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PMX MALAYSIA

PMX EHS PLAN

Environment, Health and Safety

PMX/EHS/PLAN/01

DESIGN AND BUILD CONTRACT FOR 60MW IT POWER FITOUT OF GREENFIELD DATA CENTRE FOR YU AO SDN BHD IN JOHOR BAHRU, MALAYSIA

ENVIRONMENTAL, SAFETY AND HEALTH PLAN

REVISION HISTORY

Rev No.	Effective Date	Change Descriptions	Prepared By	Approved By
0	1st January 2025	New Issue	Muhd Raihan *EHS Officer*	IR Mohd Hatta *Deputy Project Director*
1	29th July 2025	1. Section 5.4.5 (d), colour coding for safety vest. 2. Section 25, Update on chairman position. 3. Section 28.1 (d) update emergency contact list.	Muhd Raihan *EHS Officer*	IR Mohd Hatta *Deputy Project Director*

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1. INTRODUCTION

This document aims to establish safety, health, and environmental goals for the project and outline the management approach for key issues. It is developed in accordance with PMX Malaysia EHS requirements, incorporating Local Authority and Client EHS requirements and programs. The document serves as a foundation for ensuring safe construction and environmental protection, detailing how key risks will be identified and managed.

The guidelines outlined in this document represent the minimum standards that PMX staff, contractors, suppliers, vendors, and all site personnel must follow and adhere to. These requirements are an integral part of the contractual documents, specifically addressing the health and safety of individuals, protection of property, and environmental preservation.

This document aims to describe and emphasize various activities, but it should not be considered exhaustive in defining all aspects of EHS scope and efforts. It does not exempt contractors or personnel from their usual or specific legal obligations related to compliance with safety, health, and environmental regulations and standards. In case of conflicts or variations in EHS requirements between PMX Malaysia, Client specifications, or legal regulations, the stricter requirement will take precedence.

Safety measures to prevent fatalities and injuries must take precedence in any activity not explicitly mentioned in this document. A comprehensive methodology for such activities, including EHS reviews, must be conducted and approved by all relevant parties, including contractors, PMX Malaysia, and the client.

The Project Manager/Director holds the responsibility for establishing, regularly reviewing, and updating this plan. It is crucial to ensure that the plan remains valid throughout the entire duration of the project

All personnel should consult the PMX Malaysia EHS Procedure for a comprehensive understanding of the EHS requirements

1.1 PMX ESH Manual Elements

The elements of the project EHS plan consist of:

a. Specified project EHS requirements that align with regulatory, industry, and client standards;

b. Management and control of contractors, encompassing the submission and review of plans, reporting of injuries or illnesses, monitoring work and site activities, and analyzing performance;

c. Assessment of the contractor's project EHS plan to ensure compliance with specified requirements and standards;

d. Providing EHS induction at the site, along with additional training and follow-up information as required by contractors.

e. Defined EHS responsibilities for Project Management staff at PMX Malaysia;

f. Conducting safety, health, and environmental inspections, audits, and monitoring to ensure compliance by all contractors.

g. Informing contractors about EHS deficiencies and necessary corrective and preventive actions.

h. Requirements for EHS meetings;

i. EHS operating requirements

1.2 Administration of the plan

i. As the principal contractor, PMX Malaysia will manage the coordination of the project EHS plan and will have the authority specified in both contractual and administrative documents.

ii. Each contractor is obligated to comply with all relevant codes, standards, and regulations set by various regulatory agencies, encompassing national, state, and local authorities, as well as adhere to PMX EHS Procedure, Site EHS standards, and Client's requirements.

iii. Each contractor is responsible and accountable for ensuring the safety practices of their employees.

1.3 PMX Malaysia Legal Compliance Related To EHS

All parties shall comply with legal compliances listed below:

- Occupational Safety and Health Act 1994 (Act 514) amendment 2022
- Occupational Safety And Health Regulations (Construction Work) (Design And Management) 2024
- Petroleum (Safety Measures) Act 1984
- Occupational Safety and Health (Safety and Health Officer) Regulations 1997
- Occupational Safety and Health (Noise Exposure) Regulations 2019
- Occupational Safety and Health (Construction Work) (Design and Management) Regulations 2024

- Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000
- Occupational Safety and Health (Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease) Regulations 2004
- Occupational Safety and Health (Safety and Health Committee) Regulations 1996
- Occupational Safety and Health (Control of Industrial Major Accident Hazards)Regulations 1996
- Occupational Safety and Health Employers' Safety and Health General Policy Statements) (Exception) Regulations 1995
- Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013
- Occupational Safety and Health (Classification, Packaging and Labelling of Hazardous' Chemicals) Regulations 1997 (Revoked)
- Petroleum (Safety Measures) (Transportation of Petroleum by Pipelines) Regulations 1985

All others related orders or regulations or Code of Practice:

- NFPA 70, National Electrical Code (NEC)
- Occupational Safety and Health (Prohibition of Use of Substances) Order 1999
- Occupational Safety and Health (Safety and Health Officer) Order 1997
- Perintah Khas Ketua Pemeriksa Bil 1 Tahun 2020 - Pengurusan Keselamatan Struktur Sementara (Perancah, Acuan dan Penyangga)
- Perintah Khas Ketua Pemeriksa Kepada Pengurus Projek Berkenaan Pengurusan dan Pengendalian Selamat Kren Menara 2017
- Code of Practice on Prevention and Management of HIV/AIDS at the Workplace, 2001
- Code of Practice on Prevention and Eradication of Drug, Alcohol and Substance Abuse in the Workplace, 2005
- Industry Code of Practice on Chemicals Classification and Hazard Communication (Amendment) 2019: Part 1
- Industry Code of Practice On Chemicals Classification And Hazard Communication, 2014
- Industry Code of Practice on Indoor Air Quality, 2010

- Industry Code of Practice for Management of Occupational Noise Exposure and Hearing Conservation 2019
- Industry Code of Practice for Safe Working in a Confined Space, 2010
- Code of Practice on Safety, Health, and Environment for Transportation Sector (SHE Code) 2007
- All the Department of Occupational Safety and Health [DOSH – Department of Occupational Safety & Health] guidelines issued by the Malaysia Authorities or advised by DOSH
- Environmental Quality Act 1974
- Environmental Quality (Amendment) Act 2024
- Occupational Safety and Health Act 1994
- Environment Environmental Quality (Scheduled Wastes) Regulations 2005
- Environmental Quality (Sewage) Regulations 2009
- National Water Quality Standards for Malaysia
- Malaysia Ambient Air Quality Standard (2020)
- Guidelines for Environmental Noise Limits and Control 2019
- Planning Guidelines for Vibration Limits and Control in the Environment
- Guidelines for Erosion and Sediment Control in Malaysia Land-Disturbing Pollution Prevention and Mitigation Measures (LD-P2M2)
- Other Acts or local Laws or Regulations concerned with the performance of the subcontractor, Supplier, Vendors, and Specialist
- Any alterations, modifications, amendments, enactments, or reenactments to the aforementioned regulations, made periodically, and/or the issuance of new regulations by the authorities

2. EHS GOAL & OBJECTIVE

2.1 PMX Malaysia EHS Policy

All parties shall comply with legal compliances listed below:

- Provide a safe and healthy workplace with necessary welfare facilities.
- Comply with applicable Occupational Safety and Health legal and other requirements.

- Create a proactive culture where all Occupational Safety and Health risks associated with its activities are adequately controlled by eliminating or reducing the risks to a level as low as reasonably practicable (ALARP)
- Continuously improve Occupational Safety and Health management system across the whole organization.
- Consult and include participation of employees where applicable in the planning, implementation, performance evaluation or actions in Occupational Safety and Health management system

2.2 ESH Vision

In PMX Malaysia, we're committed to creating a workplace where safety is a top priority. We aim for zero accidents through continuous improvement, proactive prevention, and empowering our team. With strong training, clear safety rules, and working closely with everyone involved, we want to set a standard for safety in the industry. Our goal is to be a trusted partner, known for keeping our people safe and protecting the environment

2.3 Communication of EHS Policy and Safety Standards

Contractors and vendors are required to inform their on-site personnel about PMX Malaysia's EHS Policy, EHS Manual, and Safety Operation Standards. These should be prominently displayed in the following areas:

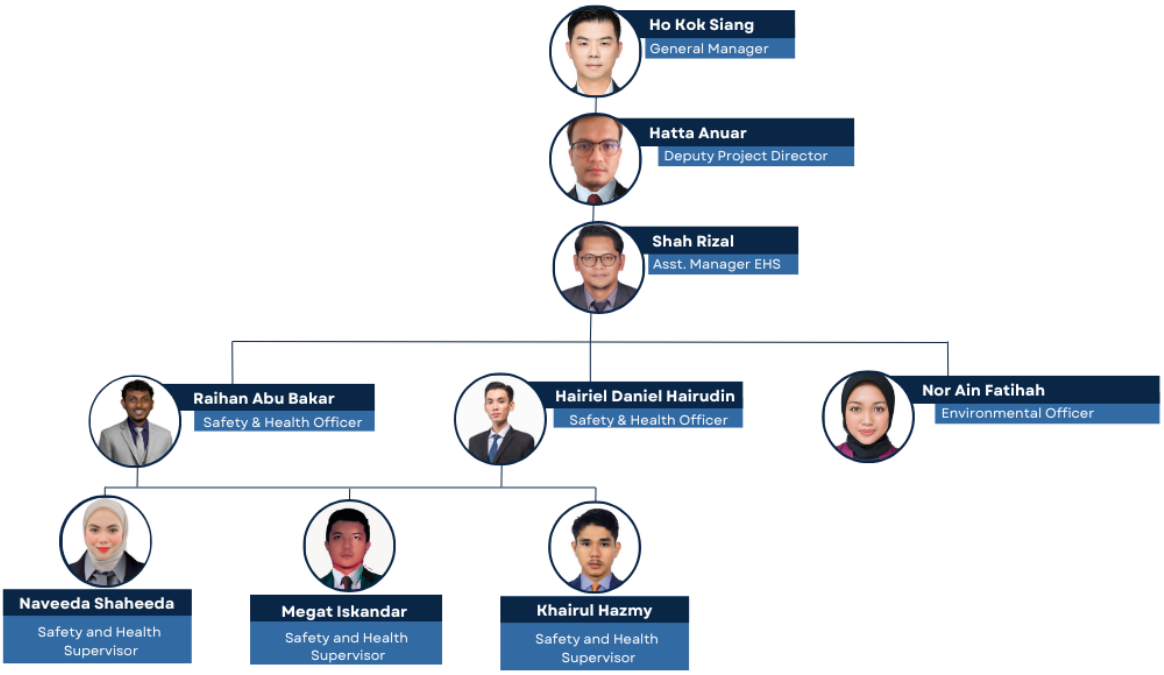
- Site Office
- Meeting Room
- Notice Board

Copy of the EHS Policy and Safety Standards should also be displayed on Notice Boards.

- Daily Toolbox Talk
- Weekly Safety Meeting
- Safety Coordination Meeting
- Safety Committee Meeting
- Safety and Health Induction
- Safety Training

3. SAFETY & HEALTH ORGANIZATION

3.1 EHS Structure



3.2 Duties and Responsibilities

The duties and responsibilities in a safety manual is essential to provide clarity and understanding for employees, ensure compliance with regulations, mitigate risks, establish accountability, facilitate effective communication, guide training and development, enable continuous improvement, offer legal protection, enhance emergency preparedness, and promote a culture of safety within the PMX Malaysia's organization.

3.2.1 General Manager

The General Manager reports to the ensures that the Company's Environmental, Safety and Health (EHS) Policy is followed on the project. They support safety measures by providing enough resources for managers, engineers, and supervisors to implement safety protocols effectively.

- Lead the overall Environmental, Health, and Safety (EHS) program and procedures
- Manage the entire PMX Malaysia Safety Procedure.
- Demonstrating ownership and leadership in Environmental, Health, and Safety (EHS) is essential.

- In charge and responsible for managing EHS and ensuring performance at the project level. Your role includes promoting a workplace free from injuries and occupational illnesses while ensuring that work operations do not cause severe environmental impacts.
- Chair the EHS committee and take follow-up action on EHS matters discussed.
- Regularly review and update the project's Environmental, Health, and Safety (EHS) policies, and fulfill any other related duties as mandated by relevant authorities and clients.
- Ensuring everyone on the project understands why Environmental, Health, and Safety (EHS) practices are important.
- Keep an eye on how well the project or site is doing with Environmental, Health, and Safety (EHS) standards.
- Make sure that necessary resources for Environmental, Health, and Safety (EHS) like personnel, machinery, equipment, and materials are available and provided.

3.2.2. Safety & Health Manager, Safety & Health Officer, Site safety

The Safety and Health Practitioner is responsible for developing and enforcing safety policies, leading safety team in PMX Organization, investigating incidents, and ensuring workplace safety team are functioning.

- Oversee the implementation and compliance of the EHS management system
- Execute the Occupational Safety and Health program at site.
- Supervise adherence to laws and regulations
- Plan and improve project EHS management while advising project management on EHS matters.
- Organize EHS programme and activities to promote safe conduct of site personnel in the prevention of injury, ill health and environmental impact.
- Report and liaise with the management, relevant authorities on incident occurrence.
- Manage contractors' EHS personnel and EHS performance.
- Maintain and monitor EHS documents and records.

- Monitor EHS performance and report to project management for review and as a basis for continuous improvement.
- Serve as the secretary in the project safety committee;
- Coordinate, plan, formulate and/ or deliver EHS training to project personnel and Authorized to stop any unsafe work and to correct such work
- Practice and / or conditions before allowing work to resume / commence.

c. First Aider

Is someone trained and certified to provide immediate help and basic medical care for injuries or emergencies. They assess injuries, provide treatment like bandaging wounds or administering CPR, and stabilize the injured person until professional medical assistance arrives

d. Safety Worker

- Identifying and reporting any safety hazards or concerns to supervisors.
- Participating in safety training sessions and actively promoting a culture of safety among colleagues.
- To assist safety practitioner on assisting check personal protective equipment (PPE) correctly and ensuring site entrant wore it in good condition
- Assisting the safety inspections and audits, and taking corrective actions as needed.
- Responding promptly to emergencies and assisting with evacuation procedures if required.
- Contributing ideas for improving safety practices and procedures.
- Communicating effectively with supervisors and colleagues regarding safety matters.
- Being proactive in maintaining a safe and healthy workplace for yourself and others.

4. PROJECT TRAFFIC AND SECURITY MANAGEMENT

4.1 Vehicle Movement and Parking

- Vehicles entering the project site must follow the designated traffic flow and maintain a speed limit of 15km/hr.

- Seat belts are mandatory for all occupants, and a designated guide must assist when construction vehicles are reversing.
- Parking is prohibited unless authorized by PMX Malaysia and/or the client.
- Vehicles loading or unloading materials, equipment, or waste should not remain stationary longer than necessary.
- The fire engine hardstand area must always remain unobstructed.
- No worker is to be transported in a vehicle.
- No machinery / plant are allowed in the project worksite without written approval by PMX Malaysia Sdn. Bhd

4.2 Flagman/ Traffic Assistant

- Flagman/Traffic Assistants are necessary to manage traffic during the reversing of construction vehicles, scissors lifts, boom lifts, and forklifts
- Site personnel designated as flag/traffic assistants must undergo training provided by PMX Malaysia Safety Department on their duties.
- All flagman must be provided with a whistle and traffic wand

4.3 Security, Patrolman, and/or Auxiliary

- Everyone entering the project site must follow the current security protocols.
- Ingress and exit from the project shall only be made through designated security gates
- Parking and storage shall only be in designated areas. All contractors are to protect their project materials, personal property and belongings
- No contractor shall remove Client's, PMX Malaysia or other contractor's / person's property.
- Any removal of plant or materials from the project shall only be done upon the written authorisation of PMX Malaysia's Safety department or Project Management
- Security uniform must be visibly worn at all times while on the project premises
- Personnel are not permitted to enter areas where they do not have authorization from the Safety department

- Security personnel have the authority to conduct a security search if they determine it to be necessary.
- All personnel shall cooperate with such security requirements.
- During incidents, security personnel might conduct emergency response, crowd control and incident investigation.
- All personnel shall also render their cooperation.

4.4 Visitors

- Visitors for official reasons must always be with authorized staff in the construction area, except in the office section.
- Visitors are not permitted to perform any work in the plant or construction area.
- Visitor badges or pass, Visitors may be issued with identification badges or passes to wear while on the site for easy identification by site personnel.
- Visitors should be informed of the site's emergency procedures, including evacuation routes and assembly points, in case of an emergency.

5. PERSONAL PROTECTIVE EQUIPMENT

As per company policy, it is mandatory that all personal protective equipment (PPE) utilized by employees possess SIRIM endorsement.

5.1 The Subcontractor / Supplier / Vendor / Specialist shall ensure that employees are provided with ALL necessary personal protective equipment and that its employees / workers properly wear and store such equipment.

5.2 The Subcontractor / Supplier / Vendor / Specialist shall ensure that personal protective equipment is properly maintained in good order and replaced when defective or according to the criteria set in the Malaysia Construction Industry Code of Practices

5.3 The Subcontractor / Supplier / Vendor / Specialist shall record the issuance of all equipment to his worker in the prescribed forms and such forms shall be updated to the Contractor’s Safety Section monthly

5.4 PPE should only be used as a last resort but where a risk has been identified by a risk assessment and it cannot be adequately controlled by other means which are equally or more effective, Contractors must provide and ensure that employees use suitable personal protective equipment.

5.4.1 Eye and Face Protection

a. The protection must have side shields that are permanently attached.

b. Ensure protection have smooth edges, especially at the molding joints, to prevent cuts and injuries from accidental impacts.

c. Clear safety protection are permitted indoors or after dark, except for welding or gas cutting activities.

d. The use of protective covers or side shields is allowed

e. Protective equipment to **protect the eyes must be worn whenever a danger exists** from:

i. Flying missiles, objects or grit;

ii. Chemical splashes;

iii. Excessive heat;

iv. Ultraviolet radiation;

v. Laser

vi. Excessive glare; and

vii. Welding flash and sparks.

5.4.2 Safety Shoes

a. Safety shoes or boots must have approved hard leather or rubber with steel caps.

b. Lace-up or zip-up closure is required based on the shoe/boot type.

c. Cutting the safety shoes in the heel area is strictly prohibited.

5.4.3 Hand Glove

a. Hand protection shall be worn by all individuals when handling activities which pose hazards such as:

i. Skin absorption of harmful substances;

ii. Cuts;

iii. Lacerations;

iv. Abrasions;

v. Punctures;

b. Management shall provide and ensure appropriate hand protection is worn by employees when performing such work.

c. Type of glove to be worn based on hazard exposure

i. General Work – Cotton Gloves with rubber coating

ii. Hot Work – Hot Work Leather Gloves (as minimum)

iii. Chemical Handling – Chemical Rubber Gloves (chemical dependant, different chemicals might require types of gloves, refer to Safety Data Sheet of chemicals)

iv. Rigging, Erection of Metal components – Leather Gloves

v. High Voltage Electrical works – Electro gloves

5.4.4. Body Safety Harness

Employees or contractors shall worn :

a. Safety harness to be used when work at heights (1.8m or more).

b. Safety harness will be mandatory worn by all personnel on the upper floors during construction period when walls and / or floors have not been erected / completed.

i. Safety harness shall be equipped with a shock absorber and double lanyards.

ii. Users of safety harness to be trained on wearing, using and maintenance of the harness. Training records to be documented

5.4.5 Safety Vest

a. Safety vest shall be worn, Once step in at construction site, at workshop, yard and store.

b. All personnel must wear reflective clothing that meets EN471 Class II standards or an equivalent.

c. Reflective strips can be worn over work clothing to meet this requirement.

d. Only Green or yellow vests should be worn by all personnel, including those without specific appointments requiring different-coloured vests, to avoid confusion with other designated personnel.

- Orange vests are for banksmen, riggers, lifting supervisors, and crane operators
- Blue vests are exclusively for chargemen.

5.4.6 Hearing Protection

a. The use of the following types of hearing protectors in PMX Malaysia Safety manual shall be identified during hazard assessment:

i. Aural Insert Protectors (Ear Plugs); and

ii. Circum aural Protectors (Ear Muffs).

b. Selection of hearing protection is dependent upon:

i. Attenuation required;

ii. Environmental conditions (heat, humidity etc);

iii. Work duration;

iv. Comfort and fit;

v. Necessity to communicate;

vi. Wearer acceptability;

vii. Type of activity involved; and

viii. Compatibility with other PPE worn (e.g. eye protection, helmet and respirator).

c. The following rules must be adhered to when wearing ear plugs:

i. Ear plugs fit into the ear canal;

ii. If the plugs are the disposable type, they must be disposed of after each used;

iii. Non-disposable ear-plugs must be cleaned regularly to ensure that they do not cause a possible ear infection, both bacterial or fungal; and

iv. Ear plugs worn by one person must never be worn by another.

d. Ear muffs can be worn independently or as attachments to safety helmet in addition to both types of hearing protection.

5.5 Whenever PPE is to be issued, Contractors must ensure that their employees have been given adequate and appropriate information, instruction and training to enable them to understand the risks being protected against, the purpose of the PPE and the way it is to be used.

5.6 PPE to be provided must comply with relevant legislation and meet recognized local and international standards such as those from Europe or America (i.e. SIRIM, BS EN or ANSI).

5.7 The following PPE is mandatory and is to be always worn on site (including visitors):

a. Safety helmet with chin strap

b. Safety glasses (shaded for outdoor work and clear inside structures and during non daylight hours) with Z87/Z87+ code

c. Safety shoe

d. Safety vest (Class I)

e. Arm sleeve

5.8 Additional PPE will be provided as required after risk assessment

5.9 PPE standard

5.9.1 Safety Helmet

The safety helmet requirement is mandatory upon entry through the construction gate, with exemptions granted for designated PPE-free zones such as the canteen, prayer room, office, pantry, and rest areas.

Safety Helmet Requirements:

a. All helmets must have chinstraps.

b. Bump hats are prohibited.

c. Helmets must be of a single color.

d. Helmets must be within their validity date (non-expired).

e. Only designated and approved stickers are allowed on helmets.

f. Chinstraps must be worn when working at heights or in areas where helmets may fall, posing a hazard (such as at the edge of excavations or floor openings).

1		White	Management, Engineer, Supervisor & Visitor
2		Yellow	PMX General worker, and Housekeeper
3		Red	EHS
4		Green	Fire, Security, and BMS
5		Orange	Electrical
6		Blue	ACMV
7		Brown	Security Officer

6. ESH TRAINING

6.1 Safety Induction Course Training

Arrangement for booking of EHS Induction Training should be done with PMX EHS Department before the training. Individual contractor are to submit the following

documents to PMX Administrative department and PMX EHS department 7 working days before from the actual day of training.

a. The document to be submit are
   i. Induction application form;
   ii. Site pass application form
   iii. Photocopy of Identification card (for Malaysian); or
   iv. Photocopy of valid Passport (for Non-Malaysian);
   v. Photocopy of working permit (for Non-Malaysian); and
   vi. Photocopy of CIDB Card.

b. Documents to be prepared during the induction include:
   i. Original Identification (for Malaysian);
   ii. Original valid Passport (for Non-Malaysian);
   iii. Original of working permit (for Non-Malaysian); and
   iv. Original of CIDB Card.
   v. A copy of attendee's identity form.

c. Original identity documents is required for verification purposes on SIC Day.

6.2 ESH of Training

PMX staff and contractors are required to undergo the following trainings:

	CIDB	Emergency Response	Plan Working at Height	Banksman	Chemical Awareness	HIRARC	PTW
All Personnel	✓					✓	
EHS		✓	✓		✓	✓	✓
Individuals involved in the work and their supervisor.			✓	✓	✓	✓	
Emergency response team		✓					
Managers, Engineers, and supervisors					✓	✓	✓
All electrical workers and welders						✓	✓

	Confined Space	Scaffolding	Breathing Apparatus	Lifting and rigging	Locked out/Tagged out	MEWP	Incident Investigation	First Aider	Electrical Safety
All Personnel									
ESH Only							✓		✓
Individuals involved in the work and their supervisor.			✓	✓					
Managers, Engineers, and supervisors					✓		✓	✓	✓
All electrical workers and welders					✓				✓
Appointed person	✓	✓				✓		✓	

7. FIRST AID REQUIREMENT

7.1 Number of First Aider

Contractors must nominate first aiders to provide initial treatment on-site. These first aiders can be selected from their own staff or site personnel who have received first aid training. First aiders are required to have completed a first aid course from an institution recognized by the Ministry of Health and hold a certificate of proficiency in first aid treatment.

7.2 This certificate remains valid for 3 years. Recognized institutions include:

a. National Institute Of Occupational Safety And Health (NIOSH)

b. CERT Academy Sdn Bhd

c. Or any third-party trainer qualified under NIOSH.

7.3 For personnel who have not previously attended any first aid training, internal first aid training sessions will be conducted by competent first aiders for the purpose of raising awareness. However, trainers must hold Train the Trainer competency.

7.4 All individuals designated as first aiders are required to sign a letter of responsibility acceptance.

Number of workers	Workers 1-19 workers	Every 20 there after for up to 150 workers	Every 150 thereafter for more than 150 workers	More than 400 workers
Number of First Aider	1	1	2	1 additional state registered nurse / medical assistant

7.5 Requirement for First Aid Boxes at Contractor Sites

Contractors are required to provide first aid boxes at their site office and lay down area. These boxes must be maintained by appointed first aiders and stocked according to the matrix below:

Number of workers	1 to 10	11 to 50	50 above	150 above
Type and number of first aid box	1 Box (A)	2 Box (A) or 1 Box (B)	4 Box (A) or 2 Box (B)	First Aid Room

7.6 Item in First Aid Box

Item	Box A	Box B
Finger gauze	6	12
Hand and feet gauze	3	6
Bandage	5	10
Triangular bandages 90cm X 90cm X 130cm	6	9
Adhesive Plaster	Sufficient supply	
Roller Bandage 1 & 2 Inch	6	9
Cotton Wool	6	9
Splint and related material	Sufficient supply	

Alcohol Pad	**1 box**	**2 box**
Eye Ointment	**Sufficient supply**	
Eye pad	**2**	**4**
Povidone Iodine	**1**	**2**
Blunt Scissors	**1**	**2**
Safety Pin	**10**	**20**
Elastic Bandage	**5**	**10**
Surgical tapes: 3M (Hypoallergenic)	**4**	**6**
CPR Mask	**3**	**6**
Surgical Glove	**Sufficient supply**	
Biohazard Plastic Bag	**2**	**4**

Any usage of first aid items must be recorded by the appointed first aider in the First Aid Injury Record. These records should include details such as the type of treatment administered, incident specifics related to the work process, injury details, any referral arrangements made, and subsequent casualty management. **Records must be retained for a minimum of 5 years.**

8. LIFTING REQUIREMENT

8.1 Pre-Lifting Procedure

a. **Notification to Project Team:** The contractor shall notify the Project Team two weeks in advance of the planned lifting activity.

b. **Onsite Discussion:** Upon notification, an onsite discussion shall be conducted to discuss the lifting activity. Attendees shall include representatives from the contractor, Project Team, and Environment Health, & Safety, (EHS) from the main contractor.

c. **Preparation of Documents:** Following the onsite discussion, the contractor is required to prepare the following documents:

   i. Lifting Plan (for any lifting exceed 1 tons)

   i. Logistic Plan

   ii. Competency Certifications for personnel involved

   iii. Certifications for lifting equipment and Lifting Crane Load details

d. **Presentation of Plan:** One week before the lifting date, the contractor shall present the prepared lifting plan along with the site layout to the Project Team, lifting team, and EHS from the main contractor.

e. **Pre-Lifting Inspection:** A day before the lifting day, the crane and lifting equipment shall be parked inside the designated area. The contractor shall commence an internal inspection of the equipment to ensure readiness and compliance with safety standards with proper documentation.

f. **Final Inspection:** One hour before the lifting activity, the lifting supervisor and contractor's EHS representative shall conduct a full inspection of the lifting site and equipment. This inspection shall be witnessed by the main contractor's Project Team and EHS representatives.

g. **Approval of Permit to Work:** Upon successful completion of the final inspection, the Permit to Work (PTW) will be approved by the Project Manager or Construction manager and acknowledged by the PMX EHS team

8.2 **Material delivery**

8.2.1 In order to prioritize safety during heavy machinery delivery at our site, we have developed the following logistic plan requirements. Please ensure full compliance with these requirements to safeguard the well-being of personnel, protect equipment, and minimize environmental impacts

8.2.2 Implement strict access control measures to regulate entry and exit points for delivery vehicles, preventing unauthorized access and minimizing potential hazards.

8.2.3 Conduct a comprehensive assessment of delivery routes to identify and mitigate potential safety hazards, such as overhead obstructions, uneven terrain, or tight turns.

8.2.4 Ensure proper securement of heavy machinery on delivery vehicles to prevent shifting or falling during transit, minimizing the risk of accidents or injuries.

8.2.5 Implement effective traffic management measures, including signage, barricades, and flaggers, to safely guide delivery vehicles and protect workers and pedestrians in high-traffic areas.

8.2.6 Require all personnel involved in the delivery process to wear appropriate PPE, such as high-visibility vests, safety helmets, and steel-toed boots, to enhance visibility and protect against potential hazards.

8.2.7 Develop comprehensive emergency response plans and provide training to personnel on procedures for responding to emergencies, such as accidents, spills, or equipment failures, during the delivery process

8.2.8 Conduct thorough inspections of delivery vehicles and lifting equipment before use to ensure they are in proper working condition and comply with safety standards.

8.2.9 Establish clear communication protocols between delivery personnel, site managers, and relevant stakeholders to facilitate the exchange of critical safety information and address any concerns or emergencies promptly.

8.2.10 Implement measures to minimize environmental impacts during the delivery process, such as preventing fuel spills, minimizing noise disturbances, and protecting sensitive habitats or water bodies near the delivery route.

8.2.11 Maintain accurate records of safety-related activities, including pre-delivery safety checks, incident reports, and safety training records, to track compliance with safety regulations and identify areas for improvement. For any logistic movement involving a 30-foot lower back truck, the following information and documentation are required to ensure safe and efficient operations:

a. **Human Walkway:** Provide a detailed plan outlining designated pedestrian walkways to ensure the safe passage of personnel around the truck's operational area.

b. **Vehicle Movement:** Develop a comprehensive plan detailing the route and procedure for the movement of the lower back truck within the site premises, taking into account any potential obstacles or hazards.

c. **Endorsement by Traffic Management Officer:** Obtain endorsement from the Traffic Management Officer confirming that the proposed vehicle movement plan adheres to safety regulations and traffic management protocols.

d. **Truck Insurance:** Ensure that the lower back truck is adequately insured to cover any potential risks or liabilities associated with its operation and movement.

e. **Truck Road Tax:** Verify that the truck's road tax is up-to-date and compliant with local regulations to avoid any legal issues during transportation.

f. **Truck Operator Competency License:** Confirm that the truck operator holds a valid competency license demonstrating their proficiency in operating the vehicle safely and effectively.

g. **Name List of Banksmen:** Provide a list of certified banksmen responsible for assisting the truck operator during maneuvers, ensuring clear communication and safe movement of the vehicle.

h. **Method of Communication:** Specify the method of communication to be used between the truck operator, banksmen, and site personnel to facilitate coordination and ensure prompt response to any emergencies or unforeseen circumstance

8.3 During the lifting

a. **Monitoring and Supervision:** Throughout the lifting activity, the contractor's safety personnel and lifting supervisor shall actively monitor the operation. If they are not present at any point during the activity, lifting work shall cease immediately.

b. **Communication and Coordination:** The lifting supervisor shall maintain effective communication between the rigger and crane operator using walkie-talkies. Clear and concise communication is essential to ensure safe and precise lifting operations.

c. **Weather Conditions:** In the event of inclement weather, such as strong winds or heavy rain, the lifting activity shall be halted. The lifting supervisor shall assess weather conditions and ensure that the **wind velocity does not exceed 20 km/h** before resuming lifting operations.

d. **Barricading and Signage:** All lifting areas shall be barricaded according to the crane radius to prevent unauthorized access. Contractors shall display and maintain appropriate signage to alert personnel of the lifting activity and potential hazards.

e. **Lifting hours:**

   i. End Time: Any lifting activity shall conclude by 5:30 PM.

   ii. Extension Procedure: If an extension beyond 5:30 PM is required, a Permit to Work (PTW) extension must be initiated before 6:00 PM.

f. **Considerations for Extended Hours:** When working past 6:00 PM, additional lighting must be provided to ensure adequate visibility. A minimum lighting level of 300 lux is required for safe lifting operations during nighttime.

8.4 Post lifting

a. **PTW Sign-Off:** At the conclusion of each lifting activity, the Permit to Work (PTW) must be signed off daily to confirm the completion of the lifting operation. These signed PTWs shall be retained by the PMX EHS team.

b. **Area Cleanup:** The contractor is responsible for cleaning the lifting area post- operation. This includes dismantling all barricades and removing any signage used during the lifting activity to restore the area to its original condition.

c. **Escort Service:** The banksman is tasked with escorting the crane and loader vehicles to the exit gate once the lifting operation is completed. This ensures safe and efficient movement of heavy equipment within the work site.

9. MOBILE ELEVATED WORKING PLATFORM (MEWP)

9.1 All Mobile Elevating Work Platforms (MEWPs) must undergo a Safe Working Load (SWL) rating assessment before being used on site.

9.2 It must be equipped with reverse lights, alarms (activated while reversing), and both visual and audible warning systems (such as buzzer lamps and horns).

9.3 All MEWPs shall not lift materials beyond their lifting capacity.

9.4 No speeding allowed

9.5 All MEWPs must prominently display the following:

a. Copy of PMA cert.

b. Inspection sticker.

c. Details of the trained operator or certification

d. Signage outlining the necessary safety precautions, including dos and don'ts while operating the equipment.

e. Daily checklist

f. Machinery maintenance record

g. Copy of insurance certificate

9.6 All MEWPs to be maintained in good working conditions, oil leaking work platform shall not be allowed to be used and be promptly serviced or removed.

9.7 Engine shall be off with ignition key removed whenever operator leaves working platform even for short period of time.

9.8 All machinery must undergo PMX EHS approval before being allowed to enter the site. Machinery entry permits must be submitted at least one day before mobilizing to the site.

9.9 All Operators are required to undersign a Letter of Responsibility acceptance

9.10 MEWPs shall be used and parked on levelled and firm ground. Only 1 worker is allowed to stand on the extension platform of a MEWP and no materials shall be allowed to be placed on the platform when it is extended. The maximum safe working load shall be made known and at no time shall the MEWP be overloaded

10. SCAFFOLDING

The purpose of this safety manual for scaffolding is to ensure the safety of workers involved in scaffolding activities. No work shall by-pass the established OSH regulations and rules and regulations. Therefore, the compliance to the requirements contains here is extremely important. The subcontractor / vendor / specialist must ensure all personnel are aware of the contents and adhere to Malaysian Law (FMA 1967 (Bowec) and TG20). This instruction shall apply to all project worksite area.

a. Persons Involved

b. Construction Manager

c. Subcontractor

d. Scaffolding Supervisor

e. Safety and Health Officer

10.1 Responsibilities

a. Construction Managers and Subcontractors

- Conduct risk assessments, prepare work method statements and obtain approval from DOSH.

b. Competent Scaffolder

- Supervise all erection, alteration and dismantling of scaffolds.
- Inspects scaffolds and authorize their use.

c. Scaffold inspector

- Attend a join inspection with the competent scaffolder before a scaffold is authorize to use.

10.2 Types of Scaffolds

a. Light Duty Scaffolding

Light duty activity for electricians, mechanical work or similar with maximum load of 225 KG per bay. Maximum load to be display at scaffold.

b. Medium Duty Scaffolding

Medium duty activity such as plastering, painting, conduit installation or similar with maximum load of 450 KG per bay. Maximum load to be display at scaffold.

c. Heavy Duty Scaffolding

Heavy duty activity such as cable ladder installation, piping installation, ducting works or similar with maximum load of 675 KG per bay. Maximum load to be display at scaffold

d. Mobile Scaffolding

Any mobile scaffolding must have castor wheels with locking device, shall not be pushed when there is a person working on top of the scaffold. Only applicable for light duty work and maximum load to be display at scaffold.

i. Working platform shall be fully boarded and free from rust and defects.

ii. Every working platform shall have toe boards and guard rails.

iii. Guard rails shall consist top rail and mid rail.

10.3 Scaffold Inspection and Tags

a. Scaffold shall be inspected after complete installation by a competent scaffolder (DOSH Registered).

b. Scaffold to be inspected every Monday regardless of the day it is erected.

c. Contractors to submit weekly scaffold inspection form endorsed by competent scaffolder to PMX EHS team.

d. Scaffold shall also be inspected when it is exposed to rain or typhoon or others that might affect the strength and stability of the scaffold.

e. Site Supervisors shall check the scaffold on daily basis for any missing components before allowing general workers to use

f. Green Tag means scaffold is safe to use, Red Tag will indicate an incomplete scaffold and not safe to use.

safe to use	not safe to use
	

10.4 Personal Protective Equipment

a. Safety Helmet, High Visibility Vest and Safety Boots is compulsory when using scaffold.

b. All personnel using the scaffold shall wear a complete safety harness following PMX EHS standard.

11. COVER, FENCING, BARRIER & FALL PROTECTION

The primary and most effective strategy to prevent falls is to minimize the necessity for elevated work areas. This should always be the foremost consideration in work planning. In instances where elevated work cannot be avoided, fall protection measures must be implemented to safeguard personnel. Fall protection comprises two key components: preventing individuals from falling from heights and shielding them from falling objects.

11.1 Fall From Heights Provisions

a. Fall from height are the main contributors to fatal accident.

b. In general, any work on height of 1.8 metres or more, the open sides have to be barricaded with materials that is rigid and can withstand the weight of personnel. Contractors shall design a fall protection plan if their workplaces include places where a fall of more than 1.8 metres is expected. Such fall protection plan must be submitted to PMX team prior to work commencement

c. Equipment and systems should consider fall protection during its design to provide the most effective means of fall protection.

d. Proper foothold and handhold shall be the primary consideration for elevated workplaces before work is conducted. Where work platforms are used, it should be at least 500mm wide. It shall be continuous and secured.

e. Work platform should be of non-skid surface and be able to support the load that it is intended to carry. Guardrails consist of top rail and mid rail. Top rail should be at least 1m in height and mid rail should be not exceed 600mm height. The maximum distance between the top rail and mid rail should not exceed 600mm. Guardrails must be secured.

f. Access to elevated workplaces must be carefully planned and provided. Ladders, which must be in good working condition, should be securely anchored at both the top and bottom. Additionally, landing platforms should be installed at intervals of every 9 meters along the ladder access. Within scaffolding structures, access ladders should be staggered to enhance safety.

g. Tying 2 vertical lengths of access ladder together is prohibited. Rungs of ladder should coincide with scaffold members to reduce caught in between and slip and fall hazards. Where handrails are not available at where the ladder ends, ladder should protrude at least 1m at the landing platform. Ladders are primarily used as an access. If required, only light duty work shall be carried out using A frame ladders.

h. Unsecured A ladders in use shall only be supported by personnel holding the base of the ladder. Work personnel shall not be on the last 2 steps of the ladder to do work and compulsory to close 2 rung above. The ladder shall be positioned, and work personnel are to maintain their centre of gravity in the middle of the ladder. They are not to stretch to reach the work location while on a ladder. Climbing of ladder should adopt a 3-point contact and both hands have to be kept free for climbing. Working area shall be barricaded.

i. Only one person is allowed on the ladder. Ladder should not be placed in front of doors that swing open towards the ladder unless the door is blocked, opened, locked and posted with signage and a buddy system deployed.

j. Only fibre-glass ladders are allowed for electrical work or work in energised electrical rooms. Manufacturer information must be on the side of the ladder. Areas where A ladders are used should be cordoned off using sufficient cones, hard barricade and signage to keep non-work personnel away. Tools and equipment should be carried in tool belts or bags or passed on to different levels manually, by a rope of sufficient strength or by a mechanical hoist or winch.

k. Open edges of buildings where personnel can fall from a height of more than 1.5m shall be effectively guarded with Hard / rigid barricades. Barricade materials used shall be of metal pipes (minimum 40mm diameter), wire ropes (minimum 6mm). Stanchions or barricade supports shall be of metal at a maximum distance of 3m. Warning signage should be posted at regular intervals.

l. Large openings where covers cannot practically be installed shall be guarded by Hard/ rigid barricades. Such barricades shall be of the same construction as barricades for open edges

m. Openings created due to removal of raised floor tiles should be demarcated using warning chain, tapes, cones, ropes, etc. Warning signage should also be posted to keep personnel out. Removal of raised floor tiles shall be kept to a minimum and to locations where work is carried out. Where large portion of raised floor tiles have to be removed, planning for removal in sections (maximum 2 bays) should be done

n. Where work is to be conducted at grid ceilings, loading capabilities have to be checked. In general, odd size ceiling and ceiling with penetration shall not to be stepped on. Tools when working above the ceiling to be kept minimal and only 1 work personnel is allowed on top of each ceiling grid.

o. Where guardrails and covers cannot be erected, safety nets, catch platforms, fall cushions could be provided. However, it shall be carefully considered as such provisions do not prevent fall occurrence, it only limits the impact of a fall and is dependent on the quality of such provision to achieve the desired impact limitation

p. Where work at heights is required, personal fall protective equipment shall be used and training and provision of such PPE shall be made available to the work personnel. A rescue plan for work at heights / fall from heights shall be derived and all personnel working at heights including rescuers shall be familiar with such emergency and rescue planning. See safety harness below.

11.2 Falling Objects Prevention

a. To prevent falling objects from the open building edges, toe boards shall be installed at open edge barricades. Such toe boards shall be secured to the barricades to prevent toe boards from becoming the falling objects themselves. Height of toe board shall not be less than 90mm

b. Covers at floor openings will serve as protection for falling objects.

c. Where large floor openings are guarded by hard/rigid barricades, provision of toe boards of the same construction as at open building edges shall be erected.

d. Areas where work conducted at elevated work areas shall be considered as a falling objects zone. Such zones shall be in hard barricade and warning signage posted to prevent personnel from moving into the falling object zones.

e. Materials brought up that have not been installed should be temporary secured or so positioned that they do not fall off.

f. Tools used should be kept in toolbox, tool bag or containers. If necessary, hand line should be used to prevent falling tools due to slipping of hand tools. Tools, materials, debris and wastes shall not be thrown from heights. Housekeeping shall be maintained at all times.

g. Helmets must be equipped with chinstraps and work personnel shall put on their chinstraps when working at heights.

11.3 Safety Harness And Anchorage

a. Where works at height of more than 1.8 metres are involved, site personnel are to wear and use the safety harness. Training on usage of safety harness shall be conducted by PMX EHS Department to all safety harness users.

b. Anchorage of safety harness shall be done on a rigid point. Conduits, sprinkler, gas pipes, etc are examples of improper anchorage locations. Where possible and practical, anchorage of safety harness should always be on higher locations.

c. Lifelines shall be provided where there is no natural rigid anchorage location. Lifelines shall be using materials capable of the load. Nylon ropes used as lifelines shall be of a minimum of 16mm diameter. Wire ropes shall be of a minimum of 6mm diameter. Other materials used shall be reviewed and approved by PMX EHS Department prior to use. Lifelines shall be installed properly and on strong structures.

d. Documentation demonstrating the effectiveness of the lifeline shall be available for verification

e. Any temporary working platform and temporary edge protection area shall wear body harness.

11.4 Working at Height Permit

- Any activity involving 1.8 meters and above require a Permit

12. HAZARDOUS SUBSTANCES

a. All contractors and vendors who intend to bring in chemicals and hazardous substances to the site are required to forward the relevant Safety Data Sheets, Chemical declaration form and chemical entry permit to PMX EHS department 3 days beforehand.

b. PMX shall review the SDS and allocate a suitable storage area (if necessary segregation of chemical storage). All chemical and hazardous substances are

to be labelled and a copy of the SDS is to be placed at the storage area. Warning signage is to be provided as well.

c. Proper PPE (as stated in the SDS) is required when handling hazardous substances. Proper and effective spillage control and containment shall be provided. Proper and adequate firefighting devices shall also be placed for flammable liquids.

d. Any chemical that requires a statutory license or permit shall acquire such necessary documentations before entry into the project.

e. All contractors and vendors shall brief all their work personnel with regards to safe handling of the chemicals stated in the SDS.

f. PMX EHS department to verify the chemical handling and SDS training with personnel involved in handling the chemicals and hazardous substances before they are allowed to handle them.

13. TEMPORARY SUPPORT SYSTEM

All temporary supports systems (pipe temporary supports, chain blocks mounting points, etc) shall be constructed as per designed and certified by a appointed PMX Mechanical Engineer.

14. GAS CYLINDER & STORAGE

14.1 All gas cylinders are to be positioned upright and be secured to prevent toppling. Gas cylinders' storage areas shall be designated in places where they will not be damaged by passing or falling objects.

14.2 Storage areas shall also be posted with signage stating the type of gases that are stored. No smoking or hot work is allowed in such storage area.

14.3 External storage areas should be protected from adverse weather conditions and not stored under direct sunlight or at temperatures above 50°C. Empty and full gas cylinders to be segregated. Oxygen and acetylene cylinders shall be segregated.

14.4 Storage within the building to be kept to the minimum and be approved by PMX prior to storage. No gas cylinder shall be placed in staircase, lift shafts, confined spaces, areas with no or poor ventilation.

14.5 All gas cylinders shall be equipped with protective caps installed on them and such protective caps shall be replaced immediately with the regulators are removed. Never transport cylinders without the valve protective caps in place.

14.6 Transport of gas cylinders shall be done with hand trucks or by securing in cylinder racks meant for the purpose. They shall be transported in upright positions.

14.7 Personnel responsible for handling, transporting, connecting or using the cylinder must identify the gas by reading the label and SDS / SDS for potential hazards and its controls.

14.8 Cylinders must be removed from trucks prior to use except for those that are specially mounted for such purpose.

15. CONFINED SPACE

15.1 A confined space is any area where there could be a lack of oxygen, dangerous chemicals building up, a risk of someone being trapped, limited entry points, and it's not meant for people to stay in for a long time. Some examples are tanks, tool compartments, raised floor areas, and containment pits.

15.2 Prior to work commencement in such areas, such workplace shall be made safe for work personnel to work in

15.3 Measures include removing of contaminants and toxic substances of the work space, providing adequate ventilation and / or exhaust, respiratory protection devices, training of work personnel for confined space work, gas check by competent personnel and monitoring of atmospheric conditions during the work.

15.4 Confined Space Work Permit shall be applied and approved prior to commencement of entry and work in the confined space.

15.5 Confined space entry is defined as any part of a personnel passing into the opening of the confined space.

15.6 During confined space work, a entry supervisor must be present at all times. Their duties include permitting only authorized personnel to enter, inspecting ventilation fans and rescue equipment, maintaining regular communication with workers inside, recording entry and exit times, triggering an emergency alarm in hazardous external conditions, and contacting emergency services when necessary

15.7 Before starting confined space work, it's important to consider risks such as falls from heights, falling objects, and other hazards related to the space's contents and layout. This includes unguarded equipment, hazardous or flammable substances, spills, and any other potential dangers.

15.8 Safety measures must be implemented to protect entrants and other personnel in the area during confined space work. Plans for emergency response and rescue should be developed and accessible. Regular emergency drills should also be conducted to ensure preparedness.

16. ENERGISED ELECTRICAL & HAZARDOUS ENERGIES WORK

16.1 Energized Electrical Work (EEW)

a. An EEW permit is necessary for work on energized systems operating at a potential greater than 50 volts to ground.

b. All personnel who perform work on electrical systems must be qualified. Whenever possible, electrical equipment must be work on in an electrically de-energized state according to documented lockout / tag out procedures.

c. Work on energized electrical equipment will be permitted only when it can be demonstrated that the use of de-energized work practices introduces additional or increased hazards or is not feasible; documented compelling reasons must be provided and approved

d. The scope of work must be communicate and understood by all parties involved.

e. Personnel must not wear conductive items when working on or within the defined safe working distance of energized electrical equipment. These items include, but are not limited to watches, bracelets, rings, conductive framed glasses, earrings, badge clips and clothing with metal snaps and buttons. If conductive items cannot be removed, they must be covered with a non-conductive material.

f. EEW in hazardous locations (Class 1, Division 1 or 2) must be avoided. This work will only be performed after a thorough analysis has been made to verify the work can be performed safely, and approval has been obtained from the responsible PMX Engineer. Compelling reason must be documented and approved via an EEW permit.

g. The safe work practices to be used for a project or task are based upon the rated type of electrical until proven to be a lesser type. See Matrix below :

Electrical Work Type	Energy Magnitude	Work Specifics	Testing/ Metering Operations	Minimum Safety Equipment**	Buddy Required	EEW Permit Required
Type 1	Zero Volt Amps	De-energized, locked and tagged out. Meter and check all sources of power before beginning work	Meter only to ensure no power.	Safety glasses	No	No
Type 2	Energized with covers in place less than 600 Volts	Permanent covers in place designed for metering and testing that will prevent any accidental bodily contact with electrical or RF energies.	Meter and test only by means of designed testing points with all covers in place	Safety glasses	No	No
Baik2Type 3	Less than 240 Volt Amps and less than 50 Volts	Work involving potential direct physical	Meter, test or troubleshoot within voltage and	Safety glasses (non-conductive frames)	No	No

		contact with energized exposed circuits not exceeding 240 Volt Amps and less than 50 volts.	Volt Amp ranges.			
	Less than 600 Volts	Visual inspection	None	Safety glasses (non-conductive frames)	No	No
Type 4	50 to 600 Volts	Work involving potential direct physical contact with energized exposed circuits greater than 50 Volts and less than 600 Volts. Ensure the area is properly barricaded. Includes all energized, exposed RF work	Metering and testing with any covers removed allowing for direct contact within this voltage range. This is considered EEW	Safety glasses (non-conductive frames), properly rated and tested rubber insulated gloves and mats. Insulated boots, body hook	Qualified Charge-man	Yes
Type 5	Greater than 600 Volts	Work involving potential direct physical	Metering and testing with any covers removed	Safety glasses (non-conductive frames), properly rated	Qualified Person as an EEW Buddy	Yes

		contact with energized exposed circuits greater than 600 Volts. Ensure the area is properly barricaded with non-conductive material.	exposing over 600 volts. This is considered EEW.	and tested rubber insulated gloves and mats. Insulated boots, body hook		

h. Any energized work (i.e. Types 2-5) done in a hazardous location requires an EEW permit

i. Work will be classified at the highest level until testing is complete

j. The use of temporary coverings (blankets), insulated tools, mats and PPE reduces the risk to the worker contacting energized parts is mandatory. However, it will not reduce the energized electrical work to a lower type.

16.2 General Work Practices

a. No EEW may be performed without approved insulated tools. The hand tools must be specified during PTT and rated for the type of work.

b. Areas around exposed/energized equipment must be barricaded and/or secured to prevent accidental contact

c. Personnel will not employ practices that provide a current path through any part of their body. Every effort will be made to practice the “one-hand rule.”

d. No electrical work will be permitted in areas that are dimly lit.

e. Worker clothing, jewellery, equipment and work materials will be rendered nonconductive or used in a manner to prevent contact with energized electrical conductors.

f. Tripped circuit breakers may not be reset (or fuses replaced) until the system that they service has been verified safe.

g. Special tools will be used to install / remove fuses under load. Panel doors must be closed prior to re-energizing circuits in which fuses have been replaced.

h. Equipment must be suitable for the environment (e.g., hazardous locations, damp areas) in which it is used.

i. All electrical and protective equipment will be inspected prior to use. Damaged items will be tagged and taken out of service.

j. Temporary power cords must be protected from damage. Those run overhead will be adequately secured (with a non-conductive means) at-least 7 feet from floor level. No temporary cords will be draped over equipment or left where potentially walked or driven upon or pinched between doors.

k. Cords used on construction sites must be of an extra hard use type.

l. Precautions must be taken to verify the location of underground/inner wall electrical interferences prior to beginning excavation/penetration activities. If unsure of the exact location of these interferences, protective equipment must be worn.

m. No use of metal keyhole saws to penetrate set rock walls for electrical installations.

n. Metal fish tape will not be used for pulling wire into energized panels or where the potential exists for contact with energized components.

o. Non-metallic pulling socks will be used when pulling wire into energized panels or where the potential exists for contacting energized components.

p. Precautions must be taken to verify the location of underground / inner wall electrical interferences prior to beginning excavation / penetration activities. If unsure of the exact location of these interferences, protective equipment will be worn.

q. Heavy equipment will not be operated near overhead lines

16.3 Type of Energize Electrical Work

Type	Work	Description
1	De-energized, locked and tagged out **and tagged out**	1. Arrange for required down time of equipment/systems. 2. De-energize all power sources including backup power, lock and tag out and verify all electrical sources are at zero voltage. Ensure that Hazardous Energy Control program criterion has been met.

		3. Verify functionality of test equipment and ensure it is properly rated for maximum potential voltage to be tested, including valid calibration date. After de-energizing, test all circuits for voltage as follows: 1. Check meter with known voltage. 2. Check voltage with meter--confirm to be zero. 3. Check meter with known voltage again, to confirm proper operation of the meter.
2	Covered, energized circuits less than 600 volts or any work less than 50 volts less than 600 volts or any work less than 50 volts.	1. Verify that all covers are in place. 2. Ensure proper safety equipment is at work site and in good condition. 3. Verify functionality of test equipment and ensure it is properly rated for work to be performed, including valid calibration date
3	Energized work on exposed electrical systems less than 50 volts and less than 240 volt-amps,visual inspections rated between 50 and 600 V onexposed electrical systems less than 50 volts and less than 240 volt-amps, visual inspections rated between 50 and 600 V.	1. Obtain approval from area owner to do work. 2. Verify functionality of test equipment and ensure it is properly rated for work to be performed, including valid calibration date. 3. Determine the voltage, location of shutdown points, and any other associated hazards. 4. Ensure proper tools and test equipment are available for the work to be done and in proper working conditions.
4	Energized work on exposed electrical systems greater than 50 volts and less than 600 volts on exposed electrical systems greater	1. For performing EEW must be provided on the EEW permit. The site's designated approver must approve compelling reasons. Verify functionality of test equipment and ensure it is properly rated for work to be performed, including valid calibration date.

		2. Determine voltage, location of shutdown points, and other potential hazards. 3. Apply warning tags that inform other that work being completed on interrupting breakers/switches. The tag should be placed at the nearest level upstream power source to prevent re-closure and re-energizing of equipment / systems (Power distribution systems only). 4. Obtain the proper safety equipment to complete the job in a safe manner. The specific safety equipment will vary based on the potential hazard. 5. The correct PPE, insulated tools and procedures for safe practices must be documented in the PTT. The safety equipment may include but is not limited to the following: • ANSI approved safety glasses with non- conductive frames • Rubber insulated mats or boots • Properly rated and tested rubber gloves • Properly rated and tested rubber sleeves • Body hook • Approved insulated tools • Face shield • CO2 Fire Extinguisher • Flame retardant clothing (i.e. Nomex or equivalent outer clothing) • Properly rated and tested blast suit • Cotton Clothing • Insulated Mats / Rubber mats • Approved hard hats

		6. Ensure the proper tools and test equipment is available for the work to be done and in proper working condition. 7. Insulated mats and/or boots must be used when working on conductive surfaces for Type 4 and 5 work 8. Barricade and/or secure the area. 9. Upon completion of job or shift: • Retrieve all upstream warning tags (power distribution systems only). • Return the EEW Permit and (power distribution systems only) upstream warning tags to permit issuer.
5	Greater than 600 volts	1. To be comply all requirement as listed on type 4 2. All Type 5 energized electrical work must be planned with documentation of sequenced steps, safety precautions and equipment needed to perform the job safely. 3. The documentation will be approved by an electrical engineer. If this work is routine, procedures will be outlined in PM procedures and on line checklists.

16.4 Hazardous Energies

a. Contractor must define scope of work and all possible sources of stored energy.

b. A lock and tag are required for each worker at all points of stored energy. Group lockout is not allowed.

c. In coordination with PMX representative, shut down the equipment or system using normal shutdown procedures.

d. Isolate the equipment or system by operating the switch, valve or other energy-isolating device. Block, blank off, bleed down or otherwise control all stored energy.

e. In coordination with PMX representative, verify that isolation and de-energization has been accomplished by attempting to operate the equipment or system and verifying with

f. Appropriate diagnostic equipment. Electrical Energized Work (EEW) procedures must be employed until work area has been tested and proven to be de- energized.

g. Each person working on the equipment or system must secure each energy-isolating device with a lock and tag.

h. Prior to start-up, check the equipment or system to ensure it is in safe operating condition with all guards, etc in position.

i. Notify all affected workers and PMX representatives (if appropriate) that lockout / tagout is being removed.

j. In coordination with PMX representatives, restore power source and verify safe operating conditions

16.5 Energize Electrical Permit

a. Validity for EEW only for 8 hours upon PMX Manager approval.

b. Qualified Person must obtain an EEW permit and (for power distribution systems only) an upstream warning tag.

c. Qualified Person must fill out permit, including compelling reason, and sign.

d. Qualified Person must obtain all appropriate signatures on EEW permit.

e. Authorised Person display PTW for every energize room with detail such as name and photo at the room.

f. Closed permits will be archived for one year by the issuing department. If changes are made it will be under the direction of the site EHS department.

17. LIGHTING

17.1 Light can be provided by permanent, temporary or spot source. The minimum illumination intensities in lux will be as follows:

Area	Lux
Construction sites, concrete pouring areas, excavation sites, waste disposal zones, access routes, storage areas in use, loading docks or bay, and field maintenance zones.	150
Indoors: warehouses, corridors, hallways and exit ways.	150
Areas within a construction site including plant and workshops such as sub-Fab, fan attic, Fab level, batch plants, mechanical and electrical equipment rooms, storerooms, indoor toilets and workrooms, as well as break and lunch hall.	100
First aid stations and offices	300

All contractors and personnel are required to provide additional task lighting when the existing lighting in the area is insufficient for safe work to proceed.

18. FIRE PREVENTION

18.1 General Fire Prevention

a. Only smoke in designated areas. When finished, make sure to put out matches and cigarettes completely and dispose of them in designated containers

b. Limit the presence of flammable liquids/gases in the work area to only what is needed for a single shift

c. Seal containers of flammable liquids when not being used. Immediately report any spills or signs of high concentrations of flammable vapors/gases.

d. Ensure you have the required permits before conducting hot work or disabling fire protection systems.

e. Make sure materials and equipment do not block the access to extinguisher's and fire.

18.2 Hot Work Permit

a. A Hot Work Permit is necessary as a component of the overall General Work Permit system, as specified by PMX or the project site, whenever work involves the use of equipment that produces open flames or sparks. This includes welding, cutting, burning, grinding, or soldering operations.

b. All personnel in the surrounding work area must be properly warned of the hazardous work area by the use of hard barricades or other communication means.

c. Prior to commencing work, all work specific/area hazards must be understood and communicated and all appropriate permits will be obtained.

d. Prior to work, within 6m of work area

   i. Flammable liquids, dust lint and oily deposits are to be removed.

   ii. Explosive atmosphere is eliminated or if not possible, monitored.

   iii. Floors swept clean

   iv. Combustible floors wet down, combustibles in the area removed or covered with fire resistant protection.

   v. Floor and wall openings covered

   vi. Fire-resistant blanket should be hung below the work area.

   vii. A fire watch will be employed while Hot Work is ongoing and for 30 minutes after with fire extinguishing equipment immediately available at the work area.

   viii. All fire watch personnel will be trained in the use of the fire protection equipment and fire watch duties.

18.3 Welding, Cutting and Brazing

a. Protection of the eyes, face, neck and hands is required during welding

b. Respiratory protection is not required for most welding jobs if proper ventilation is provided

c. Welding screens are required to protect adjacent workers from exposure to non- ionizing radiation. Adjacent workers are required to wear appropriate eye protection where screens are not feasible. Welder's assistants and those working inside the screened in area must wear appropriate eye protection.

d. Chlorinated solvents are prohibited from use in or adjacent to all welding operations. Decomposition products such as phosgene can be formed as a

result of the reaction of these solvent vapors with the radiation energy produced during welding operations

19. HOUSKEEPING

19.1 Points Of Good Housekeeping

a. Elimination of fire hazards

b. Elimination of slipping and tripping hazards

c. Good access ways

d. A clean site.

e. Segregation of materials and waste for recycling, reusing and reducing.

19.2 Contractors shall provide and maintain adequate manpower and resources for housekeeping based on the matrix below if they do not maintain housekeeping levels on site.

Package	General	Mechanical	Electrical
No. of Housekeeping Workers : No. of Site Personnel	3:30	5:30	5:30

19.3 Contractors are to perform housekeeping 30 minutes before their official off time and, most importantly after every job done. They are not to wait at the end of the day to perform housekeeping.

19.4 All contractors shall also maintain adequate resources for cleaning and maintaining common facilities that will be managed by PMX EHS Department

19.5 Vacuum cleaners should be used internally at certain stages of the construction phase to maintain a level of dust free environment

19.6 If there is a sign of bad housekeeping on site, PMX EHS Team shall stop work of contractors to perform mass housekeeping.

19.7 Different types of waste shall be disposed as according to local requirements (i.e. organic waste, construction general waste, chemical waste, etc.)

19.8 Disposal facilities for such different types of wastes shall be pre-arranged at the start of the project / before each construction phase.

20. STORAGE

20.1 Contractors are not permitted to store their materials wherever they choose. They must obtain written approval from the respective PMX in charge, who will then coordinate with the PMX EHS department to designate an appropriate storage area. The following points must be complied with:

a. Materials to be stacked properly

b. Area to be cordoned off

c. Signage to be placed, only provided by PMX are permitted.

d. No excessive inventory storage

e. Maintain good housekeeping

f. Provision of fire extinguisher for flammable storage

g. Access to be maintained so that materials can be retrieve safely

h. Emergency escape routes to remain unobstructed

20.2 PMX reserves the right to demand the removal of materials from the site if they are found to pose a hazardous or disorganized environment. Any chemical storage must include a containment or drip tray.

21. WORK PROCEDURE

21.1 All work procedures shall comply with the following sequence

a. Method Statement

b. Safe Work Procedure

c. HIRARC

d. General Work Permit

e. Pre-Tast Talk (PTT)

No work shall commence without complying the four elements mentioned above.

21.2 Method statements for intended work shall first be prepared and thereafter, preparation of the Risk Assessment in the form of a HIRARC shall commence.

21.3 In the event, PMX disapprove any of the above the documents, the relevant contractor is to resubmit the above the documents again after amending points highlighted by PMX.

21.4 Contractors are to plan 2 days in advance for any, as the whole General Work Permit system shall take approximately 1 day for final approval

21.5 Upon approval, contractors' supervisors and workers must conduct daily pre-task planning on the job EHS requirements based on the approved Work Permit and Risk Assessment prior to commencement of work.

21.6 Pre-Task Talk shall be done in a "step-by-step" process through the job from the beginning till the end with the hazard (how a person might get hurt) and the relevant controls (preventive measures). Communication of the PTT shall be done in the form of the toolbox meetings before the start of the work. Such briefings shall periodically also include emergency situations, actions and escalation.

21.7 To ensure understanding of the work, the native language should be used for personnel who may not be fluent in English. A representative who can translate and convey all information to the other workers should be appointed.

21.8 Physical demonstration of work steps and requirements, use of visual aid likes picture could be included to aid explanation and communication

22. INSPECTION

22.1 Inspection is key component in maintaining a safe and healthy, environmentally protective site. All contractors are to participate in EHS inspections organised by PMX.

The EHS inspection matrix is as follows:

No	Type of Inspection	In-Charge	Schedule
1.	Scaffold Inspection	Appointed inspector engage by PMX	Weekly
2.	First Aid Box Inspection Fire extinguisher	• First Aider • Contractor EHS • PMX EHS/Supervisor/Coordinator	Monthly
3.	Equipment Inspection (Cranes, MEWPs, Compressors, Electrical Equipment, Pneumatic Tools, Forklift, PPE)	• PMX EHS Officer • PMX EHS Supervisor / Coordinator • PMX Engineer • Contractor EHS	Quarterly
4.	ESH Personnel Inspection	• PMX EHS Officer • PMX EHS Supervisor / Coordinator • Contractor EHS	Weekly

22.2 Besides the above inspections, contractors EHS personnel are to conduct their own daily EHS inspections. They are required to submit daily inspection reports to PMX EHS department before they report off from duty.

22.3 PMX EHS Department should categorize findings (categorize by nature of findings, e.g.fall from height, struck by falling objects, caught in between, etc.) from weekly EHS personnel inspections monthly. Such findings shall be analyzed periodically in EHS committee meetings to derive EHS improvement programs and arrest rising trends of unsafe practices. High priority risks shall also be always monitored to note the trending of their occurrence

22.4 Program and actions shall also be derived to arrest highest occurrence of a specific type of unsafe practice

22.5 For temporary generators set up, it shall comply with the local legal and PMX requirements listed below.

a. Voltage and danger signage
b. Sheltered or roof storage
c. Fencing
d. Drip tray
e. Fire Extinguisher
f. Standby electrician name and contact number
g. Suruhanjaya Tenaga Certificate

22.6 The requirement of air receiver and compressor shall be comply with the requirements

a. Suruhanjaya Tenaga Certificate
b. Whip-check
c. PIC signage
d. Inspection checklist
e. Earthing rod
f. Drip tray
g. Fire extinguisher

23. SITE ENVIRONMENTAL & HEALT CONTROL

23.1 PMX have formulated out an Environmental and Health Plan for all projects. All issues pertaining environment and health of site personnel are spelt in that programmed. The programmed is based on the requirements laid out by relevant authorities. The plan consists of four main categories:

a. Handling and Disposal of Hazardous Substances

b. Pollution Control

c. Welfare (Toilets and Drinking Water facilities)

Programme	Description
Contractors Environmental Responsibilities	• Compliance with legal environmental requirements. • Report any environmental incident to PMX. • Remediate soil to its original condition after any spills of chemicals. • Comply with site EHS policy and procedure for environmental controls. • Ensure that all chemical storage has secondary containment in only approved containers • Ensure fuel oil tanks have secondary containment • Provision of drip trays for machinery. • Ensure no discharging of chemical waste into drains, rivers or sanitary sewer system. • Ensure chemical containers are properly labelled. • Ensure no authorized ozone depleting compounds are brought on site. • Prohibit open burning of waste materials • Perform action items required by PMX. • Prevent and eliminate containment of stagnant water.
Environment Requirements	PMX EHS Officer's/ Manager's duties are: • Prepare and submit project Environmental activity to relevant environment department where applicable and a copy to PMX. • Review environmental impacts and controls identified from the work activities. • To enforce, implement and promote environmental issue on the project based on the Environmental Activity. • Submit monthly project Environmental Report to the Project Manager. • To follow up on the recommendations in the report till closure.

	• Shall be responsible on registration and reporting of any of the DOE's online reporting and other requirements specified by DOE.
Respiratory Protection Program	• Reduction of air contaminants through engineering and administrative control measures. Examples are generation of dust through wet cutting or extraction methods should be undertaken where possible. • Suitable respirators shall be provided to the workers if there is respiratory risk • Fit test shall be conducted to assess the suitability of the respirators provided. • Monitoring of air contaminants may be conducted to ensure that workers are not exposed to any toxic, irritating or offensive dust, fume or other contaminants beyond their permissible level
Waste Management Plan	• All types of waste shall be segregated, stored, transported, and disposed of in accordance with the, relevant authorities' requirements, and applicable laws. • Waste containers and storage areas shall be of sufficient capacity to contain all waste generated. Waste containers shall display labels to indicate the type of waste. • Open burning of waste is prohibited. • All scheduled waste identified shall be handled in accordance with the Environmental Quality (Scheduled Waste) Regulations 2005 or any laws. • Scheduled waste storage areas shall be provided with signages, cleaned, and tidied at all times, well-ventilated, and shaded. • Used oil filters, chemical containers, and other oil-contaminated materials shall not be

	scattered on-site and shall be collected, stored, and disposed of as scheduled waste. • Registration, notification, inventory, and consignment note of scheduled waste shall be done using the Electronic Scheduled Waste Information System (e-SWIS). Hard copy records shall be retained at the site for inspection and audit purposes. • The scheduled waste inventory shall be displayed at the contractor's scheduled waste storage area. The displayed inventory shall be readable and up to date at all times. • Scheduled waste shall only be disposed of by the DOE's licensed contractors and at the DOE's approved facilities.
Chemical Handling and Storage	• All chemical and fuel-based product storage shall be properly constructed with 110% bunded storage capacity of the single largest containment, with roofing, concrete flooring, oil sump collection, signages, and labelling. • All portable chemical and fuel storage containers, not limited to fuel tanks, fuel drums, diesel containers, or any vessel containing oil, shall be provided with a drip tray as secondary containment at all times. • Emergency Spill Kits shall be adequately provided at all chemical and petroleum-based product storage and scheduled waste storage areas. All personnel, site supervisors, and the Emergency Response Team shall be competent in the use of these spill kits.

Sewage Management	• The Contractor/Vendor shall comply with the Environmental Quality (Sewage) Regulations 2009, Water Services Industry Act 2006, or any latest acts/ regulations/ guidelines for sewage discharge and disposal. • Temporary toilets facilities and septic tanks shall be designed based on the population study, 'Kementerian Kesihatan' and 'Suruhanjaya Perkhidmatan Air Negara' (SPAN) specifications. The design shall be submitted to SPAN and/or relevant authority for approval. • Septic tanks and temporary toilet shall be continuously maintained and emptied by the licensed service provider to prevent any overflow from the sewage collection tank. • Sewage and any discharge from septic tanks/ temporary toilets into water courses is prohibited. • Licensed service provider's information, maintenance and desludging records shall be kept for the inspection and audit purposes.
Water Pollution Control	• All necessary precautions shall be taken to prevent debris, rubbish, silt, waste materials and pollutants from entering existing waterways, public road, commercial and residential areas. • Good housekeeping shall be practiced at all times. • Any activity that involves changing the flow of the rivers and streams shall not be allowed without approval from Relevant Authorities. • Spillage of oil and grease shall not be allowed to flow or discharged into watercourses or onto the ground.

Noise Pollution Control	• Areas with noise greater than 80 decibels shall require the display of "Hearing Protection Required" signage. • Noisy equipment shall be labelled and posted with warning sign. • Annual audiometric examination for workers exposed to excessive noise shall be arranged by respective contractors • Regular noise monitoring shall be conducted to ensure that workers are not exposed to excessive noise. • Substitution of noisy equipment, engineering control and administrative control measures shall be adopted whichever practical. • PPE shall be worn by individual exposed to noise.
Environmental Incident Reporting	In the event of an environmental incident, contractors must: • Inform PMX Immediately. • Submit an initial report with 12 hours of incident. • Submit a full report within the next 24 hrs. • See Incident Report and Investigation

24. EHS TALKS

24.1 In order to enhance awareness and understanding of environmental, health, and safety protocols among all personnel on site, PMX and Contractor are advisable to communicate to the employees.

Talks	Description
Toolbox Meeting and daily Pre-Task Talk	• Attendance and summary of information disseminated are to be documented and submitted to PMX EHS Department. • Contractors shall conduct toolbox meetings on the start of the working day and before any work activities (as part of the PTW process). • General toolbox meetings shall be focused on work related hazards and EHS measures as

	well as general EHS information e.g. EHS rules and regulations • Toolbox meetings shall be conducted by the work supervisors and EHS personnel. • Project management staff should also participate toolbox meetings as much as possible to reinforce management support for EHS to workforce • Works that extend till after dark hours shall have a night / evening toolbox meeting conducted prior to commencement of work. • PMX EHS department shall evaluate and monitor the toolbox meetings conducted by contractors randomly.
Weekly Mass Toolbox & EHS Talks	• Each Mass EHS Talk session should be around 30 minutes long • All site personnel are to attend the Weekly Mass EHS Talk. Contractors' EHS personnel (on a rotational basis) are required to participate in giving talks to the site personnel. Project management and supervisory staff will be regularly invited to deliver the Mass EHS Talks. Translation to the work personnel native language shall be done. Agendas of the talk (as minimum) are as follows: i. Unsafe act, unsafe condition ii. EHS targets iii. EHS matters discussed in the weekly safety meeting iv. Accident/Incident Statistics v. Present site EHS situation including common EHS non- compliances vi. Coming EHS events and promotions • Attendance is to be documented by each contractor and submitted to PMX EHS Department.

	• Planning shall be done before the Mass EHS Talks to avoid delivering too many topics

25. MEETING

Meeting	Description
Kick Off Meeting	After the contract is awarded, a meeting will be held to brief contractors on all work aspects. EHS will be the first agenda item, aligning contractors with the project's EHS requirements, including but not limited to: • EHS Policy • Project EHS targets and objectives • General project EHS rules and regulations • General project security requirements • EHS training requirements and procedures • EHS inspection and maintenance schedule • EHS meeting plan • EHS Work Permit System • EHS documentation • EHS personnel requirements • Risk-impact assessment procedures (Environmental) • EHS penalty system and disciplinary action • Emergency management plan and requirements • Incident management and investigation procedures • Chemical and hazardous substances management procedures • Waste management procedures • Mobilisation, Logistic plan and requirements
EHS Personnel Meetings	All Contractors EHS personnel shall inspect the project (minimum) weekly follow by a meeting to

	discuss on the EHS issues. Meeting shall be chaired by the PMX EHS personnel. Meetings shall focus on the following: • EHS targets for the following week • Inspection findings and counter measures • EHS observations for the past week • EHS targets for the following week *Any other related to EHS*
EHS Coordination Meetings	All PMX and Contractors EHS personnel shall meet daily to coordinate for day to day activities and project EHS management. Meetings shall focus on the following: • Findings from safety assessment of work areas • Upcoming critical / high risk works and their location • Common EHS deviations • HIRARC discussion • Area of focus • EHS promotion and events for the following week • EHS training program for the following week • Problems arising in work area • EHS feedback and suggestion • Any other EHS matter
EHS Committee Meetings	• The Chairman of the EHS Committee shall be top management from PMX. The Chairman shall further appoint other PMX staff to act as members in the EHS Committee. • The PMX EHS Officer shall act as the Secretary of the Committee. • The PMX EHS Department shall comprise of the EHS Committee Chairman, EHS Officer and EHS Supervisor of PMX.

	• All the contractors' EHS personnel will automatically form part of the EHS Committee. • Contractors on the site shall also appoint a senior site management representative who is able to make decisions to be a member of the EHS Committee. • The representative shall remain as a member as long as the contractor's work on site is active. • A member can only request to step down when the contractor's job on site has completed. The Committee shall meet every month. • The EHS committee agenda shall include (as minimum): i. Acceptance of previous minutes of meeting ii. Review of previous minutes of meeting iii. EHS Incidents statistics and trends iv. EHS performance statistics v. EHS inspection findings vi. EHS bulletins and promotion activities vii. Upcoming construction activities and concerns viii. Any incident/ accident investigation and recommendations on preventive measures against recurrence ix. Matter arising x. Date of next meeting • Meeting will be conducted after Committee walkabout • Contractor shall receive the EHS committee meeting minutes through email upon the meeting. • This is to ensure that they are well prepared for the coming EHS committee meeting. • Representative shall exist if the appointed person unable to join due to client site walk or

	on medical leave during the schedule of EHS meeting
Construction Coordination Meetings	• Construction team will chair construction coordination meetings to coordinate work activities. • EHS member shall join to know EHS matter arise and highlight any concern related to EHS. • Each contractor shall provide 1 EHS representative to join • Work coordination to be discussed and any foreseeable clash of work operations or incompatible work issues shall be raised and resolved in this meeting.
Adhoc Meetings	Contractors are subjected to adhoc meetings by PMX for the following reasons (as minimum): • Unique construction techniques and its EHS concerns. • Work of high risk in nature • Unsatisfactory EHS performance The meeting is to be attended by the contractor's project manager and EHS Department. Attendance and contents are to be documented.

26. ESH PROMOTION

26.1 EHS is not just about enforcement and compliance. Promoting EHS is crucial for achieving a safer and healthier work environment.

The followings are the among the few EHS activities that promote the awareness of EHS on site:

a. Display of banners and / or posters

b. Displays on EHS notice boards

c. EHS Workers for the Month

d. Best EHS Performance Contractors

e. EHS Performance Incentive Scheme

f. EHS Contest

g. EHS Exhibitions

No	ESH Activity	Schedule
1	Toolbox Meeting	Daily
2	Pre-Start Talk	Daily
3	Mass ESH Talk	Weekly
4	Monthly ESH Workers	Monthly
5	World OSH Day	One a year
6	ESH Contest	Once in 6 month
7	ESH Exhibition	Once in 6 month
8	Safe Man-Hours without Injury Recognition	TBA

27. DISPLINARY ACTION FOR NON-COMPLIANCE TO EHS PRACTICE

27.1 Our primary goal is to achieve zero accidents, maintain a healthy workplace, and create an environmentally protected worksite.

a. To accomplish this, all site personnel must adhere to healthy, safe, and environmentally responsible work procedures.

b. Every PMX employee, including contractors, vendors, and suppliers, is required to comply with all PMX EHS rules and regulations.

c. Any party found violating EHS rules and regulations will face the in-house disciplinary system.

d. PMX in-house disciplinary system applies to all PMX site personnel and contractors on site.

e. This system establishes a common understanding of everyone’s obligations and responsibilities towards achieving the project's EHS management goals.

f. These EHS rules and regulations will be included in contractual documents and initially communicated to contractors during kick-off meetings. They will be continuously reinforced through daily toolbox meetings, mass EHS talks, and EHS inductions.

g. The EHS rules and regulations should also be displayed on EHS notice boards.

27.2 Procedure

a. PMX employees (supervisors and above) at the worksite have the authority to impose penal actions on any individual committing an EHS non-compliance.

b. PMX employees and any EHS personnel are also empowered to order a partial or total stoppage of work to prevent incidents or allow EHS rectification, depending on the nature and extent of unsafe work practices or conditions.

c. Disciplinary actions will be based on the seriousness of the offense.

d. Upon spotting non-compliance, a recommendation of action will be submitted to the EHS officer. The EHS officer is authorized to impose penal actions based on the nature of the offense.

e. Any person who disagrees with the decision may appeal in writing to the EHS officer, who will respond in writing with the result.

f. This system serves as a guideline and may be altered based on new regulations by authorities and PMX.

g. Penalty amounts will be deducted by the PMX Commercial Department from the contractor's progress payment.

h. All accumulated funds will be used for EHS promotion at the project.

27.3 EHS non-compliance penalty rate

Class A
1st Offence: RM 900
2nd Offence : RM 1200
3rd time Offence : RM 1500 & Banned from site

No	List of penalty
1	Failure to provide / use personal protective equipment
2	Failure to display identification pass
3	Loss of security pass or failure to return pass of worker transferred out
4	Littering on site
5	Failure to attend daily toolbox meeting, safety briefs or co-ordination meeting
6	Failure to attend monthly mass safety talk or other safety promotional activity
7	Improper use of tools and equipment
8	Horseplay or creating mischief
9	Failure to comply with warning or directional signages
10	Failure to appoint qualified first aider
11	Work carried out in an unsafe manner

12	Causing obstruction to fire point or lifesaving equipment
13	Failure to provide fire extinguisher at designated locations
14	Failure to observe speed limit within project site
15	Failure to protect electrical equipment
16	Failure to use electrical equipment that is being issued with PMX inspection tag
17	Equipment without EHS monthly inspection tag or sticker
18	Failure to submit SDS and or obtain approval from PMX EHS personnel for bringing in hazardous chemical and substances to the site.
19	Failure to secure gas cylinder in an upright position
20	Failure to cordon off the work area as required by the legislation / contractor
21	Failure to provide sufficient lighting at area of work To refer 17.0 on lighting minimum standard
22	Failure to put on chin strap while wearing safety helmet
23	Failure to wear on safety shoes while entering the worksite
24	Failure to provide proper chemical container and chemical storage
25	Failure to display labels at chemical container
26	Failure to provide and display SDS
27	Failure to submit environmental related documentation to the main contractor such as Monthly EHS Report, Weekly EHS Report, waste record, desludging record and others within timeline.
28	Failed to ensure vehicles wo wheel wash before entering public road

Class B
1st Offence: RM 1,200
2nd Offence : RM 1,500
3rd time Offence : RM 2,000 & Banned from site

No	List of penalty
1	Failure to submit the mandatory documents requested EHS Act and other legislation as required by the PMX EHS Personnel.
2	Failure to rectify hazards as instructed
3	Damage or removal of EHS signage without approval
4	Failure to provide / maintain proper guarding for machinery / power tools remove / alter any safety devices / appliance without duly authorized
5	Failure to follow site security instruction for site and security control
6	Creating an environment that breed mosquitoes
7	Poor housekeeping (this excludes the additional cleaning charges by PMX)
8	Failure to provide safe access / working platform

9	Failure to provide or maintain proper barricade
10	Failure to cover opening adequately where a person may fall through.
11	Failure to provide proper access
12	Failure to install proper and adequate flashback arrestor
13	Failure to provide watchman for hot-work activity
14	Failure to hang electrical cable to prevent it from contact with water or damage by MEWP
15	Failure to attend scheduled joint EHS site walk without approval from EHS Officer
16	Failure to comply with any other statutory legislation such as EHS Act and all its subsidiary legislation, PMX EHS Standard or code of practices, etc.
17	Failure to display Safe Working Load or load chart of the lifting machine
18	Throwing or dropping of objects from height
19	Failure to observe fire / safety precautions
20	Failure to wear safety harness while working at height for 1.8 Meter and above
21	Failure to observe safe lifting procedures
22	Using scaffolding that has been certified not safe for use and failure to provide safe scaffolding platform.
23	Failure to maintain machinery / equipment in good working condition
24	Stacking of materials in an unstable manner or not at designated area
25	Tool, material, or equipment that are placed in an unsafe way which may cause a person to slip, trip, struck by it or cut by it
26	Failure to notify existence of Generator set to Department of Environment (DOE) as required under Environmental Quality (Clean Air) Regulations 2014.
27	Failure to provide drip tray/ bund for Generator set, diesel storage and others either temporary or permanent.
28	Failure to ensure prohibition on open burning of solid wastes, construction wastes at project site

Class C

1st Offence: RM 1,800

2nd Offence : RM 2,100

3rd time Offence : RM 2,400 & Banned from site

No	List of penalty
1	Failure to attend Safety Meeting or assign representative without prior approval from chairman / secretary.
2	Failure to submit MOS and HIRARC prior to commencement of work
3	Non-compliance to Safe Work Practices / Procedures

4	Unsafe driving / operation of vehicles / heavy machineries on site without license / authorization
5	Removal of material from site without approved gate pass
6	Failure to inform the PMX EHS Personnel immediately of any accident / dangerous occurrence / near miss occurred on site
7	Failure to submit the accident investigation report to EHS personnel within 24 hours
8	Failure to provide authorized and certified lifting supervisor, rigger, or signalman for any lifting operation
9	Failure to install proper safety catch to lifting hook
10	Failure to follow site colour code
11	Failure to contain sparks while welding, cutting on height or near combustible material
12	Failure to provide / maintain proper ELCB, MCB and earthing
13	Failure to comply with Confined Space Entry Permit requirement
14	Failure to prevent entry of confined space by unauthorized person
15	Failure to provide shoring to the side of excavation or cut to safe angle when depth of excavation exceeds 1.5 meters
16	Failure to ventilate the confined space properly before allowing any entry
17	Failure to apply for permit to work
18	Failure to comply with Stop Work Order from PMX
19	Using lifting appliance / equipment to lift loads in excess of SWL
20	Failure to provide and appoint competent personnel as required by PMX EHS Officer.
21	Employed illegal worker
22	Illegal direct discharged into monsoon drain or water bodies/ outside site perimeter
23	Failure to store, handle and disposed Scheduled Waste at site accordance to Environmental Quality Act (Scheduled Waste) Regulation 2005.

Class D
1st Offence: RM 15,000
2nd Offence : RM 25,000
3rd time Offence : RM 50,000 & Banned contractor for PMX Project

No	List of penalty
1	Smoking at “No Smoking Area”
2	Violation resulted in fine / proceeding against PMX by authorities (Any penalty fine incurred will be separately charged to the contractor’s account)
3	Failure to comply with stop work order from DOSH, DOE, government authorities or Client

4	Illegal entry into worksite without site identification pass (permanent or temporary)
5	Failure to use lifting gear / appliances / machine, which has been tested and examined by an Authorized Examiner
6	Vandalism or deliberate damage to property
7	Failure to provide PE design or supervision by PE whenever mandatory
8	Urinating or defecating on site (other than at designated areas)
9	Other dangerous occurrence, include incidents involving, lifting equipment, pressure systems, overhead electric lines, electrical incidents causing explosion or fire, explosions, biological agents, radiation generators and radiography, breathing apparatus, diving operations, collapse of scaffolding, etc. [as deem by Contractor]
10	Entering energize electrical room without approval / failed to comply with EHS safe practice while at energize electrical room.
11	Alcohol and drug abuse on site (Drug abuser will be handed over to police)
12	Unauthorized tampering, dismantling, altering, removing and/or cutting load bearing members of scaffolding or staging
13	Altering the scene of accident without getting clearance from Main Contractor
14	Unsafe act or condition which can result to accident
15	Person working on EEW activity without been trained
16	Person not following up on the Lock and tag out procedure.
17	Person repeatedly violating safety instructions more than 3 times
18	Person using other worker's badge to enter the site
19	Failed to participate EHS activity for up to 3 times.

28. EMERGENCY RESPONSE

28.1 All site personnel from PMX, including contractors, vendors, and suppliers, must confirm their understanding of the Emergency Response Plan.

a. This plan will be introduced during the first-day EHS induction training. Information about the Emergency Response Plan will be displayed at strategic locations throughout the project site. In the event of an emergency, site personnel are to assemble at designated Assembly Points.

b. PMX will nominate site personnel from contractors to be part of the Emergency Response Team. Contractors are expected to provide full support by supplying the necessary manpower and resources when requested.

c. PMX Emergency Response Plan will be tailored to different types of emergency situations. It is designed to manage emergencies involving PMX, its contractors, vendors, and suppliers.

d. Regular reviews will be conducted to ensure the contact list is up to date. The updated list will be communicated to all project and relevant personnel during EHS meetings, talks, and training sessions.

e. Key emergency contact list is as follows:

Appointment	Name	Designation	Contact Number
Emergency Controller	Hafiez Akib	PMX CM	+60 12-773 9974
Assistant Emergency Controller	1. Boon Chong / Raymond 2. Sujen	1. WH-IJM PM 2. RT PM	1. +60 17-776 6630 / +60 12-201 3661 2. +60 16-414 3646
Incident Controller	1. Daniel 2. Raihan 3. Shah 4. Arif 5. Haziq	1. PMX SHO 2. PMX SHO 3. PMX A.M EHS 4. WH SHO 5. RT SHO	1. +60 13-744 2285 2. +60 11-111 783 80 3. +60 17-752 5352 4. +60 13-739 3165 5. +60 11-1308 8556 6. +60 17-779 5369
Assembly Point Coordinator	Khairul	PMX CM	+60 13-743 4268
Authority Co-ordinator	Ir. Hatta Anuar	PMX Dept. Project Director	+60 17-630 4352
First Aid Leader	John	PMX Engineer	+60 11-2941 1509
Fire Fighting	Hazmy	PMX SSS	+60 17-778 7715
Security Team	Zaim	WH Engineer	+60 11-2177 2406
Floor Marshall	Hasrin	PMX Engineer	+60 17-348 3639
Chemical Spillage	Ain	PMX EO	+60 14-964 9810

Emergency Services	Contact Number
Fire and Rescue Department of Malaysia (BOMBA Iskandar Puteri)	07-509 7993
Police (IPD Iskandar Puteri)	07-511 3622
Local General Hospital (Hospital Sultanah Aminah)	07-225 7000
Local General Clinic (Klinik Kesihatan Gelang Patah)	07-510 1252

Electrical Supply (TNB)	15454
Water Supply Authority (SAJ)	1-800-88-7474

29. INCIDENT RESPONSE & MEDICAL ATTENTION

29.1 Incidents are defined as events which :

- Adverse effects on employee safety and health at the workplace or on the environment.
- Detrimental impacts on business operations or property.
- Situations where personnel, groups, equipment, or facilities are unable to perform normal business functions. Examples :

i. Injuries
ii. Near misses or hazardous incidents
iii. Property damage
iv. Work area stoppages
v. Electrical power outages
vi. Other utilities outage such water, waste treatment and communication
vii. Building environment
viii. System safety / Life safety systems
ix. Temperatures

29.2 Injury Notification And Emergency Facilities

a. In the event of an incident where results in injury (no matter how minor it is), the respective vendor, supplier or contractor's supervisor is to comply with the following guidelines:

i. Attend to the injured
ii. Send the injured to designated First Aid Room
iii. Request first aid treatment from designated first aider on site
iv. In the event where further medical attention is required, the site first aider shall refer the in injured to PMX designated external clinic / hospital

b. Contractors, vendors and suppliers are not allowed:

i. To remove the injured from site without consulting the site First Aider and without approval from PMX EHS Department

ii. To send the injured to external clinic other than those recommended by the PMX First Aider

c. The above guidelines aim to minimize and prevent employees from exaggerating or feigning the extent of their injuries to secure additional medical leave.

d. All incidents (whether it cause an injury or not) are to be reported immediately (15 minutes' time limit) from time of occurrence.

e. PMX EHS Team shall not accept any late incident especially on 'Yesterday' cases. These to ensure only genuine cases are attended to because there are possibilities where the incident could possibly occur at other sites.

f. No one is permitted to alter the incident scene, except to provide first aid to the injured or to ensure the area is safe.

g. No one should take additional risks that could endanger themselves, the injured, or others in the vicinity. If necessary, the area should be evacuated and cordoned off. No one is allowed to re-enter an evacuated area until it has been declared safe and authorized by PMX or the relevant authorities.

h. PMX shall plan for the emergency facilities (e.g. vehicles, location of nearest hospitals / medical facilities, on site medical / first aid supplies, external and / or government, state, provincial, municipal emergency response, etc.).

i. PMX will quickly connect with nearby medical and emergency facilities, sharing details about the project, potential injuries, emergencies, hazardous substances, and their Safety Data Sheets (SDS), as well as information on medical treatment and spill containment.

29.3 Incident Report & Investigation

a. All incidents must be officially reported using the designated form following verbal notification. Incident reports should include:

i. Particulars of person report

ii. Particulars of company

iii. Details of incident (location, date, time,particulars of injured, nature of injury, treatment details, length of medical absence, etc.)

iv. Copies of IDs of injured, witness, supervisor, etc.

v. Any documents with regards to the incident (PTW, MOS, HIRARC, equipment checklist, training certificates, equipment design, layout, maintenance records, statutory certificates / registration, etc.)

vi. Photographs with regards to the incident

vii. Statements of injured and witness

viii. Findings including details of any involved equipment, plant, machinery, personnel, etc.

ix. Root cause

x. Other secondary cause(s)

xi. Corrective and preventive measures

xii. Follow-up actions, personnel and time frame

b. Official written notification of incident shall be submitted on the same day within 8hrs from incident occurrence.

c. Incident report shall be submitted within the next 12hrs after the official notification.

d. Authority notification if required shall be made by PMX

e. PMX Project Manager and EHS Officer shall report all incidents to Project Director, and General Manager immediately on any incident occurrence and furbish an interim report within 24hrs. Detailed investigation report shall also be forwarded when it is completed.

30. DOCUMENT CONTROL & EHS REPORT

30.1 Document control

Document control is an important aspect of the EHS management system. Good practice of document control shall result in:

a. Convenient access to information and records

b. Simple traceability for accessing past occurrence

c. Effective dissemination of information

30.2 Permit and Checklist

a. All permits to work forms are to be returned to respective PMX EHS Department upon completion of job and closure of the General Work Permit.

b. The original copy is to be submitted to PMX EHS Department for record keeping purposes e.g. gate pass, permits, notification

c. All EHS documents and records are to be kept by PMX EHS Department

30.3 Weekly Submission

Contractors and vendors are compulsory to submit a weekly EHS report to PMX EHS Department at the start of each week. The report shall constitute the following points:

a. Manpower and man-hours report

b. Incident and First Aid statistics including violation and incentives

c. Register of Machineries : Cranes, Backhoe, Excavators, MEWPs,

d. Register of Lifting Gears and Appliances

e. Register of Explosive Powered Tools

f. Register of Air Receivers / Compressors

g. Register of Electrical Tools

h. Register of Pneumatic Tools

i. Register of Safety Harness

j. Register of Training Form

k. Register of PPE

l. Permit To Work (General)

m. Register of Completed Focus Activities for work activities

n. Inventory of Chemicals and Hazardous Substances (legal register)

o. Unsafe Act Unsafe Condition report

30.4 Daily submission

a. Daily manpower report

b. Closure of daily validity PTW. E.g, Hot-work, lifting, confined space, etc.

30.5 Administrative Record

All other correspondences regarding safety have to be kept and filed for the inspection of the authorities Inspectors from DOSH at site:

a. EHS Manual

b. Workers EHS Induction Record

c. Daily Tool Box Meeting and PTT Records

d. EHS Inspection Reports

e. EHS Committee Meeting Minutes

f. Work Permit System Records

g. EHS Training Records

h. Workers PPE Issuance Records

i. EHS Promotional Activities Programmes and Reports

j. Safety Data Sheet for Hazardous Substances

k. Risk Assessment and Registers

l. Monthly EHS Reports

30.6 Statutory Record

All certificates or inspection record of the followings are to be renewed and kept without fail. The documents are (as a minimum)

a. Facilities, Equipment and Machinery

i. Company / business registration

ii. Insurance certificate

iii. All lifting machines, lifting gears and appliances

iv. Air receivers, compressors

v. Fire detecting and fighting equipment

vi. Scaffold

b. Personnel, Training and Competency

i. Safety Officer Registration Certificate

ii. EHS Personnel Certificate / Training Records

iii. Crane Operator License

iv. Work Personnel EHS Certificates / Training Records

31. AUDITING

31.1 Audit involves monitoring and verifying PMX, its contractors, vendors, and suppliers on their EHS management system and EHS plan implementation. PMX staff will conduct daily and weekly physical inspection audits of the site conditions.

a. EHS inspection audits, forming the weekly EHS inspection program, will be tailored to the current work activities on the project site.

b. Contractors will undergo a monthly EHS internal audit by the PMX EHS department, focusing on site conditions and documentation.

c. PMX will develop an action plan report based on the auditor(s)' findings and recommendations.

32. CONCLUSION

This EHS Plan serves as a guideline. Nonetheless, additional activities and programs not outlined in this plan may be incorporated as deemed necessary. The PMX General Manager, Project Director, Project Manager, EHS Department, Staff, along with the EHS Committee, and with the support of all Contractors and Workers on site, will strive to ensure the realization of this plan and the attainment of its goals.