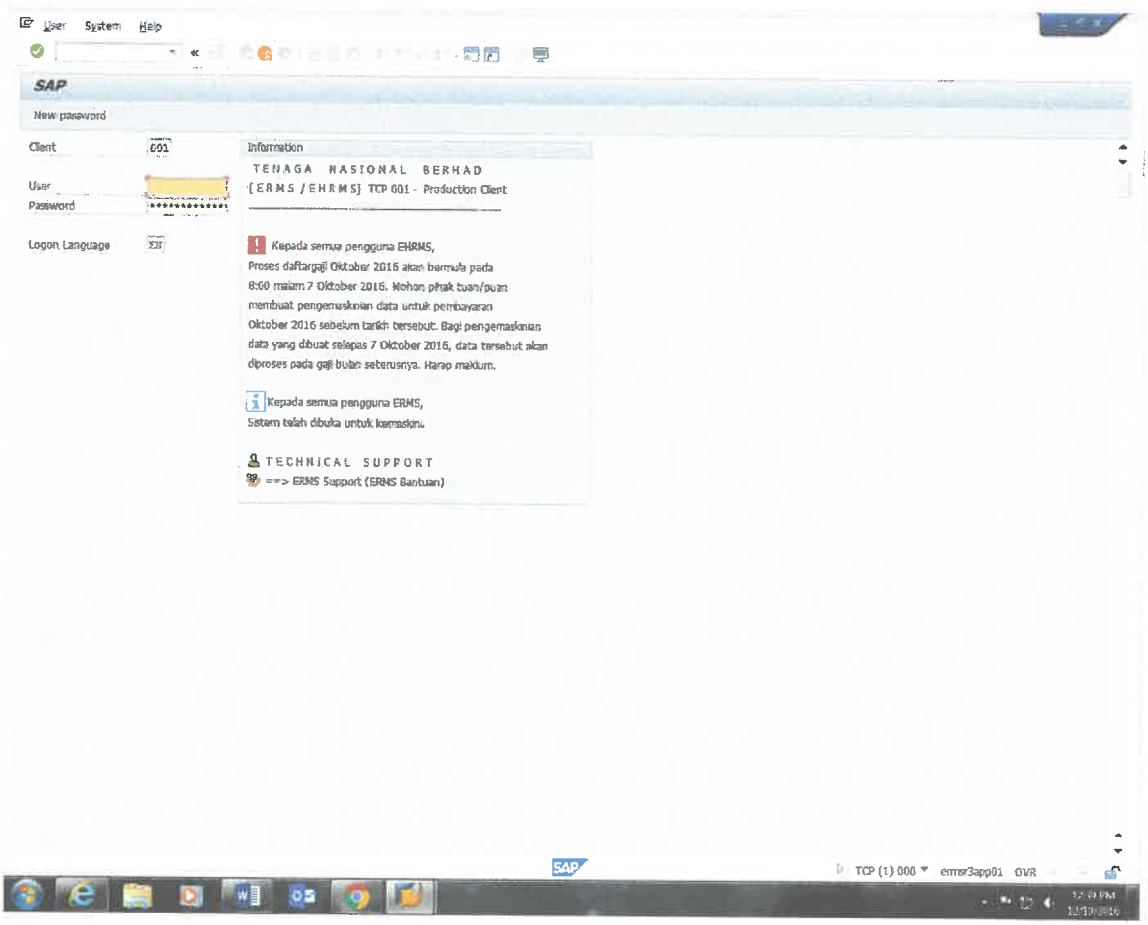
Pemasangan Kesalahan	kesan PD dalam penamatan bermula lewat biasanya di bawah syarat-syarat perkhidmatan Silikon dapat untuk mengisi microvoids dan lubang untuk beberapa ketika.
Kesalahan Bahan	Menggunakan teknik mengecut PD secara langsung boleh diukur, tiada HV PD-ujian untuk semua splices
Selepas Tekanan Haba	Sebab-sebab peningkatan kerosakan dalam sendi adalah mutu kerja terutamanya miskin atau tambahan tekanan haba yang tinggi.

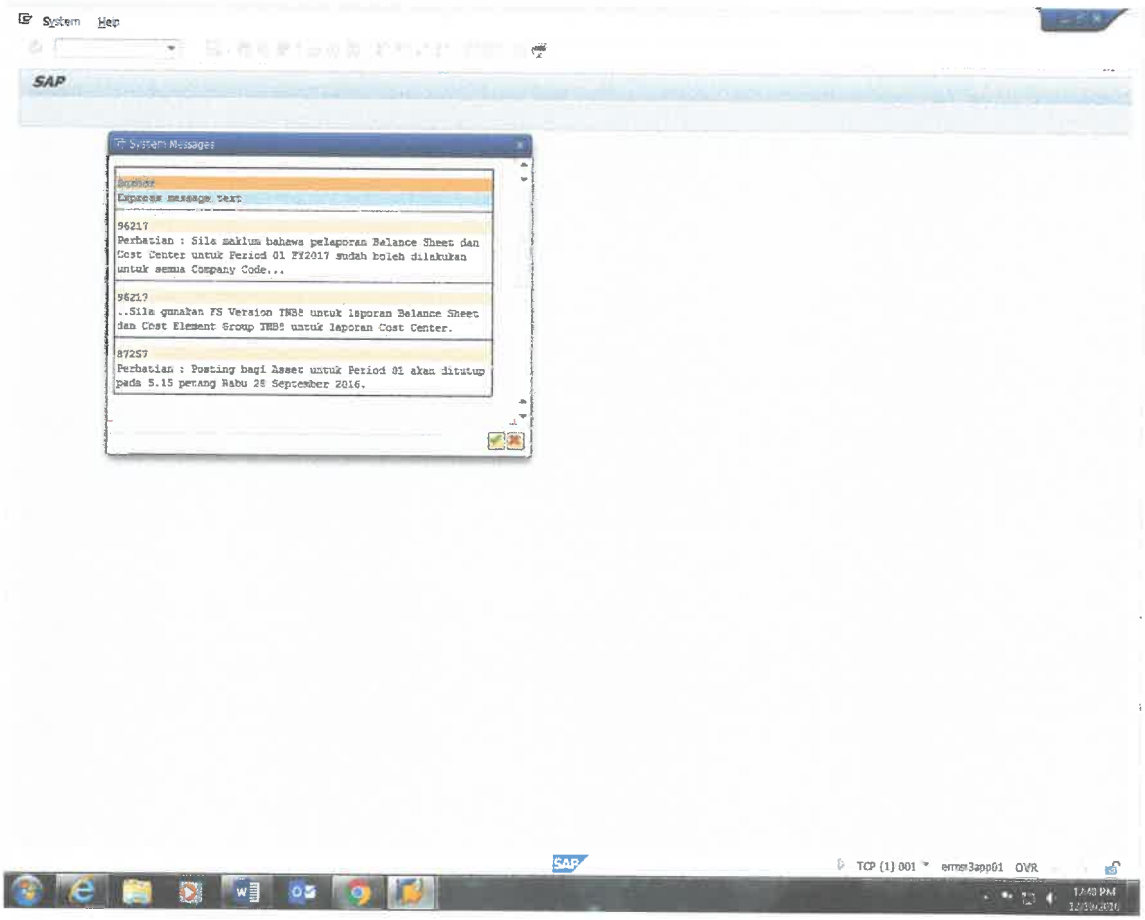
Kerumitan sendi pemasangan membawa kepada risiko yang tinggi kegagalan subjektif

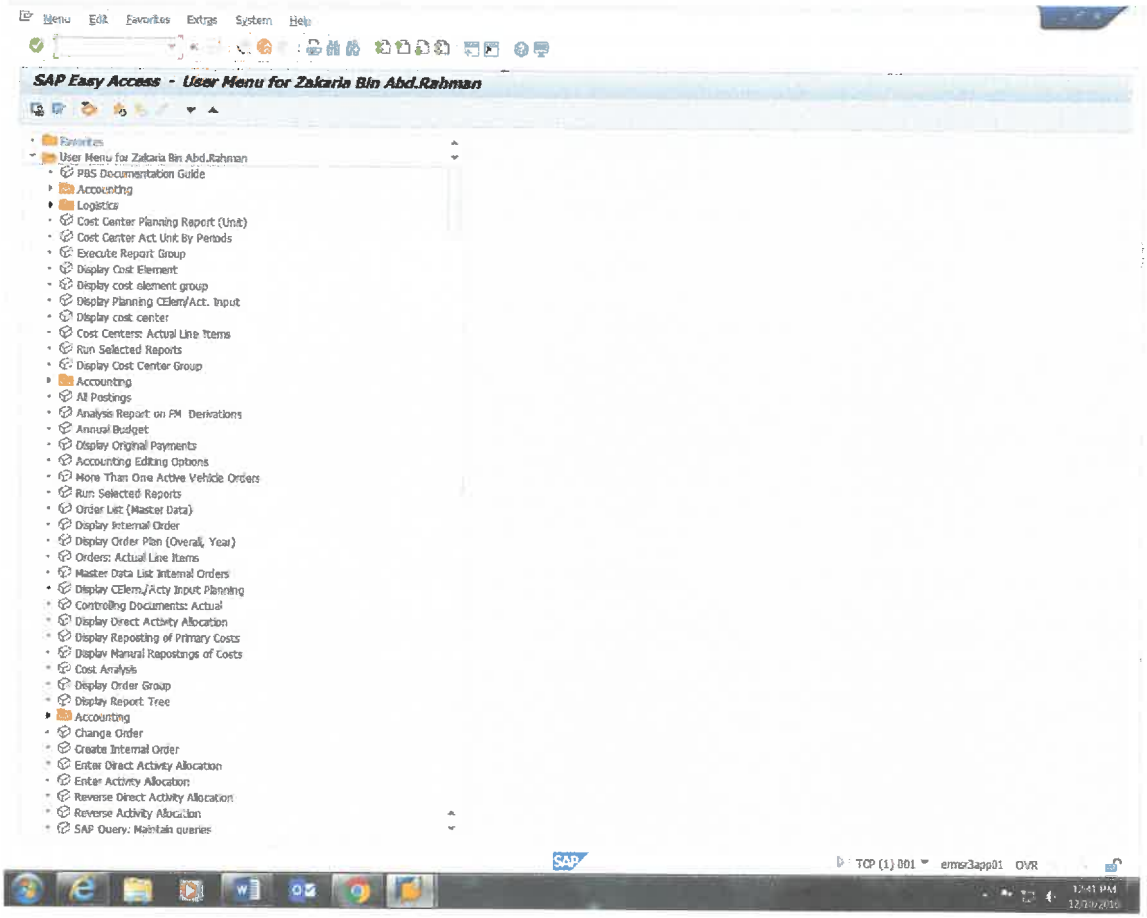
APPENDIX L

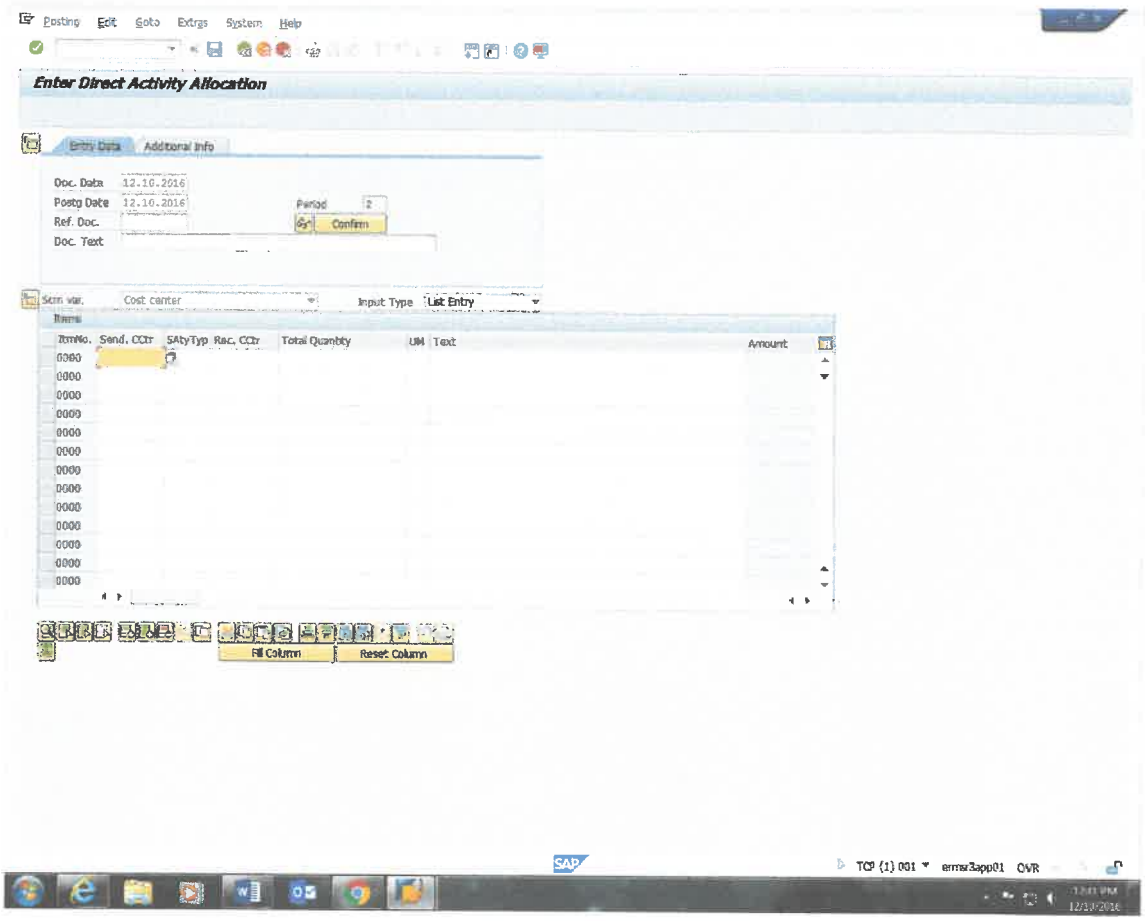
(LOGSHEET SYSTEM)

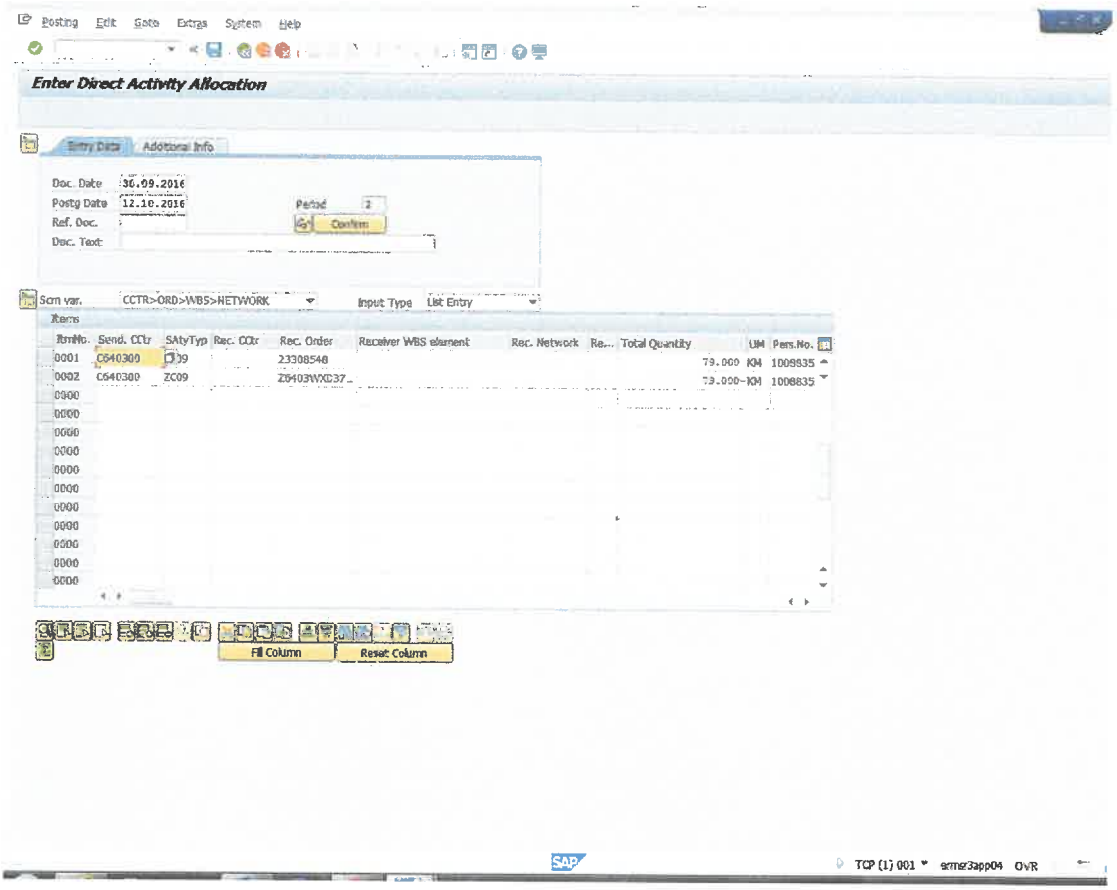

Log On
Favorites
Shortcuts
Connections
Name
System Description
SID
Group/Server
Insta...
Message Server
02. TBP (BW Production)
TBP
SPACE
00
03. e-CIBS
ECP
eCIBS
05

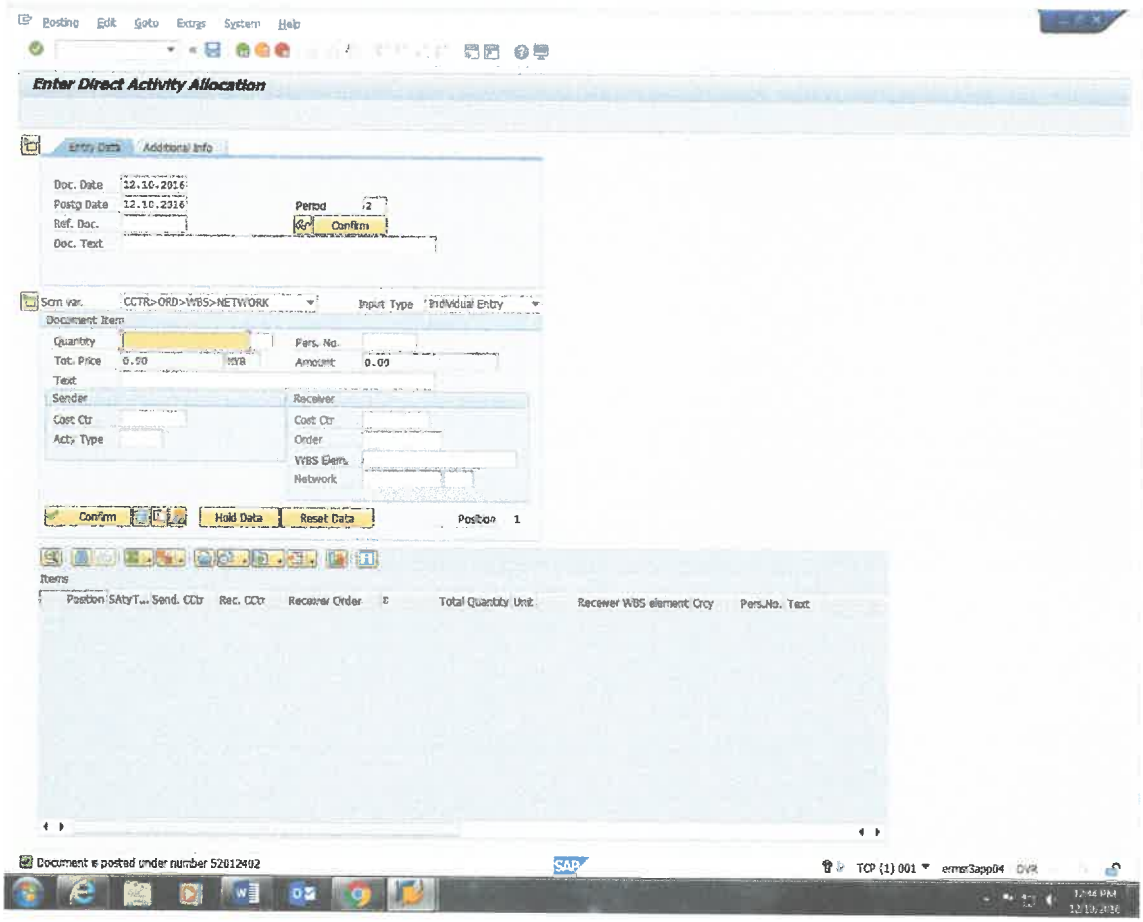

User System Help
SAP
New password
Client 001
User
Password
Logon Language EN
Information
TENAGA NASIONAL BERHAD
(ERMS/EHRMS) TCP 001 - Production Client
Kepada semua pengguna EHRMS,
Proses daftargaji Oktober 2016 akan bermula pada 8:00 malam 7 Oktober 2016. Mohon pihak tuan/puan membuat pengemaskinian data untuk pembayaran Oktober 2016 sebelum tarikh tersebut. Bagi pengemaskinian data yang dibuat selepas 7 Oktober 2016, data tersebut akan diproses pada gaji bulan seterusnya. Harap maklum.
Kepada semua pengguna ERMS,
Sistem telah dibuka untuk kemaskini.
TECHNICAL SUPPORT
==> ERMS Support (ERMS Bantuan)
TCP (1) 000 ermsr3app01 OVR

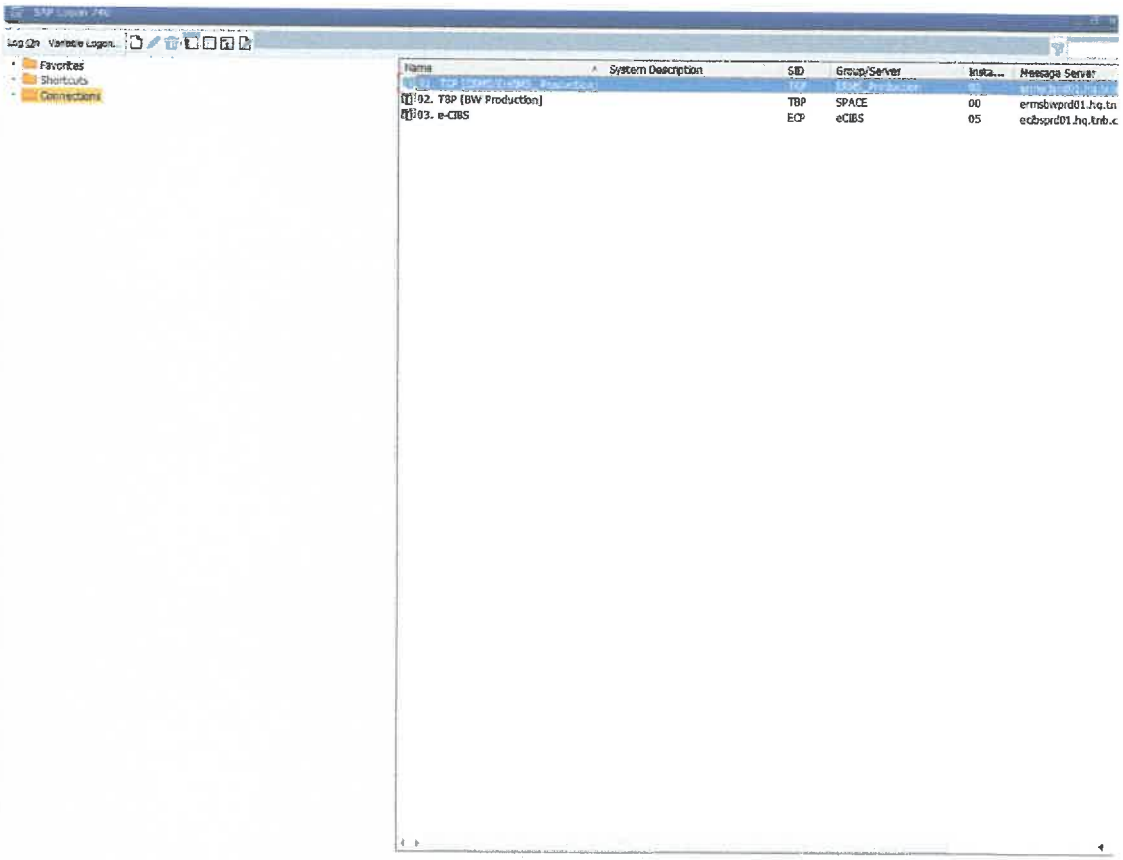

System Help
SAP
System Messages
Number
Express message text
96217
Perhatian : Sila maklum bahawa pelaporan Balance Sheet dan Cost Center untuk Period 01 FY2017 sudah boleh dilakukan untuk semua Company Code...
96217
..Sila gunakan FS Version YNB1 untuk laporan Balance Sheet dan Cost Element Group YNB1 untuk laporan Cost Center.
87257
Perhatian : Posting bagi Asset untuk Period 01 akan ditutup pada 5.15 petang Rabu 28 September 2016.
TCP (1) 001 ermsr3app01 OVR

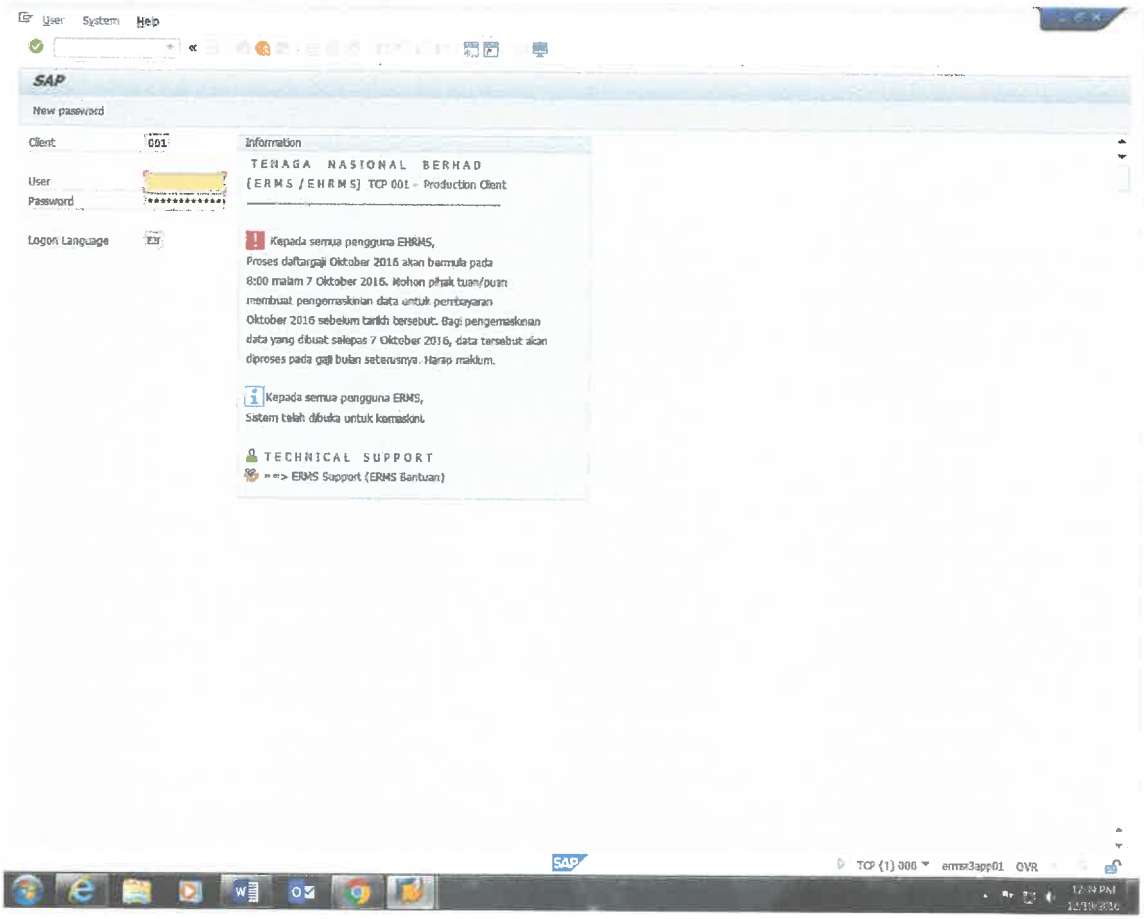

Menu Edit Favorites Extras System Help
SAP Easy Access - User Menu for Zakaria Bin Abd.Rahman
Favorites
User Menu for Zakaria Bin Abd.Rahman
PBS Documentation Guide
Accounting
Logistics
Cost Center Planning Report (Unit)
Cost Center Act Unit By Periods
Execute Report Group
Display Cost Element
Display cost element group
Display Planning CElem/Act. Input
Display cost center
Cost Centers: Actual Line Items
Run Selected Reports
Display Cost Center Group
Accounting
All Postings
Analysis Report on PM Derivations
Annual Budget
Display Original Payments
Accounting Editing Options
More Than One Active Vehicle Orders
Run Selected Reports
Order List (Master Data)
Display Internal Order
Display Order Plan (Overall, Year)
Orders: Actual Line Items
Master Data List Internal Orders
Display CElem./Acty Input Planning
Controlling Documents: Actual
Display Direct Activity Allocation
Display Reposting of Primary Costs
Display Manual Repostings of Costs
Cost Analysis
Display Order Group
Display Report Tree
Accounting
Change Order
Create Internal Order
Enter Direct Activity Allocation
Enter Activity Allocation
Reverse Direct Activity Allocation
Reverse Activity Allocation
SAP Query: Maintain queries
TCP (1) 801
ermsr3app01
OVR

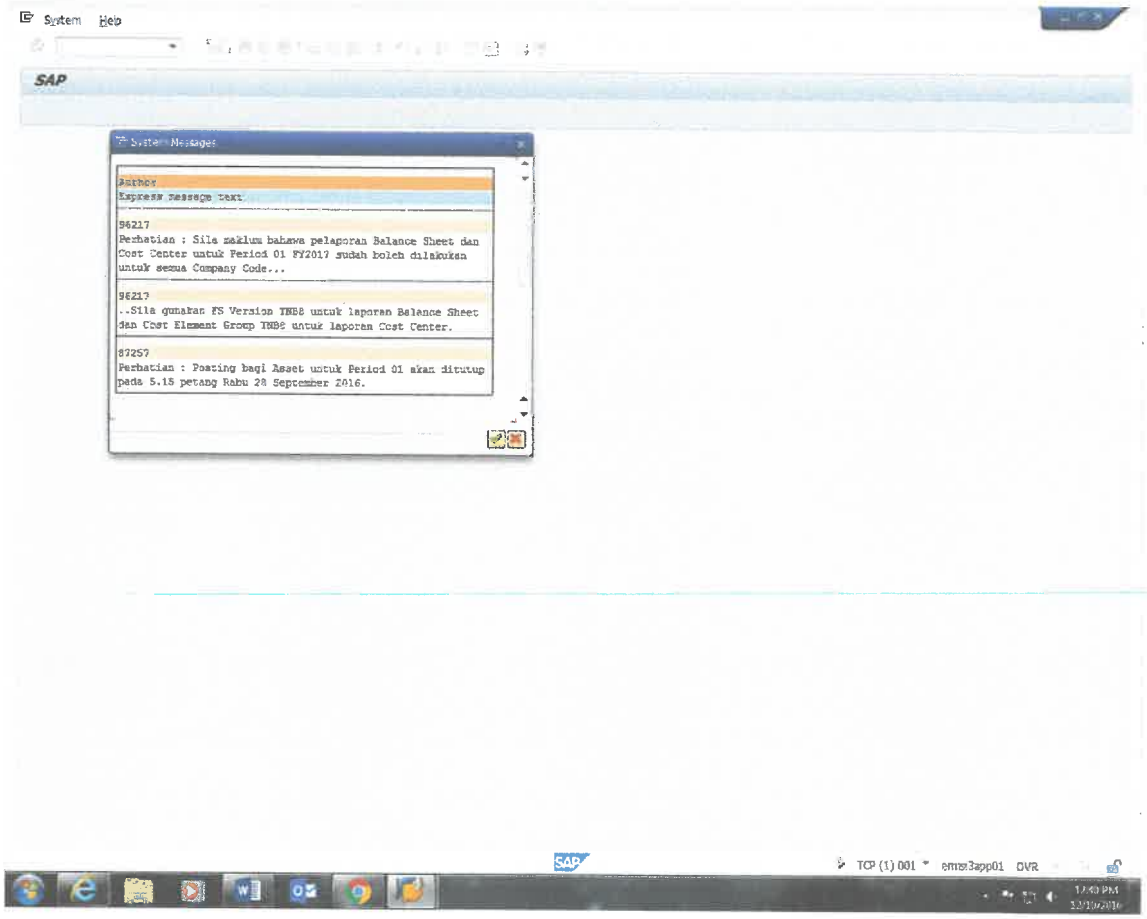

Posting
Edit
Goto
Extras
System
Help
Enter Direct Activity Allocation
Entry Data
Additional Info
Doc. Date
12.10.2016
Posting Date
12.10.2016
Ref. Doc.
Doc. Text
Period
Confirm
Scrn var.
Cost center
Input Type
List Entry
Items
ItmNo.
Send. CCtr
SAtyTyp
Rec. CCtr
Total Quantity
UM
Text
Amount
0000
Fill Column
Reset Column
TCP (1) 001
ermsr3app01
OVR

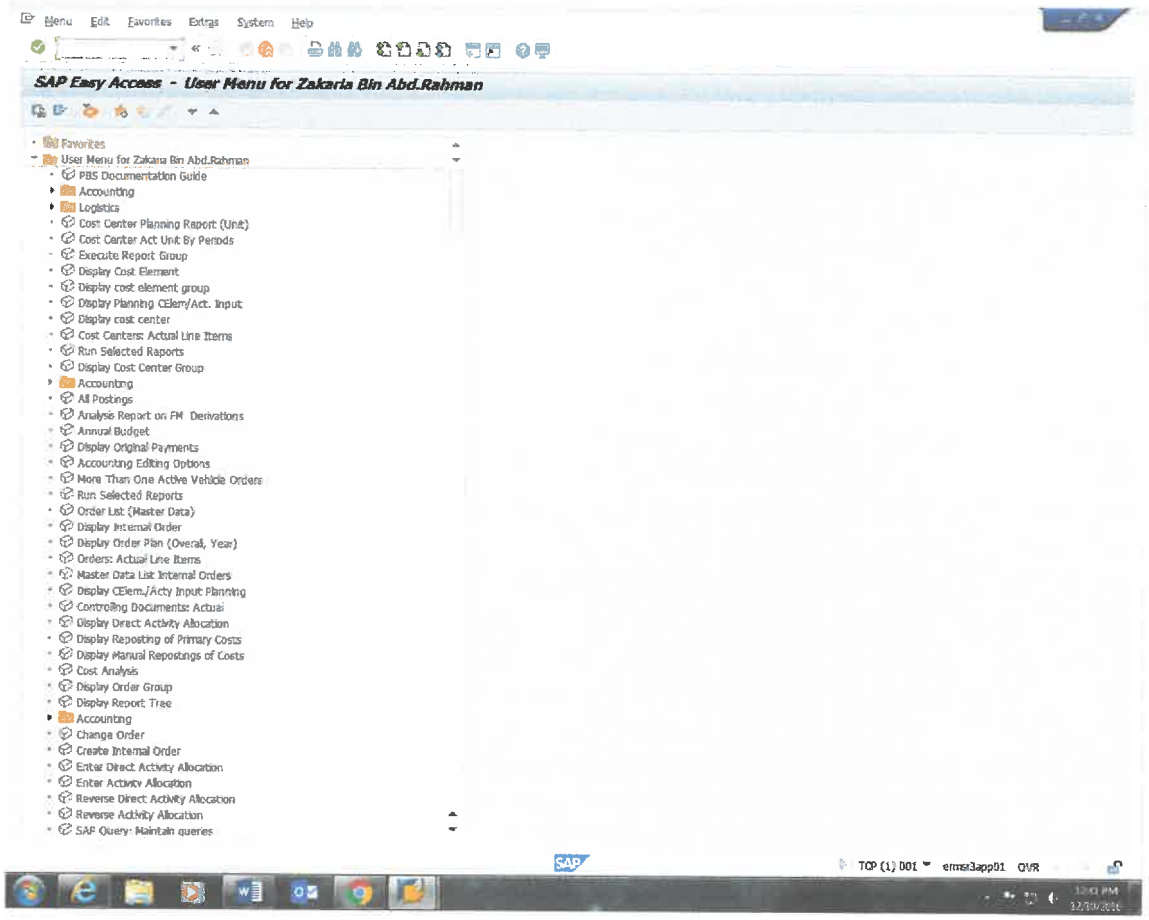

Posting Edit Goto Extras System Help
Enter Direct Activity Allocation
Entry Data
Additional Info
Doc. Date 30.09.2016
Postg Date 12.10.2016
Period 2
Confirm
Ref. Doc.
Doc. Text
Scrn var. CCTR>ORD>WBS>NETWORK
Input Type List Entry
Items
ItmNo. Send. CCtr SAtyTyp Rec. CCtr Rec. Order Receiver WBS element Rec. Network Re... Total Quantity UM Pers.No.
0001 C640300 39 23308548 79.000 KM 1008835
0002 C640300 ZC09 Z0403WXC37 79.000-KM 1008835
Fill Column
Reset Column
TCP (1) 001 srmer3app04 OVR

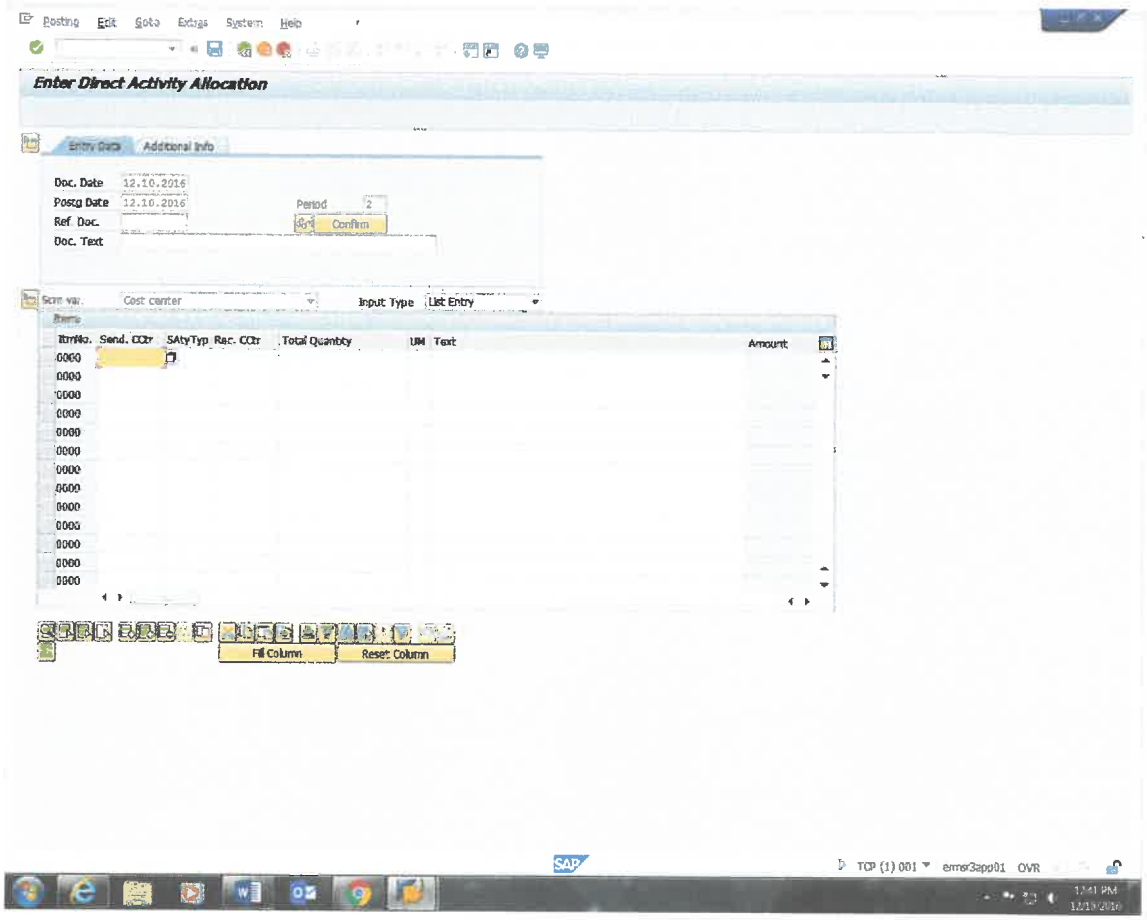

Posting Edit Goto Extras System Help
Enter Direct Activity Allocation
Entry Data Additional Info
Doc. Date 12.10.2016
Postg Date 12.10.2016
Period 12
Ref. Doc.
Confirm
Doc. Text
Scn var. CCTR>ORD>WBS>NETWORK
Input Type Individual Entry
Document Item
Quantity
Pers. No.
Tot. Price 0.00 MYR
Amount 0.00
Text
Sender
Receiver
Cost Ctr
Acty Type
Cost Ctr
Order
WBS Elem.
Network
Confirm
Hold Data
Reset Data
Position 1
Items
Position SAtyT... Send. CCtr Rec. CCtr Receiver Order
Total Quantity Unit
Receiver WBS element Crcy
Pers.No. Text
Document is posted under number 52012402
TCP (1) 001
ermsr3app04 DVR

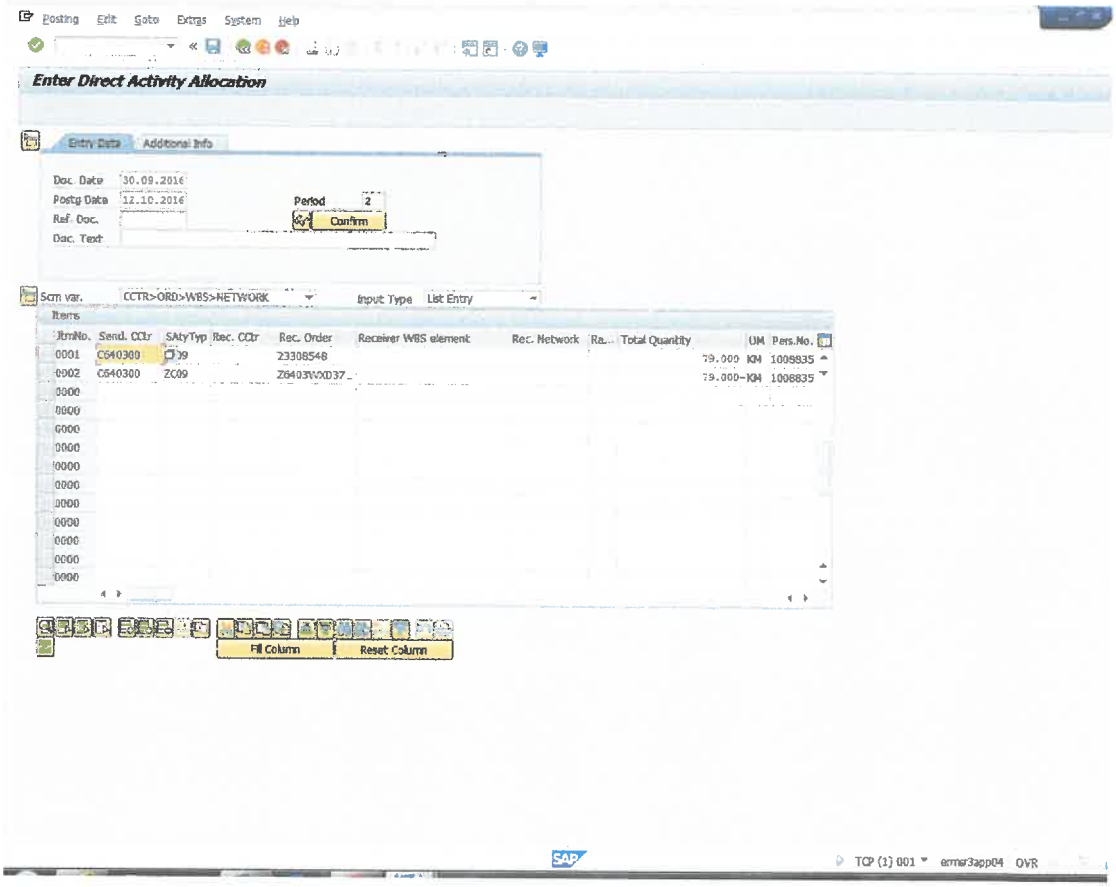

Log On
Variable Logon
Favorites
Shortcuts
Connections
Name
System Description
SID
Group/Server
Insta...
Message Server
02. TBP (BW Production)
TBP
SPACE
00
ermsbwprd01.hq.tn
03. e-CIBS
ECP
eCIBS
05
ecibsprd01.hq.tnb.c

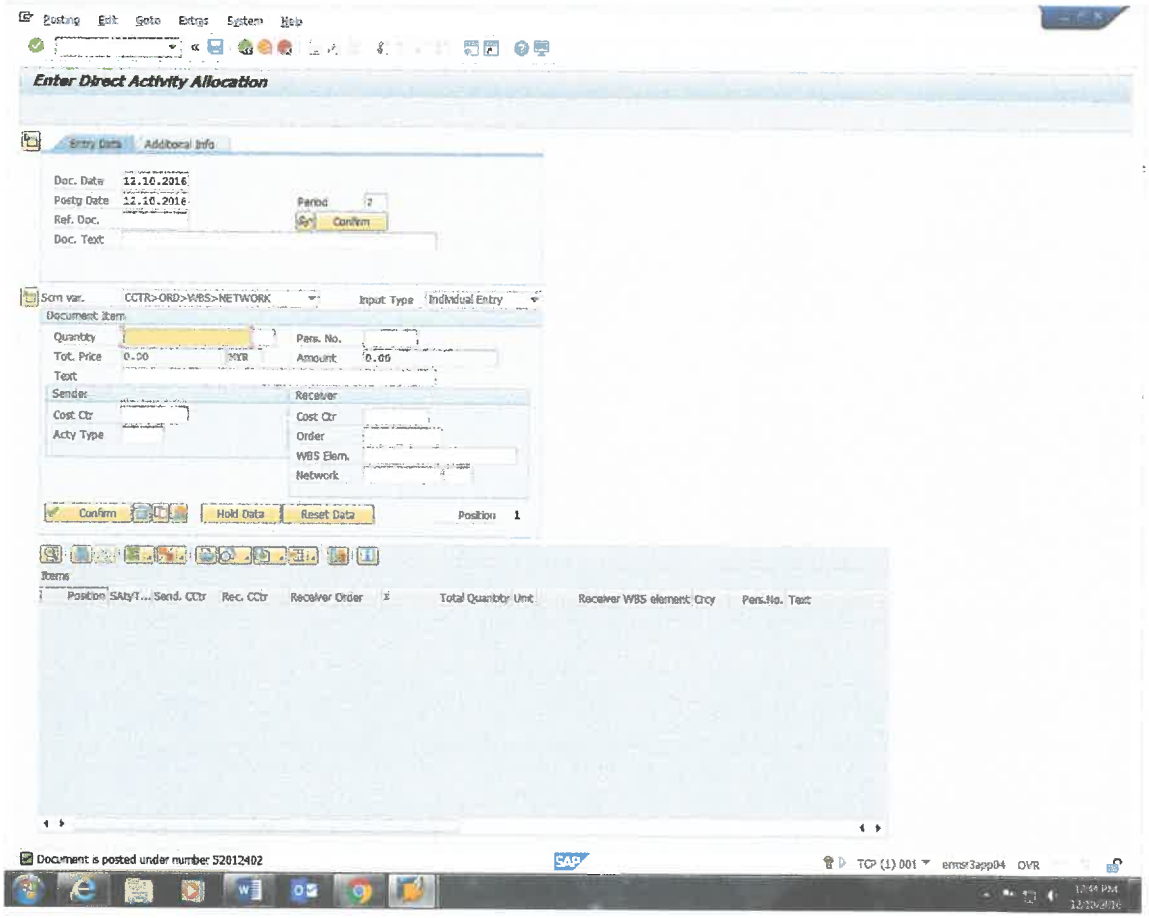

User System Help
SAP
New password
Client 001
User
Password
Logon Language EN
Information
TENAGA NASIONAL BERHAD
(ERMS / EHRMS) TCP 001 - Production Client
Kepada semua pengguna EHRMS,
Proses daftargaji Oktober 2016 akan bermula pada 8:00 malam 7 Oktober 2016. Mohon pihak tuan/puan membuat pengemaskinian data untuk pembayaran Oktober 2016 sebelum tarikh tersebut. Bagi pengemaskinian data yang dibuat selepas 7 Oktober 2016, data tersebut akan diproses pada gaji bulan seterusnya. Harap maklum.
Kepada semua pengguna ERMS,
Sistem telah dibuka untuk kemaskini.
TECHNICAL SUPPORT
==> ERMS Support (ERMS Bantuan)
TCP (1) 006 ermsr3app01 OVR


System Help
SAP
System Messages
Author
Express message text
96217
Perhatian : Sila maklum bahawa pelaporan Balance Sheet dan Cost Center untuk Period 01 FY2017 sudah boleh dilaksana untuk semua Company Code...
96217
..Sila gunakan FS Version TNBS untuk laporan Balance Sheet dan Cost Element Group TNBS untuk laporan Cost Center.
87257
Perhatian : Posting bagi Aset untuk Period 01 akan ditutup pada 5.15 petang Rabu 28 September 2016.
TCP (1) 001 emer3app01 OVR


Menu Edit Favorites Extras System Help
SAP Easy Access - User Menu for Zakaria Bin Abd.Rahman
Favorites
User Menu for Zakaria Bin Abd.Rahman
PBS Documentation Guide
Accounting
Logistics
Cost Center Planning Report (Unit)
Cost Center Act Unit By Periods
Execute Report Group
Display Cost Element
Display cost element group
Display Planning CElem/Act. Input
Display cost center
Cost Centers: Actual Line Items
Run Selected Reports
Display Cost Center Group
Accounting
All Postings
Analysis Report on FM Derivations
Annual Budget
Display Original Payments
Accounting Editing Options
More Than One Active Vehicle Orders
Run Selected Reports
Order List (Master Data)
Display Internal Order
Display Order Plan (Overall, Year)
Orders: Actual Line Items
Master Data List Internal Orders
Display CElem./Acty Input Planning
Controlling Documents: Actual
Display Direct Activity Allocation
Display Reposting of Primary Costs
Display Manual Repostings of Costs
Cost Analysis
Display Order Group
Display Report Tree
Accounting
Change Order
Create Internal Order
Enter Direct Activity Allocation
Enter Activity Allocation
Reverse Direct Activity Allocation
Reverse Activity Allocation
SAP Query: Maintain queries
SAP
TCP (1) 001 emsr3app01 OVR


Posting Edit Goto Extras System Help
Enter Direct Activity Allocation
Entry Data Additional Info
Doc. Date 12.10.2016
Posting Date 12.10.2016
Ref. Doc.
Doc. Text
Period 2
Confirm
Scrn var. Cost center
Input Type List Entry
Items
ItmNo. Send. CCtr SAtyTyp Rec. CCtr Total Quantity UM Text Amount
0000
Fill Column
Reset Column
TCP (1) 001 emer3app01 OVR


Posting Edit Goto Extras System Help
Enter Direct Activity Allocation
Entry Data
Additional Info
Doc. Date 30.09.2016
Postg Date 12.10.2016
Period 2
Ref. Doc.
Confirm
Doc. Text
Scrn var. CCTR>ORD>WBS>NETWORK
Input Type List Entry
Items
ItmNo. Send. CCtr SAtyTyp Rec. CCtr Rec. Order Receiver WBS element Rec. Network Ra... Total Quantity UM Pers.No.
0001 C640300 Z09 23308548 79.000 KM 1008835
0002 C640300 Z09 Z6403WXD37 79.000- KM 1008835
Fill Column
Reset Column
TCP (1) 001
ermsr3app04
OVR


Posting Edit Goto Extras System Help
Enter Direct Activity Allocation
Entry Data Additional Info
Doc. Date 12.10.2016
Posty Date 12.10.2016
Ref. Doc.
Doc. Text
Period 7
Confirm
Scrn var. CCTR>ORD>WBS>NETWORK
Input Type Individual Entry
Document Item
Quantity
Tot. Price 0.00 MYR
Text
Pers. No.
Amount 0.00
Sender
Cost Ctr
Acty Type
Receiver
Cost Ctr
Order
WBS Elem.
Network
Confirm Hold Data Reset Data
Position 1
Items
Position SAty/T... Send. CCtr Rec. CCtr Receiver Order Total Quantity Unit Receiver WBS element Crcy Pers.No. Text
Document is posted under number 52012402
TCP (1) 001 emsr3app04 OVR