# SAFETY HEALTH AND ENVIRONMENT IN UNIVERSITY MALAYSIA PAHANG

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UNIVERSITI MALAYSIA PAHANG

# SAFETY HEALTH AND ENVIRONMENT IN UNIVERSITY MALAYSIA PAHANG

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A report submitted in partial fulfilment of the requirements
for the award of the degree of
Bachelor of Mechanical Engineering

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## SUPERVISOR'S DECLARATION

We hereby declare that we have checked this project and in our opinion this project is satisfactory in terms of scope and quality for the award of the degree of Bachelor of Mechanical Engineering.

…….....

Name of Supervisor: Mr. Azizuddin Abd Aziz
Position: Lecturer
Date: 05 November 2008

## STUDENT'S DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurently submitted for award of other degree.

…….....

Name: Mohd Pidaus Bin Mustafa

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Date: 05 November 2008

Dedicated to my beloved parents, family and friends

Thank you for the endless support and encouragement.

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## ABSTRACT

The Occupational Safety and Health Act (OSHA) 1994 were introduced in an effort to secure the safety, health and welfare of persons at work against risks to safety or health arising out of the activities of persons. According to OSHA 1994, it is the duty of every employer to ensure, as far as is practicable, the safety, health and welfare at work of all his employees. A study was conducted to investigate the organization of OSHA in UMP to make sure it complied with this act. Some interview with person conduct about the organization was done. And the result showed about organization and table of items organization applied this act with organization. The organization needs some improvement to make sure it complied with act. There are many ways to improve as commitment, employees' involvement, and OSH training and education is the important keys to the success.

# ABSTRAK

Akta Keselamatan dan Kesihatan 1994 (OSHA) diperkenalkan untuk memastikan keselamatan, kesihatan dan kebajikan individu-individu yang menjalankan kerja terjamin dan terlindung risiko-risiko atau bahaya yang wujud akibat daripada aktiviti individu tersebut. Berdasarkan OSHA, adalah kewajipan setiap majikan untuk menjamin seboleh yang mungkin, keselamatan, kesihatan dan kebajikan semasa kerja bgai semua pekerjanya. Satu kajian telah dijalankan untuk mengkaji tentang struktur organisasi pentadbiran di UMP adalah berdasarkan akta OSHA 1994. Temuramah bersama staf yang terlibat dengan struktur organisasi ini telah dibuat. Dan keputusan yang didapati menunjukan tentang organisasi tersebut dan jadual yang menyatakan ianya mengikut akta OSHA 1994 tersebut. Organisasi ini memerlukan lebih banyak peningkatan untuk memastikan ianya mematuhi undang-undang OSHA 1994. Terdapat banyak cara untuk memastikan perkara ini sebagai contoh penglibatan oleh pekerja-pekerja dan latihan serta pendidikan keselamatan dan kesihatan pekerjaan(OSH) merupakan factor penting bagi menjayakan organisasi ini.

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# CHAPTER 1

# INTRODUCTION

## 1.1 Introduction

This project wills discus about OSH 1994. This will discuss on how OSH practice in UMP and laboratory. As we all know that our country has this act and apply in all industries in our country.

Occupational safety and health (OSH) is a basic human right every person is entitled to, independent of race, sex or religion. Indeed, it constitutes one of the highest ethical values on earth. It has been already confirmed by numerous conventions and declarations of UN organizations, i.e. WHO and ILO, and it still remains of utmost importance for well-being of mankind.

Occupational Safety and Health (OSH) at work is an issue affecting all businesses. OSH is a major issue for companies mainly due to the fear of prosecution. With better enforcement of the legislation and commitment from employers and employees, construction safety has received greater attention. Consequently, the improvement of safety and health in construction is a necessary goal for all participants in the construction process. Besides that, safer workplaces will help to improve productivity accompanied by reduced costs, better time performance and increased profitability.

OSHA was widely criticized in its early years for confusing, burdensome regulations. A good deal of the early conflict came about because of arbitrary and inconsistent enforcement during OSHA's early years. In addition, businesses were expected to retrofit guards and other safety devices on existing equipment and to

implement other hazard controls, often at considerable expense, to bring them in line with then-current best safety practices. Other requirements, such as mandated training, communication, and extensive documentation were seen as even more difficult and expensive.

## 1.2 Objective:

- To ensure that UMP complied with OSH 1994
- To recommend process of the risk assessment of hazards.

## 1.3 Scope:

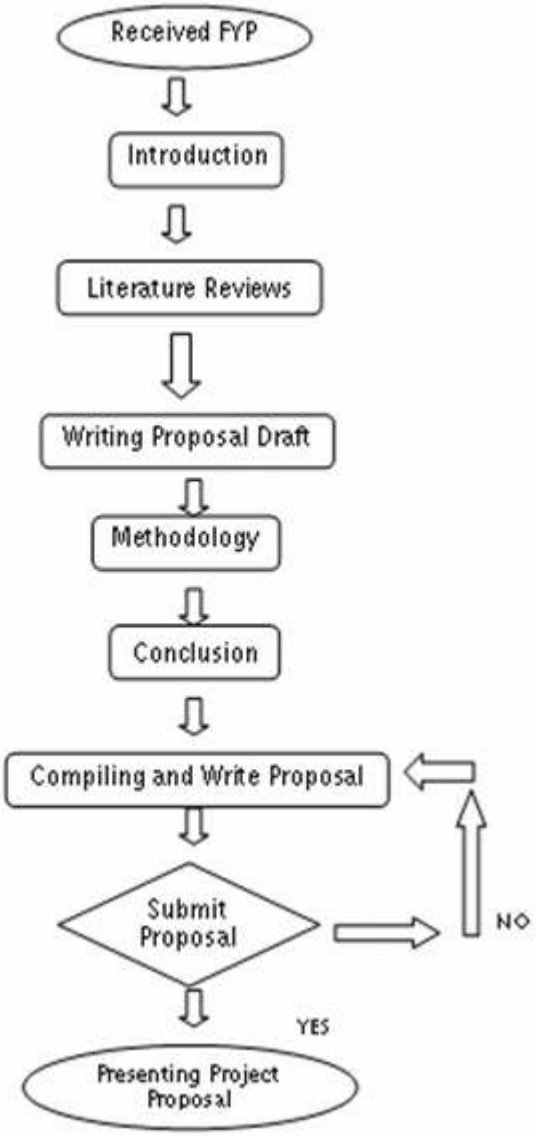
- Investigate about management of OSH in UMP
- Interview person who conduct in UMP.

## 1.4 Problem statements:

According to industrial accident statistic from SOCSO, the rate of fatal accident are still not satisfying and be categorized as still high if compare to others countries. Since the introduction of OSHA 1994, but it still has not been credible improvement.

Due to this scenario, this act must apply since in school and university. It is important to regularly review the steps, especially if there are changes in the work environment, introduction of few technology or change standard. The act could be utilized in formulating a more conductive in study and working environment and condition at workplace and hopefully the number of accident could be minimized.

## 1.5 Flow Chart



# CHAPTER 2

# LITERATURE REVIEW

## 2.1 Occupational Safety & Health Act 1994

The introduction of a comprehensive Occupational Safety and Health Act (OSHA) 1994 was in response to the need to cover a wider employee base and newer hazards introduced in the workplace. Developed countries such as Japan had enacted such legislation in 1972, United Kingdom in 1974 (the Health and Safety At Work Act 1974), United State of America in 1970 (the Occupational Health & Safety Act 1970) and in Sweden and Norway, the Act was called Internal Control Regulation. The OSHA 1994 is enforced by the Department of Occupational Safety and Health (DOSH) (previously known as Factory and Machinery Department. The name was changed to reflect changes in coverage) under the Ministry of Human Resources.

The Act was derived from the philosophy of the Roben's Commission and Health & Safety At Work Act 1974 in UK, emphasizing on self-regulation and duties of employer, employee and designer/manufacturer. The employer's duties include the provision of a safe system of work, training, maintenance of work environment and arrangement for minimizing the risks at low as reasonably practicable. In short, the responsibility on OSH is made to rest on those who create the risks (employers) and those who work with the risk (employees).

The Act is referred as a reflexive-type of Act which was less prescriptive, cover all workers except those in armed forces and those who work aboard ship (which were covered by other legislations). The Act also emphasis on duties of care by individual thus empowering the participation of all person in OSH.

Under the OSH Act 1994, National Council for Occupational Safety and Health was established. This Council comprised of 15 council members with tripartite representation from Government, employers, employees and OSH professionals (with at least one woman member). The legislation also contains provision for formulating regulations and Code of Practices (COPs), which indicates "what should be done" and thus assist the employer to comply with the Act.

A series of regulations have been introduced under OSHA 1994. The emphasis of these regulations has been on establishing mechanism to implement OSH in workplaces. Workplaces with five or more workers are required to formulate a Safety and Health Policy. The Safety and Health Committee Regulations 1996 requires establishments with 40 workers and above to establish a safety and health committee. The committee is required to meet at least once in every three months, with the functions to identify hazards at the workplace, institute control measures, investigate incident and conducting audit.

In terms of representation in the committee, workplace with less than 100 workers will need to have at least two representatives each for workers and management respectively. However, workplaces with more than 100 workers will need to have a minimum of four representatives each for workers and management. The Safety and Health Officer Regulations provide for specific industries to have a Safety and Health Officer (SHO). A SHO is an individual who has attended training in National Institute of Occupational Safety and Health (NIOSH) or other accredited training bodies and has passed the examination conducted by NIOSH and registered with DOSH.

The Control of Industrial Major Accident Hazards (CIMAH) Regulations 1996 was enacted in response indirectly to the Bhopal incident in India in 1984 and the Sungai Buluh firecracker factory tragedy in Malaysia which has killed 23 workers in 1992.

The Classification, Packaging and Labeling (CPL) Regulations 1997 and Use and Standard of Exposure of Chemical Hazardous to Health (USECHH) Regulations 2000 were specific for controlling chemicals at the workplace. The CPL regulation required proper packaging and labeling of chemicals by the supplier including the label

giving risk phrases. The USECHH regulation includes the provision of chemical health risk assessor (CHRA), occupational health doctor (OHD) and industrial hygiene technician to perform their respective roles in assessing the health risk from chemical exposure. In particular, the chemical health risk assessment includes having a list of all chemicals, assessing workers exposure to these risks, deciding on acceptability of risks and control measures that exist are reviewed. If risks are found to be unacceptable, action needs to be taken. This regulation leads to increased training needs, which was offered by NIOSH. Guideline on Chemical Health Risk Assessment has also been issued.

**Table 2** showed the regulations made under OSHA 1994. Guidelines and Code of Practices which have been issued by DOSH under the OSHA 1994 are shown in **Table 3**.

**Table 1.** The regulation made under OSHA 1994.

| Regulation | Year |
|---|---|
| Employer's Safety and Health General Policy Statement (Exception) | 1995 |
| Control of Industrial Major Accident Hazards | 1996 |
| Safety and Health Committee | 1996 |
| Classification, Packaging, and Labelling of Hazardous Chemicals | 1997 |
| Safety and Health Officer | 1997 |
| Safety and Health Officer Order | 1997 |
| Prohibition of Use of Substance | 1999 |
| Use and Standards of Exposure of Chemicals Hazardous to Health | 2000 |

Source: OSHA, 1994.

**Table 2.** Guidelines and Code of Practices made under OSHA 1994

| Regulation | Year |
|---|---|
| Guidelines for Public Safety and Health at Construction Site | 1994 |
| Guidelines on First Aid Facilities in the Workplace | 1996 |
| Guidelines on Occupational Safety and Health in the Office | 1996 |
| Guidelines for the Classification of Hazardous Chemicals | 1997 |
| Guidelines for Labelling of Hazardous Chemicals | 1997 |
| Guidelines for the Formulation of a Chemical Safety Data Sheet | 1997 |
| Guidelines on Control of Exposure to Dust in the Wood Processing Industry | 1998 |
| Guidelines on Safety and Health in the Wood Processing Industry | 1998 |
| Guidelines on Reduction of Exposure to Noise in the Wood Processing Industry | 1998 |
| Guidelines on Occupational Safety and Health in Tunnel Construction | 1998 |
| Guidelines for the Preparation of Demonstration of Safe Operation Document (Storage of Liquified Petroleum Gas in Cylinder) | 2001 |
| Guidelines on Medical Surveillance | 2001 |
| Approved Code of Practice for Safe Working in a Confined Space | 2001 |
| Approved Code of Practice on HIV/AIDS in Workplace. | 2001 |
| Guidance for the Prevention of Stress and Violence at the Workplace | 2001 |
| Code of Practice on Prevention and Management of HIV/AIDS at the Workplace | 2001 |
| Guidelines on Occupational Safety and Health for Standing at Work | 2002 |
| Guidelines on Occupational Safety and Health in Agriculture | 2002 |

Source: DOSH, Malaysia, 2002.

### 2.1.1 Occupational Safety and Health Act 1994

The Occupational Safety and Health Act came into force in February 1994. It covers all economic sectors, including the public services and statutory authorities, except those subjected to the Merchant Shipping Ordinance and the armed forces.

The Act and the accompanying regulations oblige employers to provide and maintain safe plant, work systems, workplaces and working environments. Employers are also required to provide information, instruction, training and supervision to enable employees to perform the work in a safe manner and without risks to health.
The systems and procedures focus on the following areas of concern:

- safety and health training
- safe systems of work
- environmental control
- safe workplaces
- machine guarding
- housekeeping
- safe plant and equipment
- noise control
- dust control
- safe use of toxic materials
- internal communication and participation
- utilization of safety committees
- fire safety and prevention
- medical facilities and welfare
- accident reporting and investigations
- emergency procedures and monitoring
- radiation safety.

It is the obligation of the employer to establish a Occupational Safety and Health Committee where there are more than 40 employees. The committee's main function is to review the measures and investigate any matters arising. There must always be consultation between the employer and the committee on safety and health matters. It is important to note that approximately 20% of the employers in the formal sector have less than 40 employees in their enterprise and, therefore, are exempted from this obligation.

A competent safety and health officer has to be appointed in industries which have been gazetted by the Minister. The safety and health officer's job is to ensure compliance with the Act and promote safe conduct of work. Medical surveillance is also mandatory in industries where work may pose risks to health of workers.

It is the duty of an employer to notify the nearest occupational safety and health office of any accident, dangerous occurrence, occupational poisoning or disease which has occurred or is likely to occur at the workplace. Doctors are also required to report cases of occupational poisoning or occupational diseases.

The Act also provides for the establishment of the tripartite National Council for Occupational Safety and Health, which may carry out investigations on health and safety issues over a wide range of areas.

## 2.2 Regulation

### 2.4.1 OCCUPATIONAL SAFETY AND HEALTH ACT 1994

In part XIV of OSHA 1994 Act shows the regulation of this act. It describe in Section 66: Regulations:

(*1) The Minister may make regulations for or with respect to the safety, health and welfare of persons at work in order to achieve the objects of this Act.*

*(2) In particular and without prejudice to the generality of subsection (1), such regulations may-*

*(a) regulate or prohibit-*

*(i) the manufacture, supply or use of any plant;*

*(ii) the manufacture, supply, storage, transport or use of any substance; and*

*(iii) the carrying on of any process or the carrying out of any operation;*

*(b) prescribe the requirements with respect to the design, construction, guarding, sitting, installation, commissioning, examination, repair, maintenance, alteration, adjustment, dismantling, testing, marking or inspection of any plant;*

*(c) prescribe the requirements with respect to the examination, testing, analysis, labeling or marking of any substance;*

*(d) prescribe the times and the manner in which employers or other specified persons are required to examine, test, analyze, label or mark any substance;*

*(e) prescribe the requirements to abstain from eating, drinking or smoking in any circumstances involving risk of absorption of any substance or risk of injury or poisoning arising out of the use of any substance;*

*(f) prescribe the requirements with respect to the instruction, training and supervision of persons at work;*

*(g) prescribe the procedure for employers to notify any accident, dangerous occurrence, occupational poisoning or occupational disease;*

*(h) prescribe the arrangements to be made with respect to the taking of any action or precaution to avoid, or in the event of, any accident or dangerous occurrence;*

*(i) prohibit or require the taking of any action in the event of any accident or dangerous occurrence;*

*(j) prescribe the requirements with respect to the provision and use in specified circumstances of protective clothing or equipment and rescue equipment;*

*(k) prescribe the standards in relation to the use of, including standards of exposure to, any physical, biological, chemical or psychological hazard;*

*(l) regulate and require the monitoring by employers or occupiers of conditions at a place of work including the health of their employees;*

*(m) secure the provision of adequate welfare facilities by employers for persons at work;*

*(n) require the employers to keep and preserve records and other documents;*

*(o) prescribe the composition, powers, functions and procedures of safety and health committees and regulate the election or appointment of members of the committees and other related matters;*

*(p) prescribe the manner of holding inquiries under section 33 and of hearing appeals under section 36 or 50;*

*(q) prescribe the fees payable or chargeable for doing any act or providing any service for the purposes of this Act or any regulation made there under;*

*(r) prescribe the offences which may be compounded and the method and procedure to be complied with; (s) prescribe the requirements for engaging a medical officer and the procedures for the registration of the medical officer;*

*(t) prescribe the requirements for employing a safety and health officer, the training required of a safety and health officer and the procedures for registration;*

*(u) prescribe any other matter which may appear to the Minister to be expedient or necessary for the better carrying out of this Act.*

**2.3 Approval of industry codes of practice.**

This title is discuss in Part X- Industry Codes Of Practice in Section 37: Approval of Industry Codes of Practice:

*(1) The Minister may, upon the recommendation of the Council or the Director General, approve industry codes of practice comprising such directions as may appear to him to be necessary or proper for the guidance of persons in complying with the requirements of the provisions of this Act.*

*(2) The Minister may, upon the recommendation of the Council or the Director General, from time to time revise the industry codes of practice by amending, deleting, varying or adding to the provisions of the industry codes of practice.*

*(3) An industry code of practice may-*

*(a) consist of any code, standard, rule, specification or provision relating to occupational safety or health approved by the Minister; or*

*(b) apply, incorporate or refer to any document formulated or published by any body or authority as in force at the time the industry code of practice is approved or as amended, formulated or published from time to time.*

*(4) The Minister shall cause to be published in the Gazette the approval of an industry code of practice and the amendment or revocation thereof.*

## 2.4 Use of industry codes of practice in proceedings (Section 38)

*In any proceedings under this Act or any regulation made thereunder in which it is alleged that a person has contravened or failed to comply with a provision of the Act or any regulation made thereunder in relation to which an approved industry code of practice was in effect at the time of the alleged contravention or failure -*

*(a) the approved industry code of practice shall be admissible in evidence in the proceedings; and*

*(b) if the court is satisfied in relation to any matter which it is necessary for the prosecution to prove in order to establish the alleged contravention or failure that-*

*(i) a provision of the approved industry code of practice is relevant to the matter; and*

*(ii) the person failed at any material time to observe the provision of the approved industry code of practice,*

*The matter shall be taken as proved unless the court is satisfied that in respect of the matter the person complied with a provision of the Act otherwise than by way of observance of the provision of the approved industry code of practice.*

## 2.5 Safety and health officer. (Section 29, OSHA 1994)

*(1) This section shall apply to such class or description of industries as the Minister may, by order published in the Gazette, specify.*

*(2) An occupier of a place of work to which this section applies shall employ a competent person to act as a safety and health officer at the place of work.*

*(3) The safety and health officer shall be employed exclusively for the purpose of ensuring the due observance at the place of work of the provisions of this Act and any regulation made thereunder and the promotion of a safe conduct of work at the place of work.*

*(4) The safety and health officer shall possess such qualifications or have received such training as the Minister may, by notification in the Gazette, from time to time prescribe.*

*(5) An occupier who contravenes the provisions of this section shall be guilty of an offence and shall, on conviction, be liable to a fine not exceeding five thousand ringgit or to a term of imprisonment not exceeding six months or to both.*

**2.6 Establishment of safety and health committee at place of work.**

All industry or place of work must establish an organization in their work place. This title is discuss in OSHA 1994 in Section 30:

*(1) Every employer shall establish a safety and health committee at the place of work in accordance with this section if-*

*(a) there are forty or more persons employed at the place of work; or*

*(b) the Director General directs the establishment of such a committee at the place of work.*

*(2) The composition of a safety and health committee established under subsection (1), the election or appointment of persons to the committee, the powers of the members of the committee and any other matter relating to the establishment or procedure of the committee shall be as prescribed.*

*(3) Every employer shall consult the safety and health committee with a view to the making and maintenance of arrangements which will enable him and his employees to co-operate effectively in promoting and developing measures to ensure the safety and health at the place of work of the employees, and in checking the effectiveness of such measures.*

*(4) A person who contravenes the provisions of this section shall be guilty of an offence and shall, on conviction, be liable to a fine not exceeding five thousand ringgit or to imprisonment for a term not exceeding six months or to both.*

## 2.7 Functions of safety and health committee.

In Section 31 Part VII continued about safety and health of committee at workplace. The safety and health committee established at a place of work pursuant to section 30-

*(a) shall keep under review the measures taken to ensure the safety and health of persons at the place of work;*

*(b) shall investigate any matter at the place of work-*

*(i) which a member of the committee or a person employed thereat considers is not safe or is a risk to health; and*

*(ii) which has been brought to the attention of the employer;*

*(c) shall attempt to resolve any matter referred to in paragraph (b) and, if it is unable to do so, shall request the Director General to undertake an inspection of the place of work for that purpose; and*

*(d) shall have such other functions as may be prescribed.*

## 2.8 Types And Causes Of Laboratory Accidents

- The first few weeks or even months at least of the time spent in a laboratory should be regarded as an apprenticeship in practical experience.
- Remember that carelessness may involve serious consequences for others as well as yourself.
- A large proportion of laboratory accidents occurs from attempts to get results in too great a hurry.
- Distraction of attention is another common cause of accidents. If anyone tries to engage your attention while you are doing something either stops your work or wait until you have finished it before you reply.
- Do not leave anything on the floor likely to impede the free passage of others and if you spill grease or liquid see that it is wiped up and cleaned immediately.

## 2.9 General Laboratory Safety Rules

• Know all emergency procedures and how to use emergency equipment.

• Use personal protective equipment as required.

• Eating, drinking and smoking in the labs is strictly forbidden.

• Label all containers you fill and replace missing or illegible labels.

• Horseplay is strictly forbidden.

• Safety glasses are mandatory in all lab areas.

• Contact lenses are not permitted to be worn in laboratories.

# CHAPTER 3

# METHODOLOGY

## 3.1 INTRODUCTION

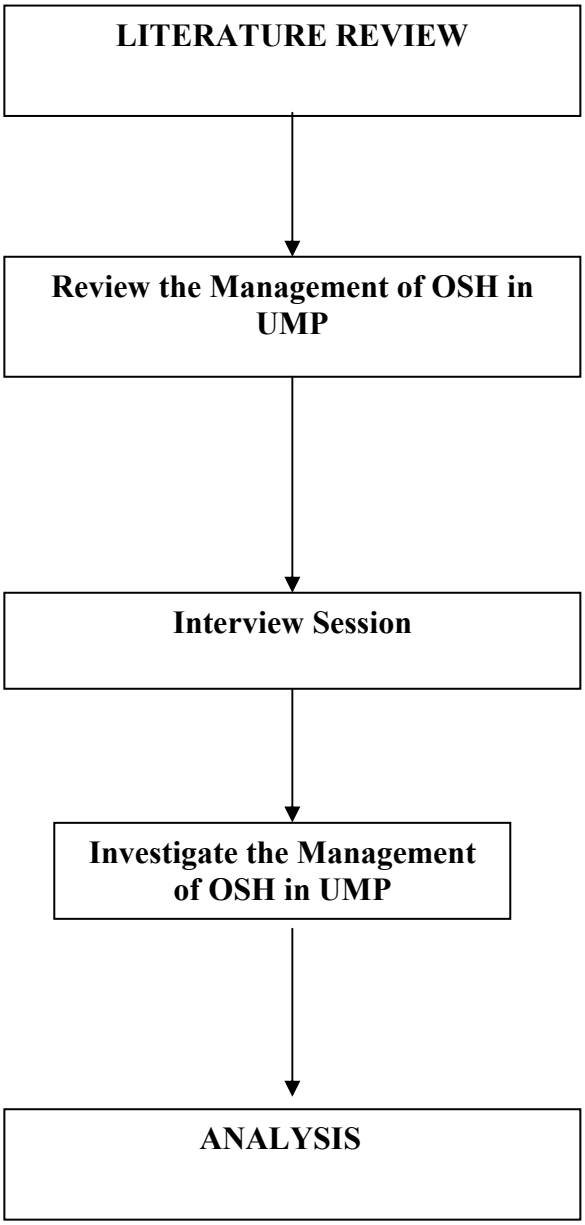
This chapter described the methodology adopted in order to realize the aim and objective of the research. The research methodology adopted several approaches and is presented through several section: literature review, knowledgement, and evaluation.

## 3.2 RESEARCH METHODOLOGY

The Oxford Compact English Dictionary defines research as ‘the systematic investigation into and study of materials and sources, in order to establish facts and reach new conclusions’. Research can also be defined as ‘an art aided by skills inquiry, experiment design, data collection, measurement and analysis, by interpretation and by presentation’. Research methodology is a process, a set of tools for doing research and obtaining information, or even an art for doing the works of science. Research methodology also can be defined as ‘structured set of guidelines or activities to assist in generating valid and reliable research results’. The choice of research method influences the way in which the researcher collect data.

## 3.3 METHODOLOGY ADOPTED FOR THE RESEARCH

The aim of the research is to develop a systematic approach which act as a decision making aid for make statistical of OSHA applied in UMP. In order to develop the systematic approach this research adopted both quantitative and qualitative research depends on the objective need to be achieved. The following section described each of adopted in detailed. The research methodology is as follow:


LITERATURE REVIEW
Review the Management of OSH in UMP
Interview Session
Investigate the Management of OSH in UMP
ANALYSIS

### 3.3.1 Literature Review

A crucial element of all research is the review of relevant literature. Literature reviews are used to inform researchers of the background to research project and to provide context and ideas for the studies. These are good reasons for spending time and effort on a review of the literature before embarking on a research project. These reasons include:

- To identify the gaps in the literature
- To avoid reinventing the wheel (at the very least this will save time and it can stop the research from making the same mistake as others)
- To carry on from where others have already reached (reviewing the field allows the research to build on the platform of existing knowledge and ideas);and
- To identify method that could be relevant to the research.

Several steps were taken to carry out the reviews of the literatures, which include: defining topic, identifying source of information, keeping records, and reading and note taking.

### 3.3.2 Review management in UMP and FKM

For the review management, it is for researchers know about management in UMP and FKM. To make this review, the researchers must take part in interview session and make survey. For interview, the researchers must include students and staff in UMP. Other than that, the researchers do the survey to make what they know achieve the scope of study in this research.

### 3.3.3 Questionnaire Survey

This research used questionnaire survey as the method for capturing the expert knowledge to established and develop an analytical hierarchy on selection process. A questionnaire can be defined as ‘a list grouping of written question which a respondent answers’. The questionnaire survey is a self-reported data collection method. It can be collected using mail survey through postal services or internet survey through web and email.In this part, 50 questionnaires survey made and pass to random student in mechanical faculty.

### 3.3.4 Interviews

Interviews represent an effective method for collecting in depth information about a topic or issues through direct verbal interaction between the interviewer and the respondent. It most popular type of knowledge acquisition method and requires the researcher and expert to talk to each other about the actual problem that the expert system should solve. It involves collecting information via instruments such as tape recorders, video camera, questionnaire etc.

Interviews can be conducted face-to-face or by telephone. Like face-to-face interviews, they allow for some personnel contact between the interviewer and the respondent. Telephone interviews are typically used before a face-to-face interview often as a way of undertaking initial screening of respondents.

### 3.3.5 Investigate the management

Investigation is a way to make analysis. To make the investigation there are many type of solution. Make questionnaire in the one of process will do to achieve this investigation. These questionnaires will conduct among students in UMP.

### 3.3.6 Analysis

Analysis involves a step-by-step, common sense look at the workplace to find existing or potential hazards for workplace violence. This entails reviewing specific procedures or operations that contribute to hazards and specific locales where hazards may develop.

The suggestions in the guidelines are quite extensive and involve the activities of a "Threat Assessment" or "Patient Assault" Team. This is one place where there are no suggestions of how to scale back the program for a smaller employer. Nevertheless, in smaller organizations, two employees (one management and on line employee) assigned to this task should be sufficient.

The basic elements of analysis are:

- Analyze records for your investigation
- Monitor trends for violence in your community and in the professions of students
- Conduct periodic screening surveys of students
- Analyze workplace by identifying types of location which are likely to cause a risk of violence, identify high risk factors and evaluate the effectiveness of existing security measures.

# CHAPTER 4

# RESULT AND DISCUSSION

## 4.1 Result

In the result to review and investigate the management of safety and health in UMP, there are several things to be considering which interview is the main ways to find the result. To make an interview, appointment must be done first. These appointments can be done by Short System Message (SMS) or by memo application in E-comm.

All these aspects were make very clearly and had very clear result in order to achieve the objective.

## 4.2 Organization of SHE in UMP

In UMP, and organization were build to conduct SHE program and planning in SHE program. The tree structure of this organization is shown in figure 4.1 below. It leads with chairman, secretary and presenting from employers and employees.

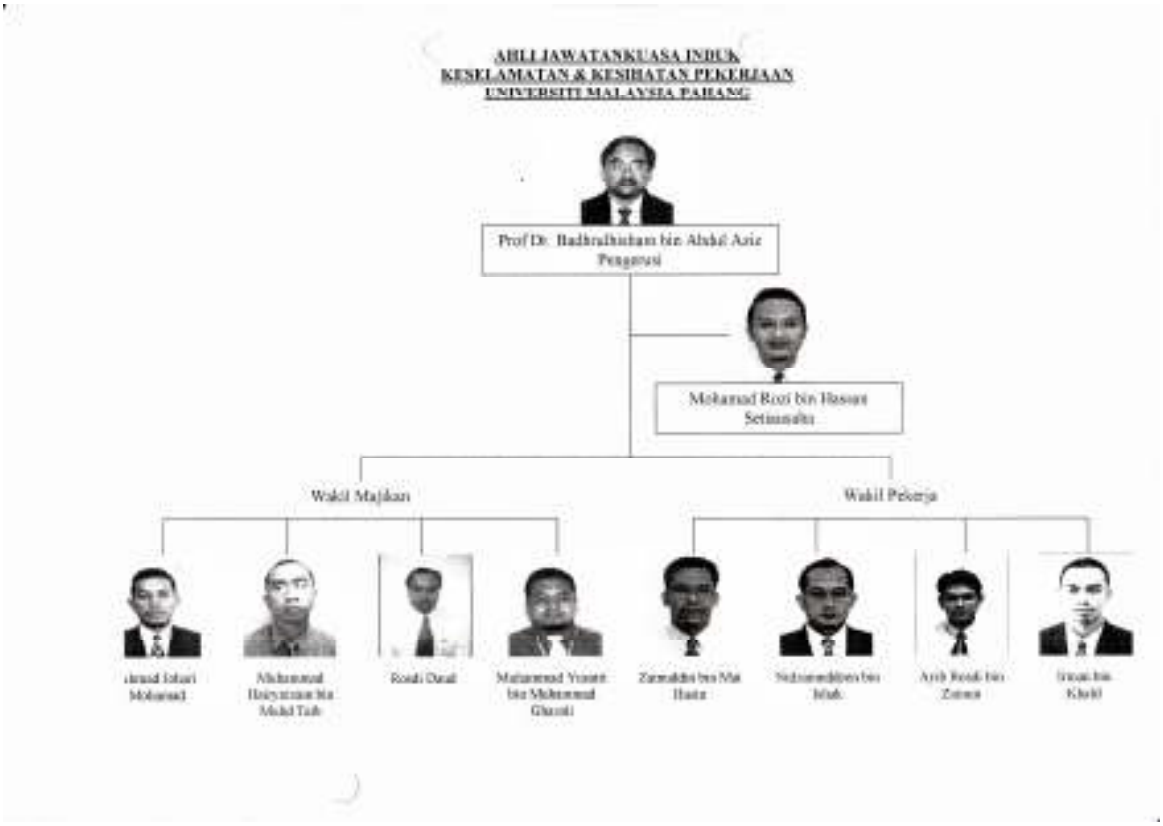



**Figure 4.1:** Organization structure of OSHA in UMP

### 4.2.1 Policy of SHE in UMP

In organization it must has a policy. Same as in UMP, it also has a policy to apply in organization and to make sure organization do the right thing with the organization. In this policy, it said 'University Malaysia Pahang (UMP) recognizes its duty to ensure the safety and health of its associates, students, contractor and visitors'. The whole of policy is shown in figure 4.2 below.

UNIVERSITI MALAYSIA PAHANG

**OCCUPATIONAL SAFETY AND HEALTH POLICY**

Universiti Malaysia Pahang (UMP) recognizes its duty to ensure the safety and health of its associates, students, contractors and visitors.

In our effort to achieve the Vision and Mission of University, UMP is committed towards the highest standards of OSH in accordance with excellent performance and best practices.

In meeting this duty, we will:

1. Ensure that all associates and related parties are provided with information and training regarding to OSH and also consult them on any issue that may affect their safety and health at work.
2. Constantly strive to develop and foster a strong safety and health culture with a high level of awareness as one of the core values of our University.
3. Fully utilize our existing resources to continuously improve our business through innovation and technology development.
4. Comply with the requirements of the OSHA 1994 as well as all applicable legislation that apply to its operations.
5. Actively interact with the related government agencies and private sectors.

The Occupational Safety and Health policy shall be subjected to periodically review for continual improvement. It shall be communicated to all associates and shall be made available to other related parties.

**"THINK SAFETY, ACT SAFELY"**

Prof. Dato' Dr. Daing Nasir Ibrahim
Vice Cancellor of UMP

Dated: 01-01-2008

**Figure 4.2** Policy of OSHA in UMP

4.2.2 Committees member in SHE in UMP

There a few program for committees applied to all staff. There were divide by two which program for staff in UMP and program for contractor who register with UMP. For staff, until now there are four programs were done:

**Table 4.1:** Course attend by committees member

| **Course of Programs** | **Days** |
|---|---|
| Safety Awareness | 1 |
| OSH-management System | 2 |
| Basic Fire Safety | 2 |
| Basic First Aid | 2 |

## 4.3 SHE application in laboratory

This SHE is applied in all lab of faculty in UMP. But only FKKSA is only done the SHE because it has certificated from NIOSH agency. In others faculty's lab it also applied but until now it not has certificate from any agency. It just apply safety element in OSHA 1994 Safety and Health at Work. Here show some example from three faculty of applied OSHA in their labs.

### 4.3.1 Chemical and Natural Resource Engineering Faculty (FKKSA)

This faculty has a Certificate of Registration from NIOSH. The copy of certificate is shown below in figure 4.3. This certificate is approve on 8 February 2007 and valid until 8 February 2010

Certificate of Registration

NIOSH
CERTIFICATION

This is to Certify that

**University Malaysia Pahang**

Beg Berkunci 12
25000 Kuantan, Pahang, Malaysia

has been assessed by MIOSH Certification Sdn Bhd (841222-K) in respect of their Occupational Safety and Health Management System and found to comply with:

**OHSAS 18001:1999**

Approval is hereby granted for registration provided the rules and conditions relating to Certification are observed at all times.

Scope:

**Provision of OSH Management System for Laboratory of Chemical and Natural Resources Engineering Faculty**

| | |
|---|---|
| Certificate No: | O-000/07 |
| Date of Approval: | 08 February 2007 |
| Valid Until: | 08 February 2010 |

The organization has been certified since 2007

Chairman, Board of Directors
MIOSH Certification Sdn. Bhd.

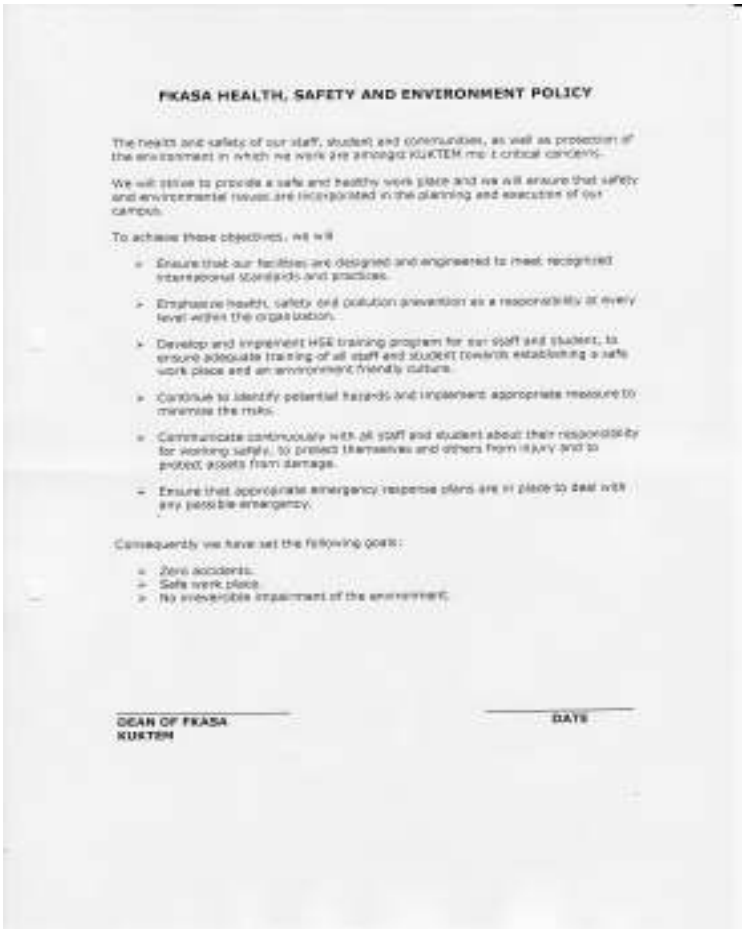
**Figure 4.3** Certificate of OSH Management in FKKSA

### 4.3.2 Mechanical Engineering Faculty (FKM)

In FKM, Standard Operating Procedure (SOP) was applied in their lab to guide students using some machine. Tutorial Engineer (JP) is the person was important to make sure these SOP was used smoothly by students in lab. The example of the SOP can be view in **Appendix A**.

### 4.3.3 Civil engineering faculty (FKASA)

FKASA have their own policy to make sure OSHA 1994 applied and complied with the Act of OSHA 1994. The policy is shown in figure below. Other than that, in FKASA also has signboard measure complied with the act of OSHA 1994.



**FKASA HEALTH, SAFETY AND ENVIRONMENT POLICY**

The health and safety of our staff, student and communities, as well as protection of the environment in which we work are amongst KUKTEM no 1 critical concerns.

We will strive to provide a safe and healthy work place and we will ensure that safety and environmental issues are incorporated in the planning and execution of our campus.

To achieve these objectives, we will

- Ensure that our facilities are designed and engineered to meet recognized international standards and practices.
- Emphasize health, safety and pollution prevention as a responsibility at every level within the organization.
- Develop and implement HSE training program for our staff and student, to ensure adequate training of all staff and student towards establishing a safe work place and an environment friendly culture.
- Continue to identify potential hazards and implement appropriate measure to minimise the risks.
- Communicate continuously with all staff and student about their responsibility for working safely, to protect themselves and others from injury and to protect assets from damage.
- Ensure that appropriate emergency response plans are in place to deal with any possible emergency.

Consequently we have set the following goals:

- Zero accidents.
- Safe work place.
- No irreversible impairment of the environment.

DEAN OF FKASA
KUKTEM

DATE

**Figure 4.4:** OSHA policy in FKASA

## 4.4 Audit report in UMP

JKKP Pahang was make and internal audit for UMP on 6 June 2008. UMP was given the form to check by JKKP. This form in shown in **Appendix B**. Refer to this audit, we will know whether UMP applied and do or not this OSHA Act in work places or labs. After this audit, each faculty in UMP makes plan to improve OSHA in their workplaces.

## 4.5 Table analysis for OSHA applied in UMP

**Table 4.2:** Analysis of OSHA Applied in UMP

| ***No.*** | ***Items*** | ***Act 514 OSHA 1994*** | ***Applied or Not (Yes or No)*** | ***Remarks*** |
|---|---|---|---|---|
| 1 | Director General | Section 5 (1) | Y | Prof Dr. Badhrulhisham Bin Abd Aziz |
| 2 | Committees members @ organization | Section 30 (a) | Y | 10 persons |
| 3 | Representing as employers | Section 9 (1) (a) | Y | 1. Ahmad Johari Mohamad<br>2. Muhamad Hairynizam Muhd Taib<br>3. Rosdi Daud |
| 4 | Representing as employees | Section 9 (1) (b) | Y | 1. Zainuddin Mat Husin<br>2. Nidzamuddeen Ishak<br>3. Ayib Rosdi Zainun |
| 5 | Representing to make work | Section 9 (1) (d) | N | - |
| 6 | Public Officer | Section 12 (1) | N | - |

| | | | | |
|---|---|---|---|---|
| 7 | Statistic of death and injuries | Section 11 (2) (f) | Y | UKP |
| 8 | Method of control chemicals at work | Section 11 (2) (e) | Y | FKKSA |
| 9 | Policy in organization | Section 16 | Y | 16 January 2008 |
| 10 | Safety and Health officer | Section 29 (2) | N | - |
| 11 | Director make inspection | Section 31(1) (c) | Y | By: Mr Mohd Rafie Bin Rosly as science in UMP |
| 12 | Notify of any accident | Section 32 (1) | Y | JP in LAB or Unit Keselamatan Pelajar |
| 13 | Medical officer | Section 32 (2) | Y | Dr Radibah Abdullah (Pegawai Perubatan U47) |
| 14 | Appoint persons expert | Section 33 (2) | N | - |
| 15 | Use standard code of practices | Section 37 (3) (a) | N | - |
| 16 | Make exam and investigate of any plant complied with | Section 39 (2) (a) | Y | 10 June 2008<br>By: JKKP Pahang |
| 17 | Take such measurement and photographs and make recording | Section 39 (2) (c) | Y | 10 June 2008 |
| 18 | Regulations | Section 66 (1) | Y | 5 June 2008 |
| 19 | Prescribe the requirements to abstain from eating, drinking or smoking | Section 66 (2) (e) | Y | Signboards in lab and all places in UMP |
| 20 | prescribe the requirements with respect to the instruction, training and supervision of persons at work | Section 66 (2) (f) | Y | Manual handling for running machine lab procedure |
| 21 | prescribe the arrangements to be made with respect to the taking of any action or precaution to avoid, or in the event of, any accident or | Section 66 (2) (h) | Y | Lab procedure manual |

| | | | | |
|---|---|---|---|---|
| | dangerous occurrence | | | |
| 22 | prohibit or require the taking of any action in the event of any accident or dangerous occurrence; | Section 66 (2) (i) | Y | HEP(UKP)02KUKTEM |
| 23 | prescribe the requirements with respect to the provision and use in specified circumstances of protective clothing or equipment and rescue equipment | Section 66 (2) (j) | Y | Standard Operating Procedure(SOP)<br>FKM has these SOP |
| 24 | prescribe the standards in relation to the use of, including standards of exposure to, any physical, biological, chemical or psychological hazard | Section 66(2)(k) | Y | Lab manual in FKKSA |
| 25 | regulate and require the monitoring by employers or occupiers of conditions at a place of work including the health of their employees | Section 66(2)(l) | Y | Students are under control by JP in lab |
| 26 | require the employers to keep and preserve records and other documents; | Section 66(2)(n) | Y | Mr. Mohd Rafie Bin Rosly as science officer in UMP |

| | | | | |
|---|---|---|---|---|
| 27 | prescribe the composition, powers, functions and procedures of safety and health committees and regulate the election or appointment of members of the committees and other related matters; | Section 66(2)(o) | N | - |
| 28 | prescribe the requirements for engaging a medical officer and the procedures for the registration of the medical officer | Section 66(2)(s) | Y | UKP in UMP |
| 29 | prescribe the requirements for employing a safety and health officer, the training required of a safety and health officer and the procedures for registration | Section 66(2)(t) | Y | Conducted by science officer of UMP(Mr. Mohd Rafie Rosly) |

Refer to this table of analysis we know that more than 50% in UMP was applied OSHA Act in the organization. In UMP this Act was conduct by MR.Rafie Bin Mohd Rosly as the science officer. Actually UMP were not has the officer for OSHA management to fully conduct this organization but planning will done to make sure it complied fully with OSHA Act. For the 1st planning is make sure all staff and student is motivate and own knowledge about this Act. To make sure this happen, Human and Resources Department will conduct to arrange time and letter information for all staff and student join programs of this OSHA Act.

Other than that, it must make sure inspection must be done once in two years refer to OSHA Act. Management must make sure arrange time with JKKP to done it on time.

If you receive a citation, OSHA may conduct a follow-up inspection to verify that you have done the following:

- Posted the citation as required,
- Corrected the violations as required in the citation, and/or
- Protected employees adequately and made appropriate progress in correcting hazards during multistep or lengthy abatement periods.

In addition to providing for penalties for Failure-to-Post citations and Failure-to-Abate violations, the *OSH Act* clearly states that you have a continuing responsibility to comply with the *OSH Act* and assure your employees safe and healthful working conditions. OSHA will cite any new violations discovered during a follow-up inspection.

# CHAPTER 5

# CONCLUSION AND RECOMMENDATION

## 5.1 Conclusion

As the conclusions, it can say that UMP applied more than 50% of OSHA in their management and also applied in each faculty' labs. It applied and complied with the OSHA 1994 Act. This Act also makes some impacts to the organization in UMP likes decreasing accidents and health, playing truant among staff and students. It also can improve corporate status better than before and data and information is fixed to standards. So it related to my objective said to investigate the organization in UMP.

## 5.2 Recommendations

After discuss and make some revision of OSHA in UMP, I had decided some recommendation to improve OSHA in UMP. This recommendation is very useful to show UMP applied these Act:

1. Make sure the inspection done at the right time
2. Decide one officer director of Safety and Health
3. Establish an unit of safety and health function as:

i. Evaluating occupational, safety & health audits

- Safety audits for laboratories, workshops, offices and buildings
- Scheduled waste disposal audits

ii. Consulting and publishing information regarding occupational, safety & health

- Publishing brochures on OSHA in UMP
- Publishing Guidance's book of OSHA in UMP
- Publishing OSHA information in UMP through website and portal

iii. Managing courses, seminars, and trainings regarding to the occupational, safety & health aspects

## REFERENCES


1. Tai, Elsie. OSHA compliance management : a guide for long-term health care facilities /. Lewis Publishers, 2001

2. OSHA-Net [electronic resource] : environmental awareness. Clifton Park, NY: Delmar/Thomson Learning, 2000

3. http://www.dosh.gov.my

4. http://www.en.wikipedia.com/osha_1994

5. Guidelines on Occupational Safety and Health Act 1994 (ACT 514)

6. Mr Mohd Rafie Bin Rosly, science officers of centre for continuing education & professional development (CENFED) University Malaysia Pahang

7. Mr Rashidi Bin Ishak, lecturer of Faculty Mechanical Engineering

8. Mr Hairynizam, lecturer of Faculty Chemistry Engineering

# APPENDIX A

| FACULTY OF MECHANICAL ENGINEERING | UNIVERSITY COLLEGE OF ENGINFERING & TECHNOLOGY MALAYSIA | | PAGE : 1 OF 2 |
|---|---|---|---|
| | STANDARD OPERATING PROCEDURE | | SOP No : 0 |
| Machine Name : | M.I.G. Welder | | Model : xxxx |
| Manufacturer/Supplier : | | | |
| Main Function : | The primary function of the MIG Welder is to join steel pieces together. In addition to joining steel pieces together, the welder can also fill in holes, cracks and voids in steel surfaces. | | |
| Prepared by : | RUSLI GHANI | Approved By: | Date: 05/10/2005 |
| Review Completed by : | | Approved By: | Date: |

**A — Basics Operation Method/Procedure**

1. Put on all PPE.
2. Put material to be joined on welding table. Clamp pieces into position.
3. Hook up the ground cable to the table or the piece being welded. Make sure the path is complete.
4. Open the gas cylinder valve all the way open.
5. Turn the welder on.
6. Press the 'Purge' valve on the swivel head assembly to test for gas flow prior to welding.
7. Set controls to the desired volts and amps.
8. Turn on the welding helmet polarizing lens.
9. Turn on the filter-air pack for the face shield.
10. Weld.
11. When finished welding, close the gas cylinder and press the Purge button to release pressure from the gauges.
12. Turn the welder off and put away all cables, clamps and clean up the area.

**B — Personal Protection Equipment (PPE) to be used during operation:**

1. Welding helmet, required
2. Leather Apron, required
3. Leather Arm Coverings, required
4. Leather Gloves, required
5. Steel Toe Boots, required
6. Ventilated Mask, required
7. Light Activated Helmet optional (preferred)

**C — Safety Precautions that must be followed when operating the machine:**

1. Wear PPE:
   a. Always wear the required PPE when welding. Even the small jobs require PPE.
2. Electrical Shock:
   a. This welding machine runs on very high voltage, thus creating the risk of becoming electrocuted.
   b. Never stand and weld in an area where the floor is wet.
   c. If your body is sweating profusely, do **NOT** put you sweaty body in a position (next to the piece being welded) where the current can choose to go through your body, instead of through the piece being welded and the ground.
3. Eyes:
   a. Never strike an arc with any welder with your eyes open and unprotected by some type of darkened glass. Watching the arc while welding is nearly identical to standing outside and looking right at the sun. To prevent damage to the retina you must wear eye protection.
4. Burns:
   a. Steel melts at nearly 3000 degrees F. Aluminum melts at nearly 1500 degrees F. Human flesh burns very easily and at a very low temperature.
   b. Always wear protective gloves, aprons, and arm protection.
5. Clothing:
   a. Never wear frayed clothing. Sparks from the welding process m... ignite the frayed fabric and it will become

| | |
|---|---|
| | a source of fuel for a fire.<br>b. Never weld while wearing tennis shoes because hot aluminum and steel will burn through the fabric of the shoes and you won't be able to get your shoes off fast enough.<br>c. When welding with an arc welder any exposed skin will develop a burn.<br><br>6. Hazardous Fumes:<br>a. Welding galvanized steel is very dangerous to ones' health: the galvanized coating is comprised of a zinc component and this is very bad to breathe in – it can cause serious health problems.<br>b. Any flux from a welding rod is intended to shield a weld from the atmospheric air **NOT** shield lungs from atmospheric air. So, avoid breathing the fumes that come off of welding process.<br>c. MIG welders use compressed inert (C-25) gas to shield the weld with. These compressed gases will displace breathing air if they are released suddenly and unexpectedly. Also, they should never be used in a confined space for this reason.<br><br>7. Cylinder usage:<br>a. **NEVER, NEVER, NEVER USE OIL ON THE THREADS OF A GAS CYLINDER** when hooking up gauges!!! This is a serious explosion hazard. Oxygen is the main culprit of this, but it is good practice to never put oil on any cylinder gauge outfits or threads.<br>b. It is important to remember that any compressed gas cylinder has the potential of becoming a projectile, if for some reason the contents are allowed to suddenly and unexpectedly escape. For this reason it is important to secure all cylinders with chains and exercise caution when moving cylinders. When moving cylinders make sure the cylinders cap is screwed on to protect the valve.<br>c. Compressed gas cylinders also are potential 'air lobbing' sources, if the contents are allowed to suddenly escape into the room's atmosphere.<br>d. Do not 'crack' the cylinders valve to blow dirt out prior to hooking up the gauges. |
| D | **Check points to ensure safe operation:**<br>Refer to the sheet(s) attached. |

# APPENDIX B

**APENDDIX**

**Internal Audit for UMP from JKKP Pahang**

| | |
|---|---|
| **DEPARTMENT:** | **FACULTY:** |
| **AUDIT DATE:** | **AUDIT TEAM:** |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| **1** | **SAFETY MANAGEMENT SYSTEMS** | | | | |
| 1.1 | Employees are provided with OHS Information induction and training, taking into account communication requirements. | LTU Provision of OH&S Information 3.1(c) | Induction & Training Records | | |
| 1.2 | Department specific OHS information and signs are provided. | LTU Provision of OH&S Information 3.1(d) | Management Plan & safety signs | | |
| 1.3 | Regular meetings are held (zone OHS committee or at departmental level) to facilitate co operation between management and employees and the minutes are made available | LTU Health and Safety Committee 3 | Zone or Committee Minutes | | |
| 1.4 | Incident reports are investigated immediately and control measures are put in place | LTU Incidents 3.4 | Incident Register | | |
| 1.5 | Routine hazard inspections are carried out within the department / area | LTU Committees 3.2.2 | Planned inspection checklist / records | | |
| 1.6 | Contact information on health and safety representatives and emergency personnel is available | LTU Provision of OH&S Information 4 | F/A B/W information form | | |
| 1.7 | Employees and students are provided with induction on commencement | LTU Provision of OH&S Information 4.1 | Induction & Training Records | | |
| Comments | | | | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| **2** | **PLANT SAFETY** | | | | |
| 2.1 | All plant in the department that processes, material by way of mechanical action, i.e. cuts, drills, mixes, presses, forms combines has been identified | LTU Plant Safety 4.3 | Plant Compliance Form | | |
| 2.2 | Risk assessments have been undertaken on all plant | LTU Plant Safety 4.4 | Plant Compliance Form | | |
| 2.3 | Risk associated with plant and systems of work has been eliminated or reduced so far as is practicable | LTU Plant Safety 4.5 | Plant risk assessment | | |
| 2.4 | Safe operating practices have been developed for each plant and are prominently displayed nearby | LTU Plant Safety 4.6 | Safe operating procedure | | |
| 2.5 | Certificates of competency and registrations are current | LTU Plant Safety 4.12 | Certificates of competency | | |
| 2.6 | Non-certified operators of plant have received appropriate training | LTU Plant Safety 5 | Training records | | |
| 2.7 | Access to plant is restricted to authorized persons only | LTU Plant Safety 5 | Lockout arrangements | | |
| 2.8 | There is a scheduled / documented plant maintenance system | LTU Plant Safety 4.8 | Inspection reports | | |
| 2.9 | All plant and equipment manuals are provided and accessible | LTU Plant Safety 3 | Plant manuals | | |
| Comments | | | | | |
| **3** | **CHEMICAL SAFETY** | | | | |
| 3.1 | A Hazardous Substances and Dangerous Goods register is available in all areas where Haz Subs or DG are stored or used | LTU Chemicals and Substances 3.1 (a) | DGHS Register. | | |
| 3.2 | The Register is maintained and is readily accessible | LTU Chemicals and Substances 3.1 (a) | DGHS Register | | |
| 3.3 | Material Safety Data Sheets for Haz Subs and DGs are compliant (supplier, format and date) and readily accessible | LTU Chemicals and Substances 3.1 (a) | MSDS Folder | | |
| 3.4 | Risk assessments are conducted for all Haz Subs and DGs before the substance is used for the first time | LTU Chemicals and Substances 3.1 (a) | Risk assessments | | |
| 3.5 | Risk assessments are documented and are readily accessible to all persons potentially exposed to Haz Subs and DGs. | LTU Chemicals and Substances 3.1 (a) | Risk assessments | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| 3.6 | Risk assessments record all of the information required and are reviewed every five years (or earlier if required) | LTU Chemicals and Substances 3.1 (a) | Risk assessments | | |
| 3.7 | All containers of DG and Haz Subs (except those in which the substances are being immediately used) are appropriately labeled | LTU Chemicals and Substances 3.1 (a) | Container labels | | |
| 3.8 | All containers of unknown substances are labeled with the words “Caution do not use – unknown substance” | LTU Chemicals and Substances 3.1 (a) | Container labels | | |
| 3.9 | There is a system for identifying the contents of containers that are too small to write on and are users aware of the labeling system | LTU Chemicals and Substances 3.1 (a) | Safe operating procedure | | |
| 3.10 | Buildings and areas containing DGs are signed | LTU Chemicals and Substances 3.1 (a) | Building and area signs | | |
| 3.11 | Chemicals are stored according to DG requirements, taking into account separation of incompatible DG classes and maximum storage limits | LTU Chemicals and Substances 3.1 (a) | Safe operating procedure | | |
| 3.12 | Mutually reactive substances are not stored in close proximity to each other and a storage cupboard is provided for radioactive, hazardous or noxious chemicals | LTU Chemicals and Substances 3.1 (a) | Safe operating procedure | | |
| 3.13 | Spill kits are available maintained and staff are trained in their correct use | LTU Chemicals and Substances 3.1 (a) | Training records | | |
| 3.14 | Fume cupboards and safety cabinets are regularly inspected and tested | LTU Chemicals and Substances 3.1 (a) | Test labels | | |
| 3.15 | Appropriate information, instruction and training relating to Haz Subs and DGs is provided to employees and students who use them | LTU Chemicals and Substances 3.1 (b) | Induction & Training Records | | |
| 3.16 | Appropriate information, instruction and training relating to Haz Subs and DGs is provided to employees supervising other employees or students who use them | LTU Chemicals and Substances 3.1 (b) | Induction & Training Records | | |
| 3.17 | Procedures for the acquisition, use and disposal of chemicals are documented and available to all users | LTU Chemicals and Substances 3.1 (a) | Dept. Manual / SOPs | | |
| 3.18 | Licences and approvals have been granted for all Schedule 1 & 2 carcinogens held and are less than 5 years old | LTU Chemicals and Substances 3.1 (c) | Licences and approvals | | |
| 3.19 | A record of every person who works with Schedule 1 or 2 carcinogens is maintained and written statements are issued to those persons when their employment is terminated | LTU Chemicals and Substances 3.1 (c) | Personnel record | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| 3.20 | Atmospheric monitoring is undertaken where required, with relevant records of all atmospheric monitoring for the past 30 years being held and the results are accessible to employees | LTU Chemicals and Substances 3.1 (e) | Monitoring records | | |
| 3.21 | Health surveillance is undertaken where scheduled hazardous substances are used or stored and there is a potential for users to be exposed to them | LTU Chemicals and Substances 3.1 (f) | Health records | | |
| 3.22 | Where health surveillance is undertaken, records are maintained and made accessible to employees | LTU Chemicals and Substances 3.1 (f) | Health records | | |
| 3.23 | Where health surveillance is undertaken, it is performed under the supervision of a registered medical practitioner | LTU Chemicals and Substances 3.1 (f) | Health records | | |
| Comments: | | | | | |
| **4** | **NOISE** | | | | |
| 4.1 | If there is a risk to employees from exposure to noise, an assessment of that exposure has been made. Is the assessment available in the department? | LTU Hearing Conservation 3.1 | Noise assessment report | | |
| | *For noise exceeding the exposure standard:* | | | | |
| 4.2 | Employees' exposure to noise is controlled by implementation in priority of engineering controls, administrative controls or the provision of hearing protectors. | LTU Hearing Conservation 3.1 | Noise risk assessment | | |
| 4.3 | Hearing protection areas are clearly designated by signs, labelling of machines or other appropriate means | LTU Hearing Conservation 6 | Area signs | | |
| 4.4 | Audiometric testing has been completed for employees who are required to wear hearing protectors to control exposure to noise | LTU Hearing Conservation 3.1 | Audiometric test records | | |
| 4.5 | Staff are trained in noise exposure and hearing protection | LTU Hearing Conservation 3.1 | Induction & Training Records | | |
| Comments | | | | | |
| **5** | **ELECTRICAL SAFETY** | | | | |
| 5.1 | Electrical equipment purchased or brought to the University is tested before use and at regular intervals. | LTU Electrical Safety 4.3.2 | Log sheets & equipment tags | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| 5.2 | Portable electrical equipment is tested and tagged according to the relevant test schedule | LTU Electrical Safety 4.3.2 | Inspection reports | | |
| 5.3 | A Residual Current Device is installed in designated workshops and laboratories | LTU Electrical Safety 4.2 | Power outlet labels | | |
| 5.4 | Electrical equipment lent for hire or loan checked before hire. | LTU Electrical Safety 4.3.2 | Hire or loan records | | |
| Comments | | | | | |
| **6** | **MANUAL HANDLING** | | | | |
| 6.1 | Hazardous Manual handling within the department/school has been identified | LTU Manual Handling 4.1 | Identification form | | |
| 6.2 | Risk assessments for hazardous manual handling tasks has been completed | LTU Manual Handling 4.1 | Risk assessments | | |
| 6.3 | Control measures have been implemented | LTU Manual Handling 4.1 | Risk assessments | | |
| 6.4 | Training has been provided to employees who are required to perform duties which involve manual handling | LTU Manual Handling 5 | Induction & Training Records | | |
| Comments | | | | | |
| **7** | **FIRST AID** | | | | |
| 7.1 | An assessment of first aid requirements has been undertaken. | LTU First Aid 3.1 | First aid assessments | | |
| 7.2 | A qualified first aider has been designated and trained | LTU First Aid 3.1 | Register | | |
| 7.3 | A first aid kit is available to the designated first aider and its contents maintained in an up to date state | LTU First Aid 3.1 | First aid kit | | |
| Comments | | | | | |
| **8** | **EMERGENCY RESPONSE** | | | | |
| 8.1 | A building warden and floor wardens have been appointed for each building. | LTU Emergency Evacuation 3.1 | Emergency Form | | |
| 8.2 | Emergency evacuation procedures have been developed and are regularly tested at least twice per year | LTU Emergency Evacuation 3.2 | Evacuation drill reports | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| Comments | | | | | |
| **9** | **WORK ENVIRONMENT** | | | | |
| 9.1 | Measures to prevent incidents are planned | LTU Policy | Plans / Inspection reports | | |
| 9.2 | Procedures implemented for after hours work in Laboratories and workshops | LTU Working after Hours in Labs of Workshops 4 | Safe operating procedure / Handbooks | | |
| 9.3 | Procedures are in place for staff working outdoors, including training and provision of PPE such as sunscreen and hats. | Prevention of Occ Exposure to Solar Radiation 2.3 | Safe operating procedure / Handbooks | | |
| Comments | | | | | |
| **10** | **PERSONNEL PROTECTIVE EQUIPMENT** | | | | |
| 10.1 | Work situations where PPE required been identified. | LTU Protective Clothing and Equipment 2 | Signage and Dept manuals | | |
| 10.2 | Employees been trained in the use, maintenance and storage of PPE. | LTU Protective Clothing and Equipment 6 | Induction & Training Records | | |
| 10.3 | Risk assessments have been undertaken to establish appropriate PPE | LTU Protective Clothing and Equipment 5 | Risk Assessments | | |
| 10.4 | Procedures have been developed for the correct selection, storage, maintenance and use of PPE | LTU Protective Clothing and Equipment 6 | Safe operating procedures | | |
| Comments | | | | | |
| **11** | **WORKSTATION ERGONOMICS** | | | | |
| 11.1 | Workstations have been assessed for the suitability of tasks and activities undertaken. | LTU Workstation Ergonomics | Workstation or risk assessments | | |
| Comments | | | | | |
| **12** | **VEHICLE SAFETY** | | | | |
| 12.1 | Vehicle managers ensure university vehicles and equipment maintained. | LTU Vehicle Safety 3.3 | Service records. | | |
| 12.2 | Vehicle log books are maintained | LTU Vehicle Safety 4.2.1 | Vehicle logs | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| 12.3 | Information is given to staff related to fatigue management when required to travel long distances | LTU Vehicle Safety 4.2.2 | Trip authorisation form | | |
| 12.4 | Vehicle use is authorised and licence checks undertaken. | LTU Vehicle Safety 4.2.2 | Trip authorisation form | | |
| Comments | | | | | |
| **13** | **FOOD SAFETY** | | | | |
| 13.1 | Commercial food premises have food safety plan and appropriate registration. | LTU Safe Food Handling 3.1.1 | Food safety plan / registration | | |
| Comments | | | | | |
| **14** | **OCCUPATIONAL VIOLENCE PREVENTION** | | | | |
| 14.1 | Has a Violence Risk Assessment Checklist been completed for situations in which there may be potential for occupational violence to occur (e.g. cash handling, client based services, adversarial situations, dealing with difficult people) | LTU Prevention of Occ. Violence 3.1 | Violence risk assessment checklist | | |
| 14.2 | If a potential for occupational violence to occur has been identified, has a written Safety Plan been prepared to control the risk | LTU Prevention of Occ. Violence 3.1 | Safety plan | | |
| Comments | | | | | |

| ITEM | AUDIT CRITERIA | REFERENCE | DOCUMENTS | COMPLIANCE Yes | No |
|---|---|---|---|---|---|
| General Comments | | | | | |

Total Items

Compliance
Non Compliance