



Jabatan Keselamatan dan Kesihatan Pekerjaan Malaysia
Department of Occupational Safety and Health Malaysia



INDUSTRY CODE OF PRACTICE FOR **PLANT MANAGEMENT SYSTEM** (Special Scheme of Inspection of Class B)

First Edition 2025



**INDUSTRY CODE OF PRACTICE FOR
PLANT MANAGEMENT SYSTEM
(Special Scheme of Inspection of Class B)
[P.U. (B) 399/2025]**

First Edition, 2025

**DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH
MINISTRY OF HUMAN RESOURCES, MALAYSIA**

First Print Edition

Industry Code of Practice for Plant Management System (Special Scheme of Inspection Class B), 2025

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FOREWORD

This Industry Code of Practice for the Plant Management System is developed to provide guidelines on the correct methods for establishing and implementing a plant management system in compliance with **Regulation 5(a) of the Occupational Safety and Health (Special Inspection Scheme) Regulations 2025**. The purpose of this code of practice is to ensure that every plant involved meets the requirements and needs necessary to successfully implement an effective, safe, and sustainable management system.

This plant management system encompasses all aspects related to plant operations, including risk control, compliance with occupational safety and health regulations, and continuous evaluation of the system's performance. This practice provides practical guidance for developing a management system that meets legal requirements and ensures that safety measures are effectively implemented.

The successful implementation of a plant management system is crucial in reducing risks, preventing accidents, and enhancing the overall performance of plant operations. This industrial code of practice outlines the steps that occupiers and workers must take to ensure the success of the plant management system, where each component of the system must be well integrated effectively.

With this industry code of practice, the industry is hoped to adhere to all relevant regulations and adopt best practices in plant management in order to ensure the safety of workers and to minimize the risk of incidents involving plants.

Thank you.

Ir. Hj. Mohd Hatta bin Zakaria

Director General

Department of Occupational Safety and Health

Malaysia

2025

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DOSH would like to express its gratitude to the industries for their utmost valuable contributions through out the drafting of this Industry Code of Practice.

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PART I

INTRODUCTION

1.0 OBJECTIVE

This Industry Codes of Practice (ICOP) is intended to provide guidance for an occupier to establish, implement and maintain its plant requiring certificate of fitness management system. This ICOP is developed to enable the occupier who intends to apply for special scheme of inspection class B shall meet the requirements under Regulation 5(a) of Occupational Safety and Health (Special Scheme of Inspection) Regulations 2025.

2.0 APPLICATION

This ICOP shall apply to any occupier who applies for approval and also occupier who is granted approval for a special scheme of inspection class B under Occupational Safety and Health (Special Scheme of Inspection) Regulations 2025.

3.0 DEFINITIONS

Terms	Definition
Process Hazard Analysis (PHA)	means process of analysing hazards in a thorough and systematic approach for identifying, evaluating and controlling the hazards of processes involving hazardous chemicals.
Safety Critical Element (SCE)	means any part of the installation, plant or computer programmes to prevent or limit the effect of a major accident.
asset integrity	means plant's integrity elements including structural to prevent failure and loss of containment, allowing it to perform the intended function throughout the intended life.

Mechanical Integrity (MI)	means a system that provides documented assurance that asset integrity of SCEs is safeguarded for continued service ensuring operating facilities that process, store and/or handle hazardous substances are properly operated and maintained.
Design Integrity (DI)	means process of ensuring that the risk management is taken as an underlying process during project phase, and ensuring that inherent hazards and required control measures are communicated into the operational phase.
Loss of Primary Containment (LOPC)	means an unplanned or uncontrolled release of material from primary containment, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed carbon dioksida or compressed air) except low-pressure water.
major accident	has the meaning assigned to it in Occupational Safety and Health (Control of Industrial Major Accident Hazards) Regulations, 1996.
documented information	means an information required to be controlled and maintained by occupier and the medium on which it is contained can be in any format and media, and from any source.
Process Safety Information (PSI)	means a compilation of written document on process safety which includes information on the hazards of hazardous chemicals used or produced by the process, technology of the process and the plant's requiring certificate of fitness details.
Management of Change (MOC)	means structured method for managing changes that could affect the safety and health, environment, quality or operational integrity.
Engineering Management of Change (EMOC)	means structured method for managing technical elements of changes or modifications to engineering designs, equipment, processes and systems that may affect the safety and health, environment or operational integrity.

risk assessment	means the process of evaluating the risks to safety and health arising from hazards at work and determining the appropriate measures for risk control.
Plant Major Maintenance and Closure (PMMC)	means activities refer to turnaround, planned major shutdown, outage, rejuvenation, revamp, preservation or mothballing and decommissioning.
essential fittings	has the meaning assigned to it in Eighth (8th) Schedule of Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024.
assigned parties	means an external organization providing products and services to the occupiers in accordance with agreed specifications, terms and conditions.
Operating Procedure (OP)	means a written document that provides instructions for conducting activities involved in each covered process in safely manner, appropriate, clear, and consistent.
risk	means the combination of the likelihood of an occurrence or exposure from a work-related hazard and the severity of injury and health problems that may be caused by that occurrence or exposure.
Pre-Startup Safety Review (PSSR)	means a coherent, systematic and simple approach of safety review prior to start-up of facilities.

PART II

PLANT MANAGEMENT SYSTEM

4.0 OVERVIEW OF PLANT MANAGEMENT SYSTEM

- 4.1 Plant Management System (PMS) is a framework to manage plant requiring certificate of fitness which cover subject of Asset Integrity (AI), Process Safety (PS) and Occupational Safety and Health (OSH).
- 4.2 The aim and intended outcomes of the PMS is to comply requirements under Regulation 5(a) Occupational Safety and Health (Special Scheme of Inspection) Regulations 2025 in order to ensure safety and health at place of work.
- 4.3 The PMS approach is founded on the cycle of Plan-Do-Check-Act (PDCA) and shall be managed by Plant Management (PM) team.
- 4.4 The PMS shall undergo implementation assessment process to ensure its implementation meets the intended framework.

5.0 SCOPE

- 5.1 The scope of PMS covers:
- a) the plant requiring certificate of fitness includes:
 - i. process and utility piping system connected to steam boiler;
 - ii. essential fittings connected to steam boiler and/or pressure vessel;
 - iii. SCE connected to steam boiler and/or pressure vessel; and
 - iv. any safety devices attached to lifting machinery;
- and
- b) activities, products and services within the Occupier's control and other influence(s) that may impact the PMS performance related to the plant requiring certificate of fitness as mentioned in paragraph (a).

6.0 PMS MANUAL

6.1 Occupier shall establish, implement and maintain a PMS manual including the processes needed and their interactions in the management system implementation.

6.2 The manual shall be maintained and retained as documented information.

7.0 POLICY

7.1 Occupier shall establish, implement and maintain written policy statement(s) to support the implementation of PMS, at a minimum:

- a) includes a commitment to ensure intended outcome of asset integrity, process safety and safety and health;
- b) provides a framework to set the objectives of PMS;
- c) includes a commitment to fulfil legal requirements;
- d) includes a commitment to continual improvement of the PMS; and
- e) includes a commitment to consultation and participation of workers and assigned parties.

7.2 The policy shall be documented, communicated and made available to employees and assigned parties.

8.0 LEADERSHIP AND PARTICIPATION OF EMPLOYEES AND ASSIGNED PARTIES

8.1 Leadership and Commitment

8.1.1 Occupier's top management shall:

- a) demonstrate leadership and commitment in achieving the PMS policy and objectives; and
- b) develop, lead and promote safe operation in the place of work that supports the intended outcomes of the PMS.

8.2 Participation and Consultation of Employees and Assigned Parties

8.2.1 Occupier shall establish, implement and maintain a process(es) for participation and consultation of employees at all applicable levels and assigned parties, in the

development, planning, implementation, performance evaluation and actions for improvement of the PMS.

8.3 Organizational Roles, Responsibilities and Authorities

8.3.1 Occupier's top management shall ensure that the responsibilities and authorities for relevant roles within the PMS are assigned and communicated throughout the organization.

8.3.2 These assignments and communications shall be documented and all employees and assigned parties at every level shall take on responsibility for the system under their control.

9.0 PLANNING

9.1 Actions to Address Risks and Opportunities for PMS

9.1.1 Occupier shall identify risks and opportunities relating to PMS.

9.1.2 Occupier shall establish, implement and maintain a process(es) stated in subclause 9.1.1. The identification shall include all ongoing and proactive hazard and opportunities relating to routine and non-routine activities.

9.1.3 Occupier shall establish, implement and maintain a process(es) for assessing the above hazard and opportunities to prevent or, if not practicable, to reduce the undesirable effects.

9.1.4 Occupier shall define methodology(ies), tools and criteria for the evaluation of risks and opportunities.

9.1.5 Documented information shall be maintained and retained on the risk assessment methodology(ies) and criteria.

9.2 Plant Management System Objectives

- 9.2.1 Occupier shall establish PMS objectives taking into consideration of AI, PS, OSH, competency and other organizational activities at relevant functions and levels in order to continually improve the PMS performance.
- 9.2.2 Occupier shall communicate the objectives to employees and assigned parties.
- 9.2.3 Occupier shall monitor and update the objectives as appropriate.

9.3 Planning To Achieve Plant Management System Objectives

- 9.3.1 Occupier shall establish plan to achieve PMS objectives.
- 9.3.2 While planning for PMS, the occupier shall take into consideration of AI, PS, OSH, competency and other organizational activities.

9.4 Determination of Legal and Other Requirements

- 9.4.1 Occupier shall establish, implement and maintain a process(es) to:
- a) determine and have access to up-to-date legal and other requirements that are applicable to the PMS;
 - b) determine how these legal and other requirements apply to them and what needs to be communicated; and
 - c) take these legal and other requirements into account when establishing, implementing, maintaining and continually improving the PMS.
- 9.4.2 Occupier shall maintain and retain documented information on its legal and other requirements and shall ensure that the PMS is updated to reflect any changes.

10.0 SUPPORT

10.1 Resources

- 10.1.1 Occupier shall determine and provide the necessary resources for the establishment, implementation, maintenance and continual improvement of the PMS.

10.1.2 Occupier shall provide the resources required to meet the PMS objectives and to implement the activities specified in the PMS plan.

10.2 Competence

10.2.1 Occupier shall:

- a) determine the necessary competence of employees and assigned parties that affects the PMS performance;
- b) ensure that employees and assigned parties are competent on the basis of appropriate education, training and experience;
- c) where applicable, take actions to acquire and maintain the necessary competence and evaluate the effectiveness of the actions taken;
- d) periodically review current and future competency needs and requirements; and
- e) retain appropriate documented information as evidence of competence.

10.2.2 Occupier shall appoint minimum of three (3) employees to become a member of PM team to manage AI, PS and OSH respectively or as may determined by Director General according to numbers of plant requiring certificate of fitness and complexity of the process.

10.2.3 The appointed member of the PM team is referred to Plant Management Qualified Person (PMQP). Each PMQP member shall undergo training at a registered training provider under Part VIIA Occupational Safety and Health Act 1994 [Act 514].

10.2.4 Occupier shall appoint minimum of five (5) employees to become a member of risk-based (RB) team to manage plant requiring certificate of fitness.

10.2.5 The members of PM and RB team shall not be consist of a same person.

10.2.6 Occupier shall ensure PM team to perform their duties to manage and drive special scheme of inspection of class B in compliance to the requirements of this ICOP.

10.3 Information Management

10.3.1 Occupier shall maintain and retain documented process(es) on the management of documented information.

- 10.3.2 Occupier's PMS shall contain both the documented information specified by this ICOP as well as any additional documented information that the Occupier deems necessary for the effectiveness of the PMS.
- 10.3.3 Occupier shall ensure that appropriate identification and authorization are in place when creating and updating documented information.
- 10.3.4 Documented information required by the PMS shall be controlled to ensure availability, suitability, accessibility and adequately protected.
- 10.3.5 Documented information of external sources determined by the Occupier to be necessary for the planning and operation of the PMS shall be appropriately identified and controlled.
- 10.3.6 The documented information shall be stored, analyzed and can be retrieved when required.

11.0 OPERATION

11.1 PMS Operational Planning and Control

- 11.1.1 Occupier shall ensure PMS operational planning and control manage by PM team appointed under subclause 10.2.2.
- 11.1.2 Occupier shall plan, implement, control and maintain the processes needed to meet the requirements of plant operation management by:
- a) establishing criteria for the processes;
 - b) implementing control of the processes in accordance with the criteria;
 - c) maintaining and retaining documented information for the planned processes; and
 - d) adapting work to employees and assigned parties.
- 11.1.3 Occupier shall establish a registry of:
- a) plant requiring certificate of fitness covered in clause 5.0 of this ICOP;
 - b) process(es) of high risk activities; and
 - c) hazardous substances.

11.1.4 Occupier shall coordinate with other Occupier(s) on relevant activities of the PMS that may affect them.

11.1.5 Occupier shall maintain and retain documented information relating to subclause 11.1.3.

11.2 Management of Asset Integrity (AI)

11.2.1 General

11.2.1.1 Occupier shall implement AI main elements throughout all phases in plant's life cycle. Management of AI shall be conducted according to type of plant requiring certificate of fitness.

11.2.1.2 Implementation of appropriate AI shall include managing the following, as applicable but not limited to:

- a) design, construction and installation;
- b) inspection and maintenance;
- c) Risk Based Inspection (RBI);
- d) corrosion and damage mechanism;
- e) managing degradation and failure of plant requiring certificate of fitness;
- f) repair, alteration and testing;
- g) pressure relief valve integrity; and
- h) Plant Major Maintenance and Closure (PMMC).

11.2.2 Design, Construction and Installation

11.2.2.1 Occupier shall ensure all plant requiring certificate of fitness is design, constructed and installed in accordance to Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024.

11.2.3 Inspection and Maintenance

11.2.3.1 Occupier shall establish, implement and maintain a process(es) in managing:

- a) thickness measurement activities for steam boiler and pressure vessel; and
- b) inspection, testing and preventive maintenance (ITPM) for plant requiring certificate of fitness under clause 5.0 and include:
 - i. steam boiler or pressure vessel which is designed not to be internally inspected;
 - ii. third-party plant requiring certificate of fitness within the place of work;
 - iii. steam boiler or pressure vessel in extended shutdowns;
 - iv. steam boiler or pressure vessel in intermittent services; and
 - v. plant requiring certificate of fitness approaching its end of design life.

11.2.3.2 Occupier, where applicable, shall ensure all integrity and inspection activities are performed by qualified person under Occupational Safety and Health (Special Scheme of Inspection) Regulations 2025.

11.2.3.3 Occupier shall maintain and retain documented information on inspection, testing and preventive maintenance (ITPM) of plant requiring certificate of fitness under clause 5.0.

11.2.4 Risk Based Inspection (RBI)

11.2.4.1 Occupier shall establish, implement and maintain RBI programme for steam boiler and pressure vessel in its place of work which:

- a) follows a methodology as determine by Director General;
- b) includes a process(es) for RBI implementation;
- c) specifies a listing of steam boiler and pressure vessel covered by the programme with information on remnant life, risk category, inspection interval and inspection plan supported by any relevant calculations; and
- d) includes RB team specifies from relevant department in its implementation as specified in Occupational Safety and Health (Special Scheme of Inspection) Regulations 2025.

11.2.4.2 Occupier shall establish and maintain RB team which is appointed by Occupier's top management.

11.2.4.3 Occupier shall maintain and retain documented information on RBI programme and RB team.

11.2.5 Corrosion Management

11.2.5.1 Occupier shall establish, implement and maintain a corrosion management programme and process(es) where applicable but not limited to:

- a) identifying the expected damage mechanisms;
- b) determining that sufficient corrosion control and mitigation activities are in place covering material suitability, application of chemical treatment, application of coating and lining, cathodic protection and process control, as applicable;
- c) determining the Integrity Operating Window (IOW) for relevant process parameters and monitor any abnormal conditions for strategic actions;
- d) including the planning and performance of inspection, monitoring and mitigation activities; and
- e) including periodical review of the corrosion management programme effectiveness and relevant actions.

11.2.5.2 Occupier shall maintain and retain documented information on corrosion management.

11.2.6 Managing Degradation and Failure of Plant Requiring Certificate of Fitness

11.2.6.1 Occupier shall establish, implement and maintain a process(es):

- a) on troubleshooting, investigation and determining the root cause for non-compliance and incidents, with tracking of corrective actions until closure; and
- b) for Fitness-For-Service (FFS) assessment which is consistent with any recognized standards on degraded steam boiler and pressure vessel or after an incident, if the option to repair and make good as new is not feasible.

11.2.6.2 The process(es) shall be maintained and retained as documented information.

11.2.7 Repair, Alteration and Testing

11.2.7.1 Occupier shall establish, implement and maintain a process(es) on managing repair, alteration and testing covering both permanent and temporary in nature activities by:

- a) competent person for plant requiring certificate of fitness; and
- b) qualified person for activities, products and services within the Occupier's control and influence that can impact the PMS performance related to plant requiring certificate of fitness.

11.2.7.2 Occupier shall retain documented information as evidence of any repair, alteration and testing activities performed.

11.2.8 Pressure Relief Valve Integrity

11.2.8.1 Occupier shall establish, implement and maintain a process(es) for managing the integrity of pressure relief valve, which include where applicable, Fail To Open (FTO), pre-installation testing and installation.

11.2.8.2 FTO case shall be investigated and managed accordingly.

11.2.8.3 The process(es) shall be maintained and retained as documented information.

11.2.9 Plant Major Maintenance and Closure (PMMC)

11.2.9.1 Occupier shall establish, implement and maintain a process(es) for PMMC activities which covers scope, planned interval, system, tools, adequate resources including qualified person and relevant information.

11.2.9.2 Occupier shall develop a long-term plan for the execution of PMMC activities and strategies. The plan shall be developed by taking into consideration of the following:

- a) risk-based inspection;
- b) findings and recommendations from investigation and plant requiring certificate of fitness integrity study such as Asset Life Study (ALS) and FFS;
- c) other applicable legal requirements; and
- d) other relevant plant process and maintenance requirement including recognise standard.

11.2.9.3 Occupier shall maintain and retain PMMC activities including execution plans and close-out report as documented information.

11.3 Management of Process Safety (PS)

11.3.1 General

11.3.1.1 Occupier shall implement PS main elements throughout all phases in plant's life cycle.

11.3.1.2 Implementation of PS main elements shall include the following, as applicable but not limited to:

- a) Design Integrity (DI);
- b) Process Safety Information (PSI);
- c) Process Hazards Analysis (PHA);
- d) Operating Procedure (OP);
- e) Pre-Startup Safety Review (PSSR); and
- f) Mechanical Integrity (MI).

11.3.2 Design Integrity (DI)

11.3.2.1 Occupier shall establish, implement and maintain a process(es) to ensure risks are managed through implementation of DI by applying recognized standards, procedures and management systems. In cases where recognized standards are not available, reference to generally accepted engineering practices shall be made.

11.3.2.2 The plant requiring certificate of fitness is designed in accordance to the intended service conditions and recognised standard.

11.3.2.3 Any design deviation and design change shall be tracked until closure.

11.3.2.4 Occupier shall ensure all DI documented information are handed-over from project team to operation team with a clearly defined process and communicated.

11.3.2.5 The documented information shall be maintained and retained.

11.3.3 Process Safety Information (PSI)

11.3.3.1 Occupier shall ensure PSI are adequately identified, updated and easily accessible throughout all phases in plant's life cycle.

11.3.3.2 Occupier shall develop and update PSI as triggered by periodical review or other events such as lesson learnt from incident and Engineering Management of Change (EMOC).

11.3.3.3 Occupier shall maintain and retain PSI as documented information.

11.3.4 Process Hazard Analysis (PHA)

11.3.4.1 Occupier shall manage risks by systematically identifying, evaluating and mitigating process hazards through PHA during plant operation which shall cover at a minimum, the following requirements:

- a) Occupier shall establish, implement and maintain the requirements and work process(es) in implementing PHA;
- b) Occupier shall conduct PHA for plant operation such as;
 - i. Baseline PHA as the basis for future PHA revalidation exercise; and
 - ii. Revalidation PHA at specific intervals identified by occupier; or
 - iii. Revalidation PHA when there is major change in the process system, major incident, audit findings, or as requested by Officer appointed under Act 514.
- c) Occupier shall define requirements of a qualified PHA leader;
- d) PHA shall be led by qualified PHA leader and supported by PHA team members consisting of individuals with knowledge and experience of the process systems concerned;
- e) Occupier shall communicate and track actions resulting from PHA to relevant parties specified by occupier.

11.3.4.2 PHA baseline and revalidation report shall be retained as documented information.

11.3.4.3 Occupier shall maintain and retain documented information on all requirements above.

11.3.5 Operating Procedure (OP)

11.3.5.1 Occupier shall establish, implement and maintain OP requirements and process(es) during plant operation including start-up, normal operation, abnormal operation, emergency and shutdown.

11.3.5.2 Occupier shall ensure all OP conform to standard operating requirements that may come from specific technology licensor, package vendor or common operated equipment such as compressor, steam boiler and turbine.

11.3.5.3 Occupier shall identify hazards and conduct assessment on related risks for relevant operational activities in order to establish proper risk mitigation measures and OP improvement.

11.3.5.4 Occupier shall establish, implement and maintain Safe Operating Limit (SOL) for process parameter as part of OP or as a dedicated document which is applicable to all phases of operation.

11.3.5.5 Occupier shall ensure OP training including SOL is conducted and OP information communicated to relevant personnel.

11.3.5.6 Occupier shall develop and update OP as triggered by periodical review or other events such as lesson learnt from incident and EMOC.

11.3.5.7 Occupier shall maintain and retain OP including SOL as documented information.

11.3.6 Pre-Startup Safety Review (PSSR)

11.3.6.1 Occupier shall establish, implement and maintain PSSR requirements and process(es) including procedures and related checklist to ensure potential hazards and loss exposure are identified, addressed and closed for safe start-up operation.

11.3.6.2 Occupier shall determine specific criteria of a qualified PSSR leader.

11.3.6.3 PSSR shall be led by qualified PSSR leader and supported by PSSR team members consisting of individuals with knowledge and experience of the process systems concerned.

11.3.6.4 Occupier shall ensure all PSSR findings and corrective actions are timely closed.

11.3.6.5 Occupier shall ensure all PSSR documented information, including all related PS documents as a result of PSSR findings and corrective actions are maintained and retained.

11.3.7 Mechanical Integrity (MI)

11.3.7.1 Occupier shall establish, implement and maintain MI requirements and process(es) for Safety Critical Element (SCE) to minimise the risk of incidents and/or mitigate the impact of the consequences through:

- a) identification of SCE list;
- b) develop inspection and maintenance programme including Inspection, Testing and Preventive Maintenance (ITPM) tasks; and
- c) implement planned intervals.

11.3.7.2 Occupier shall assign ITPM tasks to qualified person.

11.3.7.3 Occupier shall maintain and retain MI documented information.

11.4 Management of Occupational Safety and Health (OSH)

11.4.1 Occupier shall establish, implement and maintain OSH programme throughout all phases in plant's life cycle.

11.4.2 Implementation of OSH programme(s) shall include where applicable the following but not limited to:

- a) Fitness to work;
- b) Permit to work;
- c) Lifting operation;
- d) Working at height;
- e) Confined space entry;

- f) Excavation;
- g) Energy isolation;
- h) Control of ignition sources;
- i) Chemical management;
- j) Hearing conservation;
- k) Ergonomic;
- l) Fatigue management;
- m) Substance misuse control;
- n) Driving safety; or
- o) Personal protective equipment.

11.4.3 Occupier shall maintain and retain documented information related to implemented OSH programme.

11.5 Management of Change (MOC)

11.5.1 Occupier shall establish, implement and maintain a process(es) for the implementation and control of temporary and permanent changes that impact PMS performance inclusive of organizational, engineering and procedural changes.

11.5.2 Occupier shall define levels of authorities to endorse and approve the changes. Temporary changes for engineering shall have a terminating condition and an expiry date. The changes shall be tracked to ensure that appropriate normalization is applied by the expiry date. Any extension of the temporary change validity shall be escalated to the next level of authority.

11.5.3 All relevant documents shall be updated for all changes as a prerequisite for MOC close-out.

11.5.4 Occupier shall communicate the changes and provide training to the affected personnel.

11.5.5 Occupier shall maintain and retain all MOC documented information.

11.6 Management of Procurement

11.6.1 General

11.6.1.1 Occupier shall establish, implement and maintain procurement process(es) including acceptance of purchased products and services.

11.6.2 Assigned Parties

11.6.2.1 Occupier shall ensure all relevant PMS information are delivered and requirement relating to its procurement process(es) are met by the assigned parties.

11.6.3 Outsourcing

11.6.3.1 Occupier shall ensure that outsourced functions, arrangements and processes are controlled and consistent with legal and other requirements. The type and degree of control to be applied to these functions and processes shall be defined within the Occupier's PMS.

11.7 Emergency Preparedness and Response

11.7.1 Occupier shall establish, implement and maintain a process(es) needed to prepare for and respond to potential emergency situations including:

- a) provision of first aid;
- b) providing training;
- c) periodically testing;
- d) evaluating performance; and
- e) communicating relevant information to all parties involved for the planned response.

11.7.2 Occupier shall maintain and retain all Emergency Preparedness & Response documented information.

12.0 PERFORMANCE EVALUATION

12.1 Monitoring, Measurement, Analysis and Performance Evaluation

12.1.1 General

12.1.1.1 Occupier shall establish, implement and maintain a process(es) for monitoring, measurement, analysis and performance evaluation.

12.1.1.2 Occupier shall determine:

- a) what needs to be monitored and measured;
- b) the methods for monitoring, measurement, analysis and performance evaluation, as applicable, to ensure valid results;
- c) the criteria against which the occupier will evaluate the PMS performance;
- d) when the monitoring and measuring shall be performed; and
- e) when the results from monitoring and measurement shall be analysed, evaluated and communicated.

12.1.1.3 Occupier shall maintain and retain, at a minimum, appropriate key performance indicator as specified in **Appendix A**.

12.1.1.4 Occupier shall:

- a) evaluate the performance and determine the effectiveness of the PMS;
- b) ensure that monitoring and measuring instrumentation is calibrated or verified as applicable;
- c) ensure that monitoring and measuring instrumentation is used and maintained as appropriate; and
- d) retain appropriate documented information as evidence of the results, including but not limited to:
 - i) monitoring, measurement, analysis and performance evaluation; and
 - ii) maintenance, calibration or verification of measuring plant requiring certificate of fitness.

12.1.2 Evaluation of Compliance

12.1.2.1 Occupier shall establish, implement and maintain a process(es) for evaluating compliance with legal and other requirements.

12.1.2.2 Occupier shall:

- a) determine the frequency and method(s) for the evaluation of compliance;
- b) evaluate compliance and take action if needed; and
- c) maintain knowledge and understanding of its compliance status with legal and other requirements.

12.1.2.3 Occupier shall retain documented information of the compliance evaluation result(s).

12.2 PMS Implementation Assessment

12.2.1 Occupier shall establish, implement and maintain PMS implementation assessment process that include planning, execution, reporting and monitoring activities.

12.2.2 Occupier shall conduct PMS implementation assessment at planned interval to ensure systematic implementation of PMS.

12.2.3 Occupier shall ensure PMS implementation assessment is conducted by an independent team consisting of qualified PM assessor who have been trained by registered training provider under Part VIIA Act 514.

12.2.4 Occupier shall maintain and retain documented information related to the PMS implementation assessment.

12.3 Management Review

12.3.1 Occupier's top management shall review the Occupier's PMS, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

12.3.2 The outputs of the management review shall include decisions related to the continuing suitability, adequacy and effectiveness of the PMS in achieving its intended outcomes.

12.3.3 Occupier's top management shall communicate the relevant outputs of management reviews to employees and assigned parties.

12.3.4 Occupier shall retain documented information as evidence of the results of management reviews.

13.0 IMPROVEMENT

13.1 General

13.1.1 Occupier shall determine opportunities for improvement and implement necessary actions to achieve the intended outcomes of the PMS.

13.2 Incident, Non-Compliance And Corrective Action

13.2.1 Occupier shall establish, implement and maintain a process(es), including reporting, investigating and taking corrective action, to determine and manage incident and non-compliances for PMS.

13.2.2 Occupier shall communicate corrective actions taken to relevant employees and assigned parties.

13.2.3 Occupier shall retain documented information as evidence of corrective actions taken.

13.3 Continual Improvement

13.3.1 Occupier shall continually improve the suitability, adequacy and effectiveness of the PMS.

13.3.2 Occupier shall communicate continual improvement actions taken to relevant assigned parties and employees.

13.3.3 Occupier shall maintain and retain documented information as evidence of continual improvement actions taken.

PART III

APPENDIX A: KEY PERFORMANCE INDICATOR

(Subclause 12.1.1.3)

Key Performance Indicator (KPI) in relation to scope of PMS are as follows:

- a) Management of Asset Integrity (AI)
 - i. Compliance to inspection plans;
 - ii. Compliance to testing plans of pressure relief valve; and
 - iii. Compliance to inspection recommendations.

- b) Plant Major Maintenance and Closure (PMMC)
 - i. Effectiveness of PMMC OSH Plan implementation; and
 - ii. Effectiveness of Quality Plan implementation to achieve PMS goals.

- c) Management of Process Safety (PS)
 - i. Overdue temporary EMOC;
 - ii. Overdue SCE PM (Preventive Maintenance);
 - iii. Overdue SCE CM (Corrective Maintenance);
 - iv. Instrumented Protective Function (IPF) Fail on Demand;
 - v. Pressure Relief Valve (PRV) Fail on Demand;
 - vi. Process fire/explosion; and
 - vii. Process Loss of Primary Containment (LOPC).

- d) Management of Occupational Safety and Health (OSH)
 - i. Fatal Accident Rate (FAR);
 - ii. Lost Time Injury Frequency (LTIF);
 - iii. Total Recordable Case Frequency (TRCF);
 - iv. Total Recordable Occupational Illness Frequency (TROIF);
 - v. OSH Regulatory non-compliance; and
 - vi. Emergency drills and exercises.

- e) Competency
 - i. Competent person within the meaning of Part VIIA Act 514 and the relevant Regulations.

PART IV

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