SAFETY PERFORMANCE OF ELECTRICAL UTILITY IN TENAGA NASIONAL BERHAD, DISTRIBUTION DIVISION MELAKA.

By:
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Thesis Submitted to the
Othman Yeop Abdullah Graduate School
of Business, Universiti Utara Malaysia,
in Fulfillment of the Requirement for the
Master of Science in Occupational Safety and Health Management.

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ABSTRACT

This research is a case study research, focused on the Distribution Division in Tenaga Nasional Berhad (Melaka). There are only two technical units under the Distribution Division which comprised of the Operation and Maintenance Unit and Construction and Planning Unit. A total of 131 respondents from the technical staff of TNB Melaka were randomly selected to be involved in the survey. The reason these units were selected is because, they were the frontier who directly involve with electrical hazards between the ranges of 230 volt to 33,000 volt. The research framework is management commitment, safety training, safety rules and procedure, safety compliance, and safety participation towards safety performance. Statistical Package for Social Science (SPSS) version 19 is used to generate and analyzed data collected. In summary, from the findings, there is positive correlation on the relationship between management commitment, safety training, rules and procedure, safety compliance safety participation, and safety performance. The findings also proven that the independent variables, management commitment, safety training and safety rules and procedure did not influence safety performance. However safety compliance and safety participation do influence safety performance at TNB Melaka Distribution Division. The implication of this study is very beneficial to TNB Melaka Distribution Division in improving their safety performance level in the workplace. By improving their safety performance in their workplace, TNB Melaka Distribution Division can reduce the risk, the injury and the cost of accident which will lead TNB Melaka Distribution Division to the growth of profits.

ABSTRAK

Kajian ini merupakan kajian kes yang memberi tumpuan kepada Bahagian Pembahagian Tenaga Nasional Berhad (Melaka). Terdapat dua unit teknikal di bawah Bahagian Pembahagian TNB Melaka dan unit-unit tersebut terbahagi kepada Unit Operasi dan Penyelenggaraan dan Unit Pembinaan dan Perancangan. Seramai 131 responden yang terdiri daripada kakitangan teknikal TNB Melaka telah dipilih secara rawak untuk terlibat dalam kaji selidik ini. Sebab utama unit ini dipilih adalah kerana, mereka adalah diantara pekerja barisan hadapan yang secara langsung terlibat dengan bahaya elektrik di antara julat 230volt -33000volt. Kerangka kajian yang telah dipilih merangkumi aspek komitmen pengurusan, latihan keselamatan, peraturan dan prosedur keselamatan, pematuhan keselamatan, dan penyertaan keselamatan kearah pencegahan kemalangan. Pakej Statistik untuk versi (SPSS) 19 digunakan untuk menjana dan menganalisis data yang dikumpul. Secara ringkasnya, dapatan kajian mendapati, terdapat korelasi positif di antara komitmen pengurusan, latihan keselamatan, peraturan keselamatan dan prosedur, pematuhan keselamatan, penyertaan keselamatan dan prestasi keselamatan. Kajian juga menunjukkan pembolehubah tidak bersandar iaitu komitmen pengurusan, latihan keselamatan, peraturan keselamatan dan prosedur tidak mempengaruhi prestasi keselamatan manakala pematuhan keselamatan dan penyertaan keselamatan mempengaruhi prestasi keselamatan di Bahagian Pembahagian TNB Melaka. Implikasi kajian ini sangat memberi manfaat kepada Bahagian Pembahagian TNB Melaka dalam meningkatkan tahap prestasi keselamatan di tempat kerja. Dengan meningkatkan prestasi keselamatan di tempat kerja, Bahagian Pembahagian TNB Melaka boleh mengurangkan risiko, kecederaan dan kos kemalangan dengan ini sekaligus akan membawa kepada peningkatan kadar keuntungan di TNB Melaka.

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CHAPTER 1

INTRODUCTION

1.0 Background of the study

The DOSH report on Occupational Accidents by Sector until October 2013 has investigated and recorded over seven (7) fatal accidents and 86 cases of non-permanent disability in utility companies. For instance, an accident occurred in Petaling Jaya August 2010 that involved an arc flashover in a transformer room. Four workers were severely injured; one of them suffered burns over 50% of his body and received treatment in an Intensive Care Unit (ICU). The accident occurred when a worker who was loosening the power supply wire to the circuit breaker accidently touched a part of his body (head) in the clearance space of the 11,000 volt power system. As a result, a short circuit and flashover occurred, which caused an explosion that injured the workers. Forensic investigation discovered that the working space was not suitable for such risky and dangerous jobs, as they involved high voltage. The divider that is supposed to separate the electrical powered section and the repaired section was missing. This can cause any part of the body to be exposed and in danger of being electrocuted if the work is not being performed cautiously.

Safety performance in the workplace can be measured in various ways such as numbers of safety training courses offered by the company, the regularity of safety assessment and the numbers of training attended by the staff. Occupational safety and health performance can even be measured based on personal safety behavior and other metrics. For instance, frequency rate (FR) and severity rate (SR) are two

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Appendix 1

Universiti Utara Malaysia (UUM), Sintok, Kedah Darul Aman

SURVEY QUESTIONNAIRE FOR THE MASTER OF SCIENCE IN OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT (MOSHM) / ***SOAL SELIDIK TINJAUAN UNTUK YANG SARJANA SAINS DALAM PENGURUSAN KESELAMATAN DAN KESIHATAN (MOSHM)***

Title of Research: Safety Performance in TNB Distribution Division Melaka.

Tajuk Penyelidikan: Keselamatan Prestasi di Melaka Bahagian Pembahagian TNB.

Dear Sir / Madam / Miss, / *Tuan / Puan / Cik,*

I am a Master of Science in Occupational Safety and Health Management student from College Of Business, Universiti Utara Malaysia (UUM). This research is being conducted to fulfill the **partial requirements** for the award of the master degree.

The objective of this survey is to obtain related information pertaining to safety performance. Your response is significantly important because your experience will contribute positively towards the effectiveness of safety and health. Please be assured that all information given will be treated as confidential and will be used for research purposes only.

You are kindly requested to answer all questions. ***Before answering the questions, please read the statements carefully.*** If you have any queries pertaining to this survey, please do not hesitate to contact **Mohd Faiz Bin Abu Bakkar 019-5712871 (hp) or email: faizab@tnb.com.my.**

Thank you very much for your cooperation and support. Your support is much appreciated.

Saya pelajar Sarjana Sains dalam Pengurusan Keselamatan dan Kesihatan dari Kolej Perniagaan, Universiti Utara Malaysia (UUM). Kajian ini dijalankan untuk ***memenuhi keperluan*** *sebahagian daripada penganugerahan ijazah sarjana.*

Objektif soal selidik ini adalah untuk mendapatkan maklumat berkaitan prestasi keselamatan Maklumbalas anda adalah penting kerana pengalaman anda akan menyumbang secara positif kepada keberkesanan keselamatan dan kesihatan. Segala maklumat yang diberi dianggap sebagai sulit dan akan digunakan untuk tujuan penyelidikan sahaja

Anda diminta menjawab semua soalan. ***Sebelum menjawab soalan, sila baca kenyataan ini dengan teliti****. Jika anda mempunyai sebarang pertanyaan berkaitan kajian ini, sila hubungi* ***Mohd Faiz Bin Abu Bakkar 019-5712871 (hp) atau e-mel: faizab@tnb.com.my****.*

Terima kasih di atas kerjasama dan sokongan anda. Sokongan anda amat dihargai.

MOHD FAIZ BIN ABU BAKKAR

Matrix No. : 809081

Master of Science in Occupational Safety and Health Management

Universiti Utara Malaysia (UUM)

Sintok, Kedah Darul Aman.

SECTION A : BACKGROUND OF THE RESPONDENT / LATARBELAKANG

Please tick (√) the answer as above scale.

Sila tanda (√) pada jawapan seperti skala di atas.

1. Age

   Umur

☐	17 – 22 years	☐	29 – 34 years
☐	23 – 28 years	☐	More than 35 years.

2. How long have you been working in the industries?

Berapa lama anda telah bekerja dalam industry ini?

☐	Less than 5 years	☐	11 - 15 years	☐	21 - 25 years
☐	5 -10 years	☐	16 - 20 years	☐	More than 25 years

3. Highest education level.

Tahap tertinggi pendidikan.

☐	Lower Primary	☐	Secondary	☐	Diploma
☐	Primary	☐	Certificate	☐	Degree or Higher

4. Gender

Jantina

☐	Male
☐	Female

5. Race

Bangsa

☐	Malay	☐	Indian
☐	Chinese	☐	Others (please specify): _____

6. Department

Unit

	Perancang & Projek / Planning & Project
	Operation and Maintanance / Kendalian & Senggaraan

SECTION B :MANAGEMENT COMMITMENT / PENGLIBATAN PIHAK PENGURUSAN

Use the scale below to answer the following question.

Gunakan skala dibawah untuk menjawab soalan-soalan berikut.

Strongly Disagree/ Sangat Tidak Setuju	Disagree/ Tidak Setuju	Slightly Disagree / Agak Tidak Setuju	Slightly Agree / Agak Setuju	Agree / Setuju	Strongly Agree/ Sangat Setuju
1	2	3	4	5	6

Please tick (√) or circle (O) the answer as the above scale.

Sila tanda (√) atau bulatkan (O) pada jawapan seperti skala di atas.

1. Safety is given high priority by the management 1 2 3 4 5 6

   Pihak pengurusan memberikan keutamaan yang tinggi untuk

keselamatan pekerjaan

2.	Safety rules and procedures are strictly followed by the management. *Pihak pengurusan mematuhi peraturan dan prosedur keselamatan.*	1 2 3 4 5 6
3.	Corrective action is always taken when the management is told about unsafe practices. *Pihak pengurusan mengambil tindakan pembetulan jika terdapat amalan kerja yang tidak selamat.*	1 2 3 4 5 6
4.	In my workplace managers/supervisors do not show interest in the safety of workers. *Di tempat kerja, pengurus/penyelia saya tidak menunjukkan minat mengenai keselamatan pekerja.*	1 2 3 4 5 6
5.	Management considers safety to be equally important as product. *Pengurusan memastikan keselamatan adalah sama penting dengan produk.*	1 2 3 4 5 6
6.	Members of management do not attend safety meetings. *Pihak pengurusan tidak menghadiri mesyuarat keselamatan.*	1 2 3 4 5 6
7	When near-miss accidents are reported, my management acts quickly to solve the problems. *Apabila kemalangan nyaris dilaporkan, pihak pengurusan bertindak cepat untuk menyelesaikan masalah.*	1 2 3 4 5 6

8 My company provides sufficient personal protective equipment for the workers. 1 2 3 4 5 6

Syarikat saya menyediakan peralatan perlindungan diri yang mencukupi untuk pekerja.

SECTION C : SAFETY TRAINING / LATIHAN KESELAMATAN

Use the scale below to answer the following question.

Gunakan skala di bawah untuk menjawab soalan-soalan berikut.

Strongly Disagree/ Sangat Tidak Setuju	Disagree/ Tidak Setuju	Slightly Disagree / Agak Tidak Setuju	Slightly Agree / Agak Setuju	Agree / Setuju	Strongly Agree/ Sangat Setuju
1	2	3	4	5	6

Please tick (√) or circle (O) the answer as the above scale.

Sila tanda (√) atau bulatkan (O) pada jawapan seperti skala di atas.

9. My company gives comprehensive training to the employees in workplace health and safety issues. 1 2 3 4 5 6

Syarikat saya memberikan latihan yang menyeluruh untuk pekerja-pekerja berkenaan isu keselamatan dan kesihatan di tempat kerja.

10.	Newly recruits are trained adequately to learn safety rules and procedures. *Pekerja yang baru dilantik dilatih berkenaan peraturan dan prosedur kerja selamat.*	1 2 3 4 5 6
11.	Safety issues are given high priority in training programmes. *Isu-isu keselamatan diberi keutamaan yang tinggi dalam program keselamatan.*	1 2 3 4 5 6
12.	I am not adequately trained to response to emergency situation in my workplace. *Saya tidak dilatih untuk bertindak balas terhadap situasi kecemasan di tempat kerja saya.*	1 2 3 4 5 6
13.	Management encourages the workers to attend safety training programmes. *Pihak pengurusan menggalakkan pekerja untuk menghadiri program latihan mengenai keselamatan.*	1 2 3 4 5 6
14.	Safety training given to me is adequate to enable to me to assess hazards in workplace. *Latihan keselamatan yang diberikan kepada sya adalah mencukupi bagi membolehkan saya menilai hazad di tempat kerja.*	1 2 3 4 5 6

SECTION D : SAFETY RULES AND PROCEDURES / PERATURAN DAN PROSEDUR KESELAMATAN

Use the scale below to answer the following question.

Gunakan skala di bawah untuk menjawab soalan-soalan berikut.

Strongly Disagree/ Sangat Tidak Setuju	Disagree/ Tidak Setuju	Slightly Disagree / Agak Tidak Setuju	Slightly Agree / Agak Setuju	Agree / Setuju	Strongly Agree/ Sangat Setuju
1	2	3	4	5	6

Please tick (√) or circle (O) the answer as above scale.

Sila tanda (√) atau bulatkan (O) pada jawapan seperti skala di atas.

15. The safety rules and procedures followed in my company are sufficient to prevent incident occurring. 1 2 3 4 5 6

    Peraturan dan prosedur keselamatan yang diikuti dalam syarikat saya adalah mencukupi untuk mengelakkan kejadian kemalangan daripada berlaku.

16. The facilities in the safety department are not adequate to meet 1 2 3 4 5 6

the needs of my organization.

Kemudahan di jabatan keselamatan dan kesihatan tidak mencukupi untuk memenuhi keperluan organisasi saya.

17. My supervisors and managers always try enforcing safe working procedures. 1 2 3 4 5 6

    Penyelia dan pihak pengurusan saya sentiasa cuba menguatkuasakan prosedur kerja yang selamat.

18. Safety inspections are carried out regularly. 1 2 3 4 5 6

    Pemeriksaan keselamatan di tempat kerja dijalankan secara kerap.

19. The safety procedures and practices in this organization are useful and effective. 1 2 3 4 5 6

    Prosedur dan amalan keselamatan di dalam organisasi adalah berguna dan berkesan.

SECTION D : SAFETY COMPLIANCE / PEMATUHAN KESELAMATAN

Use the scale below to answer the following question.

Gunakan skala di bawah untuk menjawab soalan-soalan berikut.

Strongly Disagree/ Sangat Tidak Setuju	Disagree/ Tidak Setuju	Slightly Disagree / Agak Tidak Setuju	Slightly Agree / Agak Setuju	Agree / Setuju	Strongly Agree/ Sangat Setuju
1	2	3	4	5	6

Please tick (√) or circle (O) the answer as the above scale.

Sila tanda (√) atau bulatkan (O) pada jawapan seperti skala di atas.

20. I use all necessary safety equipment to do my job. 1 2 3 4 5 6

    Saya menggunakan kesemua peralatan keselamatan yang diperlukan untuk melakukan kerja saya.

21. I carry out my work in a safe manner. 1 2 3 4 5 6

    Saya menjalankan tugas saya dengan cara yang selamat.

22.	I follow correct safety rules and procedures while carrying out my job. *Saya mengikuti peraturan-peraturan keselamatan dan prosedur yang betul ketika menjalankan tugas saya.*	1 2 3 4 5 6
23.	I ensure the highest levels of safety when I carry out my job. *Saya memastikan keselamatan di tahap yang tinggi apabila saya menjalankan tugas saya.*	1 2 3 4 5 6
24.	Occasionally due to lack of time, I deviate from correct and safety work procedures. *Kadang-kala disebabkan kekurangan masa, saya menyimpang dari prosedur kerja yang betul dan selamat.*	1 2 3 4 5 6
25.	Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures. *Disebabkan kebiasaan melakukan sesuatu kerja, kadang-kala, saya menyimpang dari prosedur kerja yang betul dan selamat.*	1 2 3 4 5 6
26.	It is not always practical to follow all safety rules and procedures while doing a job. *Adalah tidak praktikal untuk mematuhi segala peraturan dan prosedur kerja selamat semasa menjalankan kerja.*	1 2 3 4 5 6

SECTION E : SAFETY PARTICIPATION / PENYERTAAN KESELAMATAN

Use the scale below to answer the following question.

Gunakan skala di bawah untuk menjawab soalan-soalan berikut.

Strongly Disagree/ Sangat Tidak Setuju	Disagree/ Tidak Setuju	Slightly Disagree / Agak Tidak Setuju	Slightly Agree / Agak Setuju	Agree / Setuju	Strongly Agree/ Sangat Setuju
1	2	3	4	5	6

Please tick (√) or circle (O) the answer as above scale.

Sila tanda (√) atau bulatkan (O) pada jawapan seperti skala di atas.

27. I help my co-workers when they are working under risky or hazardous conditions. 1 2 3 4 5 6

    Saya membantu rakan sekerja ketika mereka bekerja dalam keadaan berisiko atau berbahaya.

28. I always point out to the management if any safety related matters are noticed in my company. 1 2 3 4 5 6

    Saya selalu merujuk kepada pihak pengurusan jika terdapat apa-apa perkara yang berkaitan dengan keselamatan dalam

syarikat saya.

29. I put extra effort to improve the safety of the workplace. 1 2 3 4 5 6

    Saya berusaha sedaya-upaya menambahbaik aspek keselamatan di tempat kerja.

30. I voluntarily carry out tasks or activities that help to improve workplace safety. 1 2 3 4 5 6

    Saya secara sukarela melaksanakan tugas atau aktiviti untuk menambahbaik aspek keselamatan di tempat kerja.

31. I encourage my co-workers to work safely. 1 2 3 4 5 6

    Saya menggalakkan rakan sekerja saya untuk bekerja dengan selamat.

SECTION F : SAFETY PERFORMANCE / PRESTASI KESELAMATAN

Use the scale below to answer the following question.

Gunakan skala di bawah untuk menjawab soalan-soalan berikut.

Strongly Disagree/ Sangat Tidak Setuju 1	Disagree/ Tidak Setuju 2	Slightly Disagree / Agak Tidak Setuju 3	Slightly Agree / Agak Setuju 4	Agree / Setuju 5	Strongly Agree/ Sangat Setuju 6

Please tick (√) or circle (O) the answer as above scale.

Sila tanda (√) atau bulatkan (O) pada jawapan seperti skala di atas.

32. My commitment in Safety and Health reduced personal accident and injuries. 1 2 3 4 5 6

    Komitmen saya dalam keselamatan dan kesihatan mengurangkan kemalangan dan kecederaan.

33. My commitment in Safety and Health improved awareness of Safety and health within employees. 1 2 3 4 5 6

    Komitmen saya dalam keselamatan dan kesihatan meningkatkan kesedaran tentang keselamatan dan kesihatan di kalangan pekerja.

33. My commitment in Safety and Health improved productivity of workers.

Komitmen saya dalam keselamatan dan kesihatan meningkatkan produktiviti pekerja. 1 2 3 4 5 6

34. My commitment in Safety in Health reduced the number of damaged material on site. 1 2 3 4 5 6

Komitmen saya dalam keselamatan dan kesihatan mengurangkan kerosakan harta benda di tempat kerja.

35. My commitment in Safety and Health improved motivation to work. 1 2 3 4 5 6

Komitmen saya dalam keselamatan dan kesihatan menambahbaik motivasi pekerja.

36. My commitment in Safety and Health reduced absenteeism of workers.

Komitment saya dalam keselamatan dan kesihatan mengurangkan ketidakhadiran pekerja. 1 2 3 4 5 6

37. My commitment in Safety and Health reduced the cost related to accidents and injuries. 1 2 3 4 5 6

Komitmen saya dalam keselamatan dan kesihatan mengurangkan kos yang berkaitan dengan kemalangan dan kecederaan.

38. My commitment in Safety and Health reduced number of workers affected with work related illnesses & diseases. 1 2 3 4 5 6

Komitmen saya dalam keselamatan dan kesihatan mengurangkan bilangan pekerja yang terjejas dengan penyakit pekerjaan.

Appendix 2

TENAGA NASIONAL BERHAD

Rujukan kami	:	TNB(B)/MELA 15/05/09
Tarikh	:	02 Julai 2012
Kepada	:	Mohd Faiz Bin Abu Bakkar Sarjana Sains Keselamatan Dan Kesihatan Pekerjaan Universiti Utara Malaysia
Perkara	:	**PERMOHONAN MENJALANKAN KAJIAN BERKENAAN KESELAMATAN DAN KESIHATAN PEKERJAAN DI BAHAGIAN PEMBAHAGIAN, TNB MELAKA**

Pendahuluan : Permohonan saudara adalah dengan ini dirujuk. Terlebih dahulu saya ingin mengucapkan terima kasih di atas minat serta kepercayaan saudara untuk memilih Tenaga Nasional Berhad sebagai tempat menjalankan kajian berkenaan keselamatan dan kesihatan pekerjaan.

Kelulusan : Sukacita dimaklumkan bahawa pihak kami telah meluluskan permohonan saudara dan ingin mengalu-alukan kedatangan saudara. Kelulusan telah diberi kepada saudara untuk menjalankan kajian mengikut maklumat di bawah :

Maklumat Kajian :

Tempat	:	**Pengurus Besar Negeri (Melaka), Bahagian Pembahagian TNB, Tingkat Mezzanine, Karung Berkunci 1005, 75990 Melaka.**
Tarikh	:	**02 Julai 2012 hingga 15 Ogos 2012**

Sekian, terima kasih.

"TNB - PENGGERAK KEMAJUAN NEGARA"

(Datuk Ir. Mohd Azlm Bin Dato' Haji Yusof)
Pengurus Besar Negeri (Melaka)
Bahagian Pembahagian,
Tenaga Nasional Berhad.

s.k - Norfadzidatul Izwa binti Farouk Shah
Pemangku Pengurus (Pengurusan Sumber Manusia
& Perkhidmatan Pentadbiran) Melaka
Bahagian Pembahagian TNB

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