

Guidance on meeting expectations of
El Process safety management framework

Element 20: Audit, assurance, management review
and intervention

GUIDANCE ON MEETING EXPECTATIONS OF EI PROCESS SAFETY
MANAGEMENT FRAMEWORK

ELEMENT 20: AUDIT, ASSURANCE, MANAGEMENT REVIEW AND INTERVENTION

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- *Element 6: Hazard identification and risk assessment*
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- *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 Process safety management guidelines 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.

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1 INTRODUCTION

1.1 AUDIT, ASSURANCE, MANAGEMENT REVIEW AND INTERVENTION

These guidelines set out good practice for audit, assurance, management review and intervention. Regular review and audit of performance, and compliance with the EI *PSM framework* are vital to ensure that HS&E and process safety performance continues to meet the defined targets. Management must ensure that there is both routine review and independent audit of performance and compliance with EI *PSM framework* expectations.

In order to establish and maintain effective assurance arrangements it is important to ensure that:

- A comprehensive set of PMs are established and routinely monitored.
- Effective supervisory field observations or in-line control checks are implemented to check understanding of and compliance with the implemented PSM arrangements.
- Effective processes are established, to verify compliance with the EI *PSM framework* expectations, encompassing:
 - 1st party audits – carried out by personnel from the organisation.
 - 2nd party audits – carried out by personnel from the organisation, but independent of the area being audited.
 - 3rd party audits – carried out by personnel who are independent of the organisation.
- Required corrective interventions are identified, prioritised and implemented.

This document provides guidance on how to establish good practice processes for audit, assurance, management review and intervention.

Annex G reproduces the suggested in-line control checks (management and supervisory field observations) and suggested PMs which are provided in each of the guidelines for each element of the EI *PSM framework*. Additionally, Annex G provides suggested aggregation criteria for each of the suggested PMs. These aggregation criteria are not provided elsewhere.

1.2 EXPECTATIONS FOR ELEMENT 20: AUDIT, ASSURANCE, MANAGEMENT REVIEW AND INTERVENTION

Element 20 of EI *High level framework for process safety management* ('*PSM framework*') describes 13 expectations – arrangements and processes that organisations should (to an appropriate degree) have in place in order to ensure they are managing this aspect of PSM appropriately:

'Overview	Regular review and audit of compliance with the EI <i>PSM framework</i> is vital to ensure that HS&E and process safety performance continues to meet the defined targets. Management must ensure that there is both routine review and independent audit of compliance with EI <i>PSM framework</i> expectations.
20.1	EI <i>PSM framework</i> performance measures are established to monitor the degree to which the EI <i>PSM framework</i> expectations are being complied with.

- 20.2** The organisation's operations are routinely monitored, incorporating the PSM performance measures, and reviewed, by specified levels of management, at predetermined frequencies.
- 20.3** The EI *PSM framework* expectations are reviewed annually and updated as necessary to ensure that they continue to meet the needs of the organisation.
- 20.4** Audit criteria are defined to provide a consistent basis for audit and a consistent basis for development of the audit opinion.
- 20.5** A routine internal (2nd party) audit programme is in place with audits carried out by personnel from the organisation. The audit assesses compliance with the EI *PSM framework* expectations and the effectiveness of the management review arrangements.
- 20.6** A routine external (3rd party) audit programme is in place with audits carried out by personnel independent of the organisation. The external audit assesses and provides an independent opinion on compliance with the EI *PSM framework* expectations and the effectiveness of the management review arrangements.
- 20.7** Assessments are conducted by trained, competent multidisciplinary teams, including HS&E and process safety professionals and personnel with operational and technical expertise.
- 20.8** The frequency and scope of the assessments will reflect the complexity of the operation, the level of risk and previous EI *PSM framework* compliance history.
- 20.9** Audit opinion and findings from the EI *PSM framework* audits are reviewed with specified levels of management.
- 20.10** The effectiveness of the EI *PSM framework* audit arrangements is periodically reviewed and the findings are used to make improvements.
- 20.11** Necessary interventions to correct identified issues, non-compliances and deviations in performance, beyond defined tolerance levels, are identified, appropriately prioritised, scheduled and tracked to completion.
- 20.12** Arrangements for audit, assurance, management review and intervention are understood and followed; understanding of arrangements and compliance with them is regularly tested.
- 20.13** 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.