Guidance on meeting expectations of EI *Process safety management framework*

Element 12: Management of change and project management

energy institute

GUIDANCE ON MEETING EXPECTATIONS OF EI PROCESS SAFETY MANAGEMENT FRAMEWORK

ELEMENT 12: MANAGEMENT OF CHANGE AND PROJECT MANAGEMENT

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CONTENTS

Page

Publications in this series **5**

Foreword **6**

Acknowledgements **7**

1 Introduction **8**
1.1 Management of change and project management 8
1.2 Expectations for element 12: Management of change and project management 8

2 Arrangements for meeting expectations **11**
2.1 Descriptions of actions for each step in the logical flow diagram 14

3 Suggested compliance checks and performance measures **30**
3.1 Performance measure 1: Element compliance and implementation status (EIPSS rating) 31
3.2 Performance measure 2: Number of changes reviewed, categorised by type 32
3.3 Performance measure 3: Number of changes reviewed, categorised by potential impact 33
3.4 Performance measure 4: MoC assessments overdue 34
3.5 Performance measure 5: Implementation of identified MoC control measures overdue 35
3.6 Performance measure 6: Number of temporary changes in place at month end 36
3.7 Performance measure 7: Number of temporary changes exceeding original authorisation period 37
3.8 Performance measure 8: HS&E projects status – forecast status against schedule . . . 39
3.9 Performance measure 9: Observed non-compliance with MoC and project management requirements 41
3.10 Performance measure 10: Overdue field observations 42
3.11 Performance measure 11: Incident root causes which are failures of element 12 . . . 43

Annexes

Annex A Reference and bibliography **44**
A.1 References 44
A.2 Further resources 44

Annex B Glossary of acronyms and abbreviations **45**

Annex C Mapping of process steps to EI PSM framework expectations. **46**

Annex D Example report template: Management and supervisory field observation **50**

Annex E Example template: Initial change risk assessment **52**

Annex F Example template: Organisational change risk assessment worksheet – Position specific **53**

Annex G Example template: Organisational change risk assessment worksheet – Resource balance assessment **54**

Contents cont... **Page**

Annex H **Example risk and prioritisation matrices 55**

Annex I **Example template: Outline project implementation plan. 58**

Annex J **Budget development: Developing the portfolio of 'capital' and 'expense' projects 59**

PUBLICATIONS IN THIS SERIES

Guidance on meeting expectations of EI process safety management framework

- *Element 1: Leadership, commitment and responsibility*
- *Element 2: Identification and compliance with legislation and industry standards*
- *Element 3: Employee selection, placement and competency, and health assurance*
- *Element 4: Workforce involvement*
- *Element 5: Communication with stakeholders*
- *Element 6: Hazard identification and risk assessment*
- *Element 7: Documentation, records and knowledge management*
- *Element 8: Operating manuals and procedures*
- *Element 9: Process and operational status monitoring, and handover*
- *Element 10: Management of operational interfaces*
- *Element 11: Standards and practices*
- *Element 12: Management of change and project management*
- *Element 13: Operational readiness and process start-up*
- *Element 14: Emergency preparedness*
- *Element 15: Inspection and maintenance*
- *Element 16: Management of safety critical devices*
- *Element 17: Work control, permit to work and task risk management*
- *Element 18: Contractor and supplier, selection and management*
- *Element 19: Incident reporting and investigation*
- *Element 20: Audit, assurance, management review and intervention*

FOREWORD

Process safety management (PSM) is vital to ensuring safe and continued operations in major accident hazard (MAH) organisations. However, PSM is a multifaceted process, and a number of high profile incidents since 2005 have suggested that without a holistic understanding of the various factors required for effective PSM it can be difficult and inefficient to ensure, and measure, performance.

In 2010 the Energy Institute (EI) published *High level framework for process safety management* (*PSM framework*), which aimed to define what PSM should involve. Divided into four focus areas (process safety leadership, risk identification and assessment, risk management, and review and improvement) and sub-divided into 20 'elements', it sets out a framework of activities MAH organisations should undertake to ensure PSM. Each element lists a number of high level activities organisations should meet (expectations).

EI *Guidance on meeting expectations of EI Process safety management framework* is a series of 20 publications ('guidelines') that build on the *PSM framework*. Commissioned by the EI Process Safety Committee (PSC) each guideline captures and presents current industry good practices and guidance on how organisations can meet the expectations set out in each element of the *PSM framework*. Each guideline includes:

- a logical flow diagram of activities (steps) the organisation should undertake to manage that element;
- descriptions of those steps;
- example performance measures (PMs) to measure the extent to which key steps have been undertaken;
- a list of further resources to help undertake key steps;
- a table mapping the steps against the expectations in the *PSM framework*, and
- annexes of useful information.

Readers implementing the guidance in this publication should be aware of the *PSM framework* and the other publications in this series, particularly if they are a manager with oversight of the wider implementation of PSM.

Suggested revisions are invited and should be submitted through the Technical Department, Energy Institute, 61 New Cavendish Street, London, W1G 7AR. e: technical@energyinst.org

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1 INTRODUCTION

1.1 MANAGEMENT OF CHANGE AND PROJECT MANAGEMENT

This guideline sets out good practices for management of health, safety and environment (HS&E) and process safety risks introduced into the business by project and non-project changes, ensuring that:

– all changes, large, small, permanent and temporary are systematically identified and assessed;
– identified HS&E risks are appropriately managed throughout the life of the change;
– all changes are reviewed and approved, by designated competent personnel, before they are implemented, and
– appropriate systems are in place to monitor and audit the management of change (MoC) process.

The introduction of any form of change into an organisation, if not appropriately managed, can significantly increase the levels of HS&E and process safety risk. Management should ensure that risks arising from any form of change are systematically identified, assessed and managed.

1.2 EXPECTATIONS FOR ELEMENT 12: MANAGEMENT OF CHANGE AND PROJECT MANAGEMENT

Element 12 of EI *High level framework for process safety management* ('*PSM framework*') describes 17 expectations – arrangements and processes that organisations should (to an appropriate degree) have in place in order to ensure they are managing this aspect of process safety management (PSM) appropriately:

'Overview The introduction of any form of change into an organisation, if not appropriately managed, can significantly increase the levels of HS&E and process safety risk.
Management must ensure that risks arising from any form of change are systematically identified, assessed and managed.

12.1 A process is in place which systematically identifies, assesses and manages the risks arising from both temporary and permanent changes.

12.2 The processes for managing change address:
– authority for approval of changes;
– compliance with legislation and approved standards;
– acquisition of needed permits;
– documentation, including reason and technical basis for change;
– communication of risks associated with the change, and
– mitigation measures, such as: time limitation; training.

12.3 Management of change addresses changes to:
– assets or equipment;
– operations or operating procedures;

– products, materials or substances;
– organisation or personnel;
– software or control systems;
– designs or specifications;
– standards or practices, and
– inspection, maintenance or testing programmes.

12.4 Management of change considers impacts to:
– health and safety (including process safety);
– environment;
– reputation;
– security;
– third party assets, and
– business interruption.

12.5 Management of change considers human and organisational factors.

12.6 Temporary changes do not exceed initial authorisation for scope or time without review and approval.

12.7 Changes are approved by specified named competent individuals commensurate with the risk associated with the proposed change.

12.8 Pertinent records covering all changes are maintained.

12.9 Project management procedures are documented, well understood, readily available to those who need to use them (including contractors) and executed by qualified personnel.

12.10 Key stages in the project development life cycle are reviewed and approved by specified level of management with due consideration of PSM practices.

12.11 Criteria are established and procedures are in place for conducting and documenting risk assessments at specific project stages to confirm the integrity of new assets and existing assets which have been substantially modified.

12.12 HS&E and process safety impacts of new business development on the local community are assessed and communicated to relevant authorities and integrated into the business case.

12.13 The design and construction of new or modified facilities use approved standards and practices that:
– meet or exceed applicable regulatory requirements;
– embody responsible requirements where legislation does not exist, and
– encompass robust PSM practices.

12.14 A pre-commissioning review is performed and documented to confirm that:
– construction is in accordance with specifications;

- EI *PSM framework* measures are in place;
- risk management recommendations have been addressed and required actions taken;
- regulatory and permit requirements are met;
- emergency, operations and maintenance procedures are in place and adequate;
- required training of personnel and communication related to PSM aspects have been accomplished, and
- necessary project documentation (safety file) is readily available to those who need to use it.

12.15 Procedures are in place to identify and manage the HS&E and process safety risks arising from the mothballing and decommissioning or disposal of assets including dismantling, demolition and site remediation.

12.16 Arrangements for management of change and project management are understood and followed; understanding of arrangements and compliance with them is regularly tested.

12.17 Compliance and performance trends are reviewed by specified levels of management.'

This guideline provides a process, along with guidance, to help organisations meet these expectations. It also suggests a number of compliance checks and performance measures (PMs) to measure the extent to which key activities involved in meeting these expectations have been or are being undertaken.