



**DEPARTMENT OF BUILDING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING DIPLOMA IN
BUILDING

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PERSONAL PROTECTIVE EQUIPMENT (PPE) AT PORT

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**DEPARTMENT OF BUILDING
FACULTY OF ARCHITECTURE, PLANNING AND
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(PERAK)**

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It is recommended that the report of this practical training

provided **By**

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entitled

PERSONAL PROTECTIVE EQUIPMENT AT PORT (PPE)

be accepted in partial fulfilment of requirement has for obtaining Diploma in Building.

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STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references stated herein, prepared during a practical training session that I underwent at JOHOR PORT BERHAD for duration of 20 weeks starting from 14TH SEPTEMBER 2021 and ended on 7TH JANUARY 2022. It is submitted as one of the prerequisite requirements of BGN310 and accepted as a partial fulfilment of the requirements for obtaining the Diploma in Building.

.....

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Date : 7TH JANUARY 2022

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ABSTRACT

Safety (Personal Protective Equipment (PPE) is a garment and equipment that should always be worn by every worker to protect themselves from hazards such as fire spark, falling from height, chemical substances etc. It is believed that Personal Protective Equipment plays a very important role in protecting the workers during working from getting harm and put one's life in danger that will eventually become a threat for their lives. The occupational of safety and health section at Port also plays a major role in making sure to provide a safe workplace and enforce the rules appropriately. The report will discuss and elaborate the importance of PPE at the operation sites around Johor Port Berhad.

CONTENTS

ACKNOWLEDGEMENT.....	4
ABSTRACT.....	5
CONTENTS.....	6
CHAPTER 1.0.....	7
INTRODUCTION.....	9
1.1 Background of Study	9
1.2 Objectives	11
1.3 Scope of study	12
1.4 Method of study	13
 CHAPTER 2.0.....	 15
COMPANY BACKGROUND	
.....	15
2.1 JOHOR PORT BERHAD	15
2.2 COMPANY PROFILE.....	16
2.2.1 MISSION, VISION AND CORE VALUES	17
2.3 ORGANISATION PLAN	18
2.4 LIST OF PROJECTS	19
 CHAPTER 3.0.....	 20
CASE STUDY	20
INTRODUCTION OF CASE STUDY	20
3.1.1	20
3.2 To EXAMPLE OF WORKS.....	27
3.2.1 To identify the roles of Occupational of Safety and Health at port.....	32
3.2.2 To identify the problems and solutions of workers that fail to comply with the rules	39
 CHAPTER 4.0.....	 42
CONCLUSION	42
REFERENCES.....	43

TABLE OF FIGURES

Figure 1 hierarchy of controls	9
Figure 2 Official logo of Johor Port Berhad	15
Figure 3 The main entrance of The Department of Port Security and Safety	16
Figure 4 Organisation chart of Department of Port Security and Safety.....	18
Figure 5 The location of the Expanding Project at Wharf 9	21
Figure 6 Dermaga 9.....	22
Figure 7 Shows the platform that is under construction	23
Figure 8 The front view of the platform	23
Figure 9 The side view of the platform	24
Figure 10 The workers are currently welding steels	25
Figure 11 Working at height workers	25
Figure 12 The sample of PTW	26
Figure 13 The workers are working at height at Dermaga 9.....	27
Figure 14 Working at height PPE	28
Figure 15 It shows the safety officers are investigating the offender (Willie Goh) together with their superiors.....	32
Figure 16 Notes of discussion between the offender and the safety officer.....	33
Figure 17 The layout of where the accident exactly happened.	34
Figure 18 Description of the incident.....	35
Figure 19 Air Environment Monitoring System (AEMS)	36
Figure 20 Shows on of the AEMS that is located at Gate G.	37
Figure 21 It shows the AEMS is run by using the solar system	37
Figure 22 It shows the worker follows the rules by wearing a proper PPE	38
Figure 23 The workers seem to be not wearing a proper PPE such as a safety helmet. They had been warned by the safety officers	38
Figure 24 A worker does not wear a helmet while working.	39
Figure 25 A worker failed to wear a helmet while working	39
Figure 26 One of the workers do not wear a helmet while working at the BBT area.....	40
Figure 27 A worker caught sleeping at the operation site.....	40

LIST OF TABLES

Table 1: Company Profile	16
Table 2 Requirements of PPE for operation sites workers	31

CHAPTER 1.0

INTRODUCTION

1.1 Background of Study

The Occupational safety and health act are an act that offers a legal framework to ensure the safety, health, and well-being of all Malaysian workers. It also works as protecting the workers' rights, against hazards or risks when they are doing activities at their workplace. This act was once gazetted on 24th February 1994 and may be named as the Occupational safety and health act 1994. The main aims of this act exist are to protect workers' safety, health, and welfare against threats to their safety or health caused by their job activities and to prevent individuals other than workers at a workplace from hazards to their safety or health resulting from workers' activities (Magnificent communication, 1999)

Hierarchy of Controls at workplace

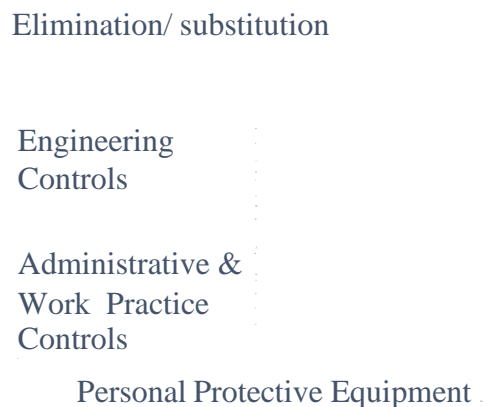


Figure 1 hierarchy of controls

The figure above shows the effectiveness of the systems used to prevent and control hazards. From the top, the most effective and highest level of protection against risks and hazards. The hazard is eliminated from the workplace, or a less hazardous item or substance is substituted for the more hazardous item/substance. Next, engineering controls, the second most effective

protection towards the employees against hazards. It makes physical changes to the workplace. It also includes isolation, ventilation, and equipment modification and etc. The third hierarchy of controls that is available on the chart is administrative controls/ work practice control. It is necessary for the workers to act and do something. Such as, make inspections and maintenance, monitoring and supervise the use of highly dangerous materials. Then, the least effective method is personal protective equipment (PPE). Employees are required by the occupational of safety and health to prevent themselves from hazards and dangers by using personal protective equipment such as safety helmet, safety boots, safety vest, goggles, gloves, overalls and etc. (Otiac, 2018)

Personal Protective Equipment (PPE) at Johor Port's operation sites

Sharp edges, falling items, flying sparks, chemicals, noise, and a variety of other potentially hazardous circumstances present in every workplace. OSHA has made it crystal clear that employers must protect the employees against hazard that can cause them injury at their workplace. Technically, the term "personal protective equipment" refers to clothing that is worn to reduce exposure to a number of risks. Gloves, foot and eye protection, protective hearing devices (earplugs, muffs), helmets, respirators, and complete body suits are all examples of personal protective equipment (PPE). In the Johor port, specifically, the workers that are working on the operation sites are obligated with the using of PPE. Anyone who refused or do not comply with the rules, their entry pass will be confiscated by the safety officers that are in charged or by the appointed authority such as the PDRM officers.

General workers are only required to use safety vest, helmet, and safety boots as they do not do high risk or dangerous works in the port area. While the employees that are working in handling hot works, the requirements for these workers are slightly different. It is necessary for them to use gloves, safety boots, face shield, goggles, overall and etc. As of 2021, all workers in the Johor port, be it on the operation sites workers or office workers, are obligated by the Ministry of Health Malaysia to wear masks in order to preventing the spread of Covid

19 virus. Anyone who does not or fails to comply with the rules set by the Johor Port and the government will either be barred from entering the port or their entry pass will be confiscated maximum to at least 1 (one) month. The aims of study for this report are to making sure that every worker can abide by the rules that were set by the company. Other than that, to prevent the spread of Covid-19 virus around the port and prevent any major accident that might happen.

1.2 Objectives

- To identify the roles of Occupational of Safety and Health at port
- To identify the problems and solutions of workers that fail to comply with the rules

1.3 Scope of study

During the practical training, a study was carried out at Johor Port Berhad, Pasir Gudang. The company is located on a virgin shoreline of the East Johor. It was built by the Johor Port Authority. The company was run by Johor Port Berhad in 1977. The company is a corporate company and is currently an underling company of MMC Group. The safety and health department at the port is accountable in making sure that all the SOPs that were made by them must be followed by anyone who enters the working area at Johor Port. They have to make sure to minimize the number of accidents and find a solution so that every mishap that occurs can be overcome. The department has a KPI that needs to be achieved which is 'Zero accidents' in 2021. However, they could not achieve the target as there had been 2 major accidents were reported, and it was also the least number of accidents that had been recorded since the past few years.

1.4 Method of study

1. Observation

Most of the facts that have been collected to put in this report is through observation. The observation is about how to monitor and control the workers to make sure that they could abide by the rules. It took about 2 hours (0900hrs – 1100hrs) per day to go around the port area and it was done by riding the motorcycle. From the thorough observation, it could be said there are still workers that still fail to follow the SOPs. The mask, safety helmet and safety vest are one of the PPEs that most workers fail to wear most of the time. The safety officers are very understanding and considerate, they would not simply confiscate their entry pass, instead they would just remind and warn them verbally. The workers are often working under the hot weather, and it is understandable why they fail follow the rules. Though, it is not an excuse that they can use. The rules were made for them to prevent accidents because the possibility for them to get injured while working is rather high and at once to cut the spread of the Covid-19 virus among the workers.

2. Interview

In order to get the details and facts right, interview sessions were made randomly among the workers. An impromptu interview would eventually made. All the questions are mostly about, do they actually know the importance of wearing PPE properly, why they are failed to wear one, and etc. As most of the labours are foreigners, from Bangladesh, India, and Pakistan the interview was made in English as they can hardly understand Malay and it is either because they are new here or the matter fact that Malay was not their first language. The evidence of the interview session was all recorded in a notebook for the student's own record.

3. Document

Other than the two above, document reviews were also made to find solid evidence regarding the case study. Student picked a file that has the data of SOPs and guidelines at the Johor Port's safety department. The file is titled 'SOP & GUIDELINES (JPB/281-6/8)'. The file was basically prepared by one of the executives there, which was Puan Noor Azah Ismail,

reviewed by, Puan Nor Zaini the Head of Section of PSSD and then was approved by Tuan Jamaludin Raja Mohammad, the Head of Department of PSSD. Other than that, the contents of the file are also covering on sops of unsafe condition unsafe action (UCUA), incident reporting and investigation, permit to work (PTW) and guidelines such as operation handling for vessel listed under Covid-19 “Variance of Interest” (VOI)

CHAPTER 2.0

COMPANY BACKGROUND

2.1 JOHOR PORT BERHAD



Figure 2 Official logo of Johor Port Berhad

The company was built in 1973, and it is located on a virgin shoreline of the East Johor straits. The company is around 32km away from Johor Bahru city and within 8000 acres of Pasir Gudang Industrial area. Johor port was built by the Johor Port Authority and managed by Johor Port Berhad in 1977. Johor Port is the first port in the state of Johor and as designed as a diverse and versatile port. The port also caters to almost all sorts of cargoes. Other than that, Johor Port was the first port in Malaysia and the first to be located within a free trade zone area. However, in 1995, the port was full privatised in August 1995 to Seaport Terminal Sdn Bhd. They became the holding company of Johor Port Berhad, and it is still fully owned by MMC Corporation Berhad.

2.2 COMPANY PROFILE

Name of Company	JOHOR PORT BERHAD
Address	Jalan Pasir Gudang, Kawasan Perindustrian Pasir Gudang, 81700 Pasir Gudang, Johor
Contact Number	07-253 5888

Email	jpb@johorport.com.my
Core Business	<ul style="list-style-type: none"> • Largest Palm Oil terminal in the world • Largest discharging points for Rice and Cocoa in Malaysia • Services and facilities within Johor Port <ul style="list-style-type: none"> include: <ul style="list-style-type: none"> ○ Container terminal ○ Bulk and Break Bulk Terminal ○ Liquid Terminal ○ Warehousing Facilities ○ The manager of Free Zone area ○ Processing, Labelling and Branding

Table 1: Company Profile



Figure 3 The main entrance of The Department of Port Security and Safety

2.2.1 MISSION, VISION AND CORE VALUES

MISSION

We are committed to providing customer-friendly solutions and cost-effective services to our customers

VISION

To become the most efficient and integrated multi-purpose port in the region

CORE VALUES

➤ Operative efficiency

Ensuring efficiency in running day-to-day operations in the port to guarantee safety and ease for both employees and customers alike.

➤ Uncompromising integrity

Upholding ethical standards, honesty and sincerity while demonstrating mutual respect and trust for each other.

➤ Customer excellence

Delivering commitments and dedicating our services to meet both external and internal customer's expectations.

➤ People involvement

Making contributions and working collaboratively to accomplish organization's goals by developing people and helping to improve the community.

➤ Sustainable development

Aiming to meet every human need by preserving the environment to promote a healthier and safer environment for both present and future generations.

2.3 ORGANISATION PLAN

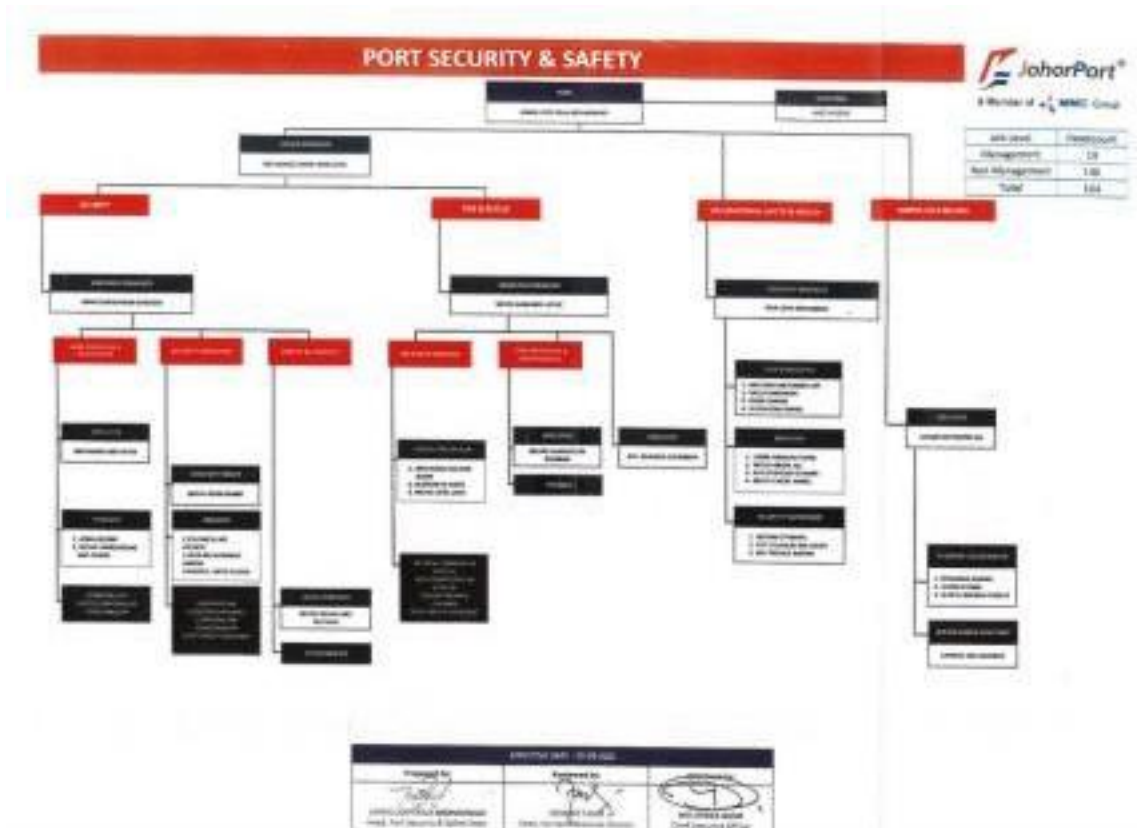


Figure 4 Organisation chart of Department of Port Security and Safety

The Department of Port Security and Safety is divided to four (4) main sections:

- Security
- Fire and Rescue
- Occupational Safety and Health
- Admin, HR, and Billing

2.4 LIST OF PROJECTS

Due to company's privacy policy, such documents cannot be enclosed and included in

the report. The documents contain the details of the projects that related with internal affairs of Johor Port, as a result it cannot be inserted in the report.

CHAPTER 3.0

CASE STUDY

3.1 INTRODUCTION OF CASE STUDY

The case study is mainly about Personal Protective Equipment (PPE) at port. The port has so many sub-companies or contractors that have done so many projects since it was first built until now. The using of PPE, especially at the operation sites are mandatory. One of the examples of projects that are currently undergoing in Johor Port are expanding a platform at one of the Wharves there, which are, Wharf 9 or in Malay they are known as Dermaga 9. The project is under a contractor company, EMC Pacific. The platform is located above the sea. Throughout the expanding process, a fire and rescue officer will be there as a watcher to observe the workers. Should any accidents occur or happen, the officer will call for backups using the walkie-talkie that was provided by their department.



The project is undergoing within in this area

Figure 5 The location of the Expanding Project at Wharf 9

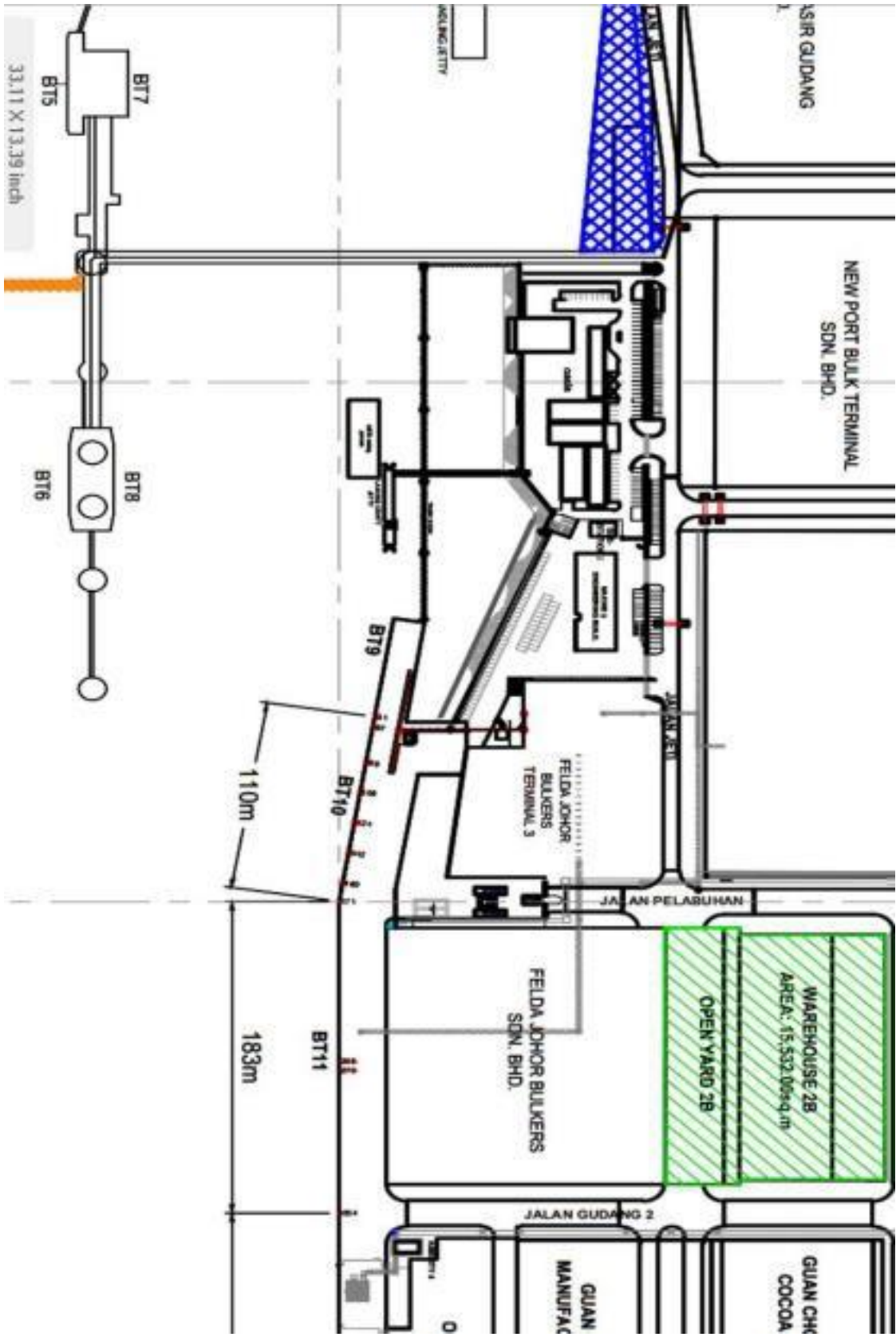


Figure 6 Dermaga 9



Figure 7 Shows the platform that is under construction



Figure 8 The front view of the platform



Figure 9 The side view of the platform



Figure 10 The workers are currently welding steels



Figure 11 Working at height workers

The expanding project is undergoing at Dermaga 9 within the Johor Port area. The

project is in front of Felda Johor Bulkters Terminal. The wearing of Personal Protective Equipment (PPE) properly is very important as there are involvements of working at height, the using of sharp machine such as grinder and hot work such as welding. Each job requires different PPE. Before the workers start their work, their supervisors must and obligated to obtain a Permit to Work (PTW) from the occupational safety and health office. They are also required to make a payment beforehand. The permit shall be applied if the project is involved with dangerous works as stated above, working at height, diving, hot works etc. The PTW must be signed by the appointed safety officer prior the project starts. Below is the example of PTW.

Figure 12 The sample of PTW

3.1.1 EXAMPLE OF WORKS

- Working at height

After obtaining the PTW, the contractor can then proceed with their works and project. There are different requirements for the usage of PPE based on their jobs cope. As example, working at height.



Figure 13 The workers are working at height at Dermaga 9

Working at height, the workers are required to wear a harness if the height is more than 2 meters. The workers are at high risk to slip and fall from height. The possibility of them to fall from scaffolding, ladder or into a hole is really high. When the ladder is being used, it is advised for them to have someone to hold it firmly when the other person is going up.

- **Requirements of PPE for workers that work at height**



Figure 14 Working at height PPE

- **Safety helmet**

The helmet must follow the regulations and requirements from the safety agency such as DOSH in Malaysia. The helmet must comply with ANSI/ISEA Z89, TYPE 1, CLASS E AND G. Other than this type of helmet, it is not acceptable as the shell of the helmet might not as firm as the one that was stated above.

- **Harness**

Harness is a crucial equipment for those who work at height. Workers are required to wear it all the time while working as the risk of them to trip and fall from their work area is rather high.

- **Gloves and safety footwear**

When they are working at height, the gloves must be worn all the time as they would be handling sharp or hot objects because it is to prevent them from getting hurt. The footwear is obviously to prevent them from stepping on sharp objects such as nails and steels.

- **Hot works**

Photo 1 The photo shows a worker is using a grinder

Photo 2 The photo shows a worker is welding a steel

• Requirements of PPE for workers that handling hot works

TYPES OF PPE	DESCRIPTION
---------------------	--------------------

<p>Safety helmet</p>	<p>Safety helmet must be worn all the time to prevent their head from severe complications</p>
<p>Safety boots</p>	<p>Safety boots are footwear that must be worn when the worker is handling hot work and it is to prevent them from stepping on hot and sharp stuff</p>
<p>Eye protection</p>	<p>This eye protection protects the face and the eyes especially when they are doing hot works that produce sparks so that the face and eyes will not get hurt</p>
<p>Safety gloves</p>	<p>Gloves are meant to protect the workers' hands when they are handling and carrying hot things</p>

Hearing protection	Hearing protections are also important as works such as welding and grinding produce a very annoying and loud noise that could actually damage the ear drums.
Coverall	Coverall is a basic garment that shall be used and worn by the operation sties workers.

Table 2 Requirements of PPE for operation sites workers

3.2 To identify the roles of Occupational of Safety and Health at port

I. Accident Investigation

Figure 15
It shows the safety officers are investigating the offender (Willie Goh) together with their superiors

The Health, Safety and Environmental section is accountable in conducting an investigation and handling issues that are related with safety and environment. As stated in figure 8, the investigation will usually be held online through Microsoft Teams. The investigation takes around 30 minutes to 1 hour for the appointed safety officer to write down the details and consider on whether the offender deserves to be penalized or being considered as innocent. The offender must lodge the report of the incident/ accident at the Police Station inside the port area. The police officer will then submit the report to the HSE section to proceed with the investigation.

Figure 16 Notes of discussion between the offender and the safety officer

Figure 17 The layout of where the accident exactly happened

Figure 18 Description of the incident

The figures above show the details and every input that the officers received throughout the investigation session. Basically, this investigation session is made not only to solely determine whether the offender is at wrong or what are the consequences the offender will eventually face, but it is also to figure out every loss the port might confront. These issues will be brought to the higher management. The offender will need to go through a urine test that will be handled by the police officer, the test is meant to see if the offender is under influence of drugs or alcohol, just in case if the result is positive, they will be detained for further investigation.

II. Environmental, Safety and Health Issues

Other than the issues that are related with accidents, this section is also accountable in ensure that the Port area is not polluted by the activity that is undergoing within the area. There is this one system that will monitor and notify the appointed officer if any pollutions occur within the Port area. The system is called Air Environment Monitoring System (AEMS). The system is built at four (4) different areas which means there are four (4) stations of Air Environment Monitoring System around Johor Port.

Figure 19 Air Environment Monitoring System (AEMS)

Figure 20 Shows on of the AEMS that is located at Gate G

Figure 21 It shows the AEMS is run by using the solar system

The safety (Personal Protective Equipment (PPE) issues in the port area are one of the major things that must be looked after well. This is because the working area or the operation sites in the port area are considered as highly unsafe. The workers must abide by the rules and not to break the rules simply just like that. Once they break the rules, and it is known by the safety officers there are consequences that they might be facing. One of them is being banned from entering Johor Port and their entry pass will be confiscated in 24 hours. There are different

requirements for different jobs in the area. However, it also depends on the officers themselves, the officer can warn the worker first before an action being taken upon them, or without any warnings, the officers have every right to do what they are supposed to do.

Figure 22 It shows the worker follows the rules by wearing a proper PPE

Figure 23 The workers seem to be not wearing a proper PPE such as a safety helmet. They had been warned by the safety officers

3.3 To identify the problems and solutions of workers that fail to comply with the rules

Figure 24 A worker does not wear a helmet while working

Figure 25 A worker failed to wear a helmet while working

Figure 26 One of the workers do not wear a helmet while working at the BBT area

Figure 27 A worker caught sleeping at the operation site

A safety helmet is one of the important safety personal protective equipment that must always be used when someone works at the operation sites or at the warehouses in the port area.

Though, safety helmet is something that these workers do not take it seriously. An interview has been made by the student to these workers who failed to comply with the rules.

Most of these workers were giving the same reasons and excuses which are:

- i. Hot weather
- ii. It is kind of disturbs them to work which translates to, uncomfortable
- iii. They were not being exposed to the consequences of the importance of wearing PPE while working

So, these are the excuses that the student received from the workers. The port must look over this matter seriously because it is obvious that these workers' lives are always at stakes when they refused or giving ridiculous excuses about wearing a proper PPE while working. Here are one of the few solutions that the port should look after to assure these workers can work and still comply with the rules.

1. Build a roof with a good ventilation system

By doing this, the workers will not be exposed under sun exposure for a long time. A good ventilation system is also important so that the workers do not feel like suffocating due to lack of oxygen. Malaysia is hot most of the time and it is understandable if the workers find it hard to wear the helmet as it will make them sweat and their head itchy.

2. Set up a resting area near to the operation site

The port may can consider building a rest area that is near to the operation site. It is because the ones that they build is quite far from the working area which also quite small and uncomfortable for the workers to take a quick nap there. So, it is advisable for the port to spend some of the money on building a huge and comfortable resting area around the operation sites.

CONCLUSION

The wearing of Personal Protective Equipment (PPE) is something that should not be taken lightly especially the workers. This PPE is being enforced for the sake of their safety and the failure of doing so might put them into a dangerous spot, well in fact, not wearing the PPE properly while working is considered as an unsafe act. The workers must understand that hazards and accidents can occur everywhere or anytime which it comes unexpectedly. Other than that, the failure of not wearing the equipment properly is against the law because it is viewed as putting one's life in danger intentionally and the offender deserves to be punished. The port area is considered as a very high risk and dangerous area to work on. There are many heavy load vehicles here and there and the operation sites itself have many dangerous machineries that are being run around it. Johor Port is accountable in making sure everyone within the working area to abide by the rules. Fine and punish those who refused to be doing so. Wearing a proper PPE does not mean the worker will never get injured but the equipment is to protect one's life from a severe injury. So, it is important that the workers being exposed to the consequences of not following the rules in the working area through a daily briefing before the workers start working

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