

Safety Management Plan Preparation and Submission for Pipelines

Gas and Pipeline Infrastructure Safety
Guidelines

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This guideline has been endorsed by the Director of Energy Safety in Victoria.

Authorised and published by Energy Safe Victoria

July, 2019

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Who we are

We are Victoria's safety regulator for electricity, gas and pipelines.

Our role is to ensure that Victorian gas and electricity industries are safe and meet community expectations. We are also responsible for licensing and registering electricians, and educating the community about energy safety.

More information is available on the Energy Safe Victoria website: www.esv.vic.gov.au

Contents

1	Introduction	6
2	Pipeline licensees	8
2.1	Safety management plan contents	8
2.1.1	Contact details (31).....	8
2.1.2	Description of pipeline (32)	9
2.1.3	Safety assessment (33)	10
2.1.4	Emergency response plan (34).....	13
2.1.5	Safety management system (35)	14
2.1.6	Safety policy, systems and procedures (36).....	14
2.1.7	Organisational structure and responsibilities (37)	15
2.1.8	Incident recording, investigation and reviewing (38)	15
2.1.9	Work and staffing systems (39).....	16
2.1.10	Compliance management (40).....	17
2.1.11	Performance standards (29)	17
3	Records and reporting	20
3.1.1	Records (41).....	20
3.1.2	Reporting (42).....	20
4	Construction and operation of pipelines	22
4.1.1	Incident reporting (20).....	22
5	Terminology	24

1 Introduction

The purpose of these guidelines is to assist Licensees as defined by the Pipelines Act (PA) with the preparation and submission of a Safety Management Plan (SMP). The SMP must be submitted and accepted before commencing any pipeline operation and must comply with the requirements of Part 9, Division 2 of the Pipelines Act 2005¹.

ESV guidelines should always be read in conjunction with the corresponding ESV policy document.

Scope

This guideline only applies to the operation, and maintenance of licenced pipelines as defined in Part 2 of the PA.

See the ESV document *Safety Management Plan Guideline for Licensed Pipeline Construction, Alterations, and Planned Repair Works GPIS-12-005* for more information on works that trigger pipeline license alterations.

The statutory duties of a pipeline licensee

Section 124 of the PA establishes a Licensee's general duties, which form the basis of an SMP. These duties require a licensee to manage and operate each of its pipelines to minimise the risks to public safety and the environment that arise from pipeline operation *as far as is reasonably practicable* (AFARP)².

An SMP for a pipeline must be in writing and (in accordance with the regulations) specify the safety management system (SMSy) the licensee will adopt to comply with its duties.

Structuring a Safety Management Plan

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Figure 1 shows an example of how to organise SMP documentation (at a minimum).

Other documents required (if applicable) in accordance with AS2885.3, which can be incorporated as an appendix, include the following:

- Pipeline Integrity Management Plan (PIMP).
- Pipeline Repair Plan (PRP).
- Fracture Control Plan (FCP).
- Isolation Plan (IP).
- Remaining Life Review (RLR).
- Pipeline Safety Management Study Report (SMS).
- An Approvals Matrix.

¹ SMPs can also be embedded within Gas Safety Cases.

² ESV considers that *as far as is reasonably practicable* (AFARP) should be interpreted to achieve the same objectives as intended by *as far as practicable* (AFAP); see Section 5 for more information about the application of AFARP that ESV accepts. Further explanation of the definition and application of risk qualifications can be found in ESV's *Energy Infrastructure Safety Management Policy*.

Figure 1: organising SMP documentation

SMP – ABC Limited/ABC Limited Facility	
Section 1	
1.1.	Australian Business Number or Australian Company Number
1.2.	Person responsible for facility
1.3.	Person responsible for SMP
Section 2	
2.1.	Pipeline description
Section 3	
3.1.	Safety Assessment
Section 4	
4.1.	Emergency Response Plan
Section 5	
5.1.	Safety management system
5.1.1	Safety Policy, systems and procedure
5.1.2	Organisational structure and responsibilities
5.1.3	Incident recording, investigation and reviewing
5.1.4	Work and staffing systems
5.1.5	Compliance Management
5.1.6	Performance Standards
Section 6	
5.1.	Records
5.2.	Reporting
Section 7	
5.1.	Incident Reporting
Section 8	
8.1.	Appendices
a.	Pipeline Integrity Management Plan
b.	Pipeline Repair Plan
c.	Fracture Control Plan
d.	Isolation Plan
e.	Remaining Life Review
f.	Safety Management Study Report (SMS)
g.	Approvals Matrix
h.	Other

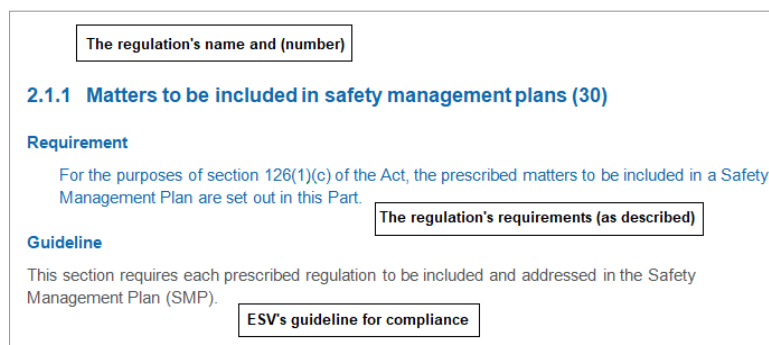
How to use these guidelines

The contents of each SMP are stipulated by Regulation 30, ‘Matters to be included in safety management plans’:

For the purposes of section 126(1)(c) of the Act, the prescribed matters to be included in a Safety Management Plan are set out in this Part.

This requires SMPs to address all prescribed matters as set out in Part 6 of the Pipeline Regulations. Figure 2 shows the way each ESV guideline is structured to assist with complying with these requirements.

Figure 2: ESV guidelines



2 Pipeline licensees

2.1 Safety management plan contents

Each SMP should include the following sections:

- Contact details.
- Description of pipeline.
- Safety assessment.
- Emergency response plan.
- Safety management system.
- Safety policy, systems and procedures.
- Organisational structure and responsibilities.
- Incident recording, investigation and reviewing.
- Work and staffing systems.
- Compliance management.
- Performance standards.
- Records.
- Reporting

2.1.1 Contact details (31)

Requirement

The Safety Management Plan must contain—

- (a) the name, business address and telephone number of the licensee; and
- (b) the name, position title, email address and mobile number of the person who is responsible for the preparation, submission and review of the Safety Management Plan.

Guideline

This section should include:

- all relevant license details attaching to the facility
- corporate details for the licensed legal entities³ and, where applicable, any linkages between joint ventures
- the business address
- the telephone number.

Where an entity name (due to one or more name changes, for example) does not match the licence details or some other ambiguity exists, consider also including an Australian Securities and Investments Commission (ASIC) search that demonstrates the change history.

This section also requires contact information for the following responsible employees:

- The senior employee (person) with ultimate responsibility for (and control of) the facility and for SMP sign-off. This person must:
 - reside within the Australian jurisdiction

³ Either an Australian Business Number (ABN) or an Australian Company Number (ACN) can be used, but an ABN is ESV's preferred option.

- be the managing director, chief executive officer, or a similarly senior officer of the company
- be aware of their nomination as the person responsible for the facility.
- The employee responsible for compiling the SMP. This person must:
 - be aware of their nomination as the responsible person.

In both cases, contact details must (at a minimum) include the employee's:

- name
- title
- email address
- mobile telephone number.

Third party personnel, like consultants or contractors, will not be accepted as responsible employee contacts.

2.1.2 Description of pipeline (32)

Requirement

- (1) The Safety Management Plan must contain a description of the pipeline with sufficient information—
 - (a) to show the technical details of the pipeline; and
 - (b) to show how the licensee intends to ensure safety and maintain the integrity of the pipeline operation⁴; and
 - (c) to enable an assessment of the risks to the safety of the public from the pipeline operation to be undertaken.
- (2) In this regulation technical details includes—
 - (a) design specifications and drawings; and
 - (b) construction materials; and
 - (c) details of function and operation.

Guideline

The purpose of the pipeline description section is to provide all information and data relevant to the identification and assessment of risks. It also informs the safety assessment conducted by a pipeline licensee, and assists ESV with understanding and assessing the adequacy of the risk control approach to minimise risk AFARP.

The pipeline description, which also defines the scope of the safety assessment:

- needs to provide enough information to enable ESV to assess extent and scope of pipeline risks (ensuring that the demarcations of licensed assets are clearly defined)
- feeds into the safety assessment by providing enough detail to enable the identification of any risks associated with the pipeline's assets, function and operations
- should provide a high-level business description of the pipeline licensee's operation and function
- identifies safety-related business units and their functions (i.e. all contracted functions)
- identifies physical assets, their condition, and any local factors that may include:
 - pipeline details (maximum allowable operating pressure, licence numbers, routes (pipeline GIS information), location classifications, and off-takes)
 - key plant (compressors, pressure regulation, SCADA) including their design limits

⁴ This requirement is covered in sections as a part of requirements 29, 33, 35, 36, 37, 38, 39, and 40.

- off-take locations and details including meters and regulators and details about the customer being serviced (which should include pipeline lateral design details covering pressure, temperature, capacity, materials, and alignment plans)
- safety critical devices (for example, pressure safety valves)
- interfaces with other pipeline licensees (for example, mutual aid agreements)
- the license boundaries and any license alterations.

2.1.3 Safety assessment (33)

Requirement

The Safety Management Plan must contain a safety assessment of the pipeline operation that—

- (a) is consistent with the description of the pipeline under regulation 32; and
- (b) describes the methodology used and investigations undertaken for the safety assessment; and
- (c) identifies all of the hazards and risks arising from the pipeline operation that have the potential to cause a reportable or non-reportable safety incident⁵; and
- (d) contains a detailed assessment of those risks; and
- (e) describes the systems, practices and procedures undertaken, or proposed to be undertaken, to eliminate or minimise those risks as far as reasonably practicable

Guideline

The general purpose of a safety assessment is to establish what practicable risk controls should be adopted by a licensee to achieve acceptable levels of safety.

The purpose of the safety assessment section in a pipeline SMP is to present a summary of safety assessments (and other safety management studies), and process and explain the logic behind the decision to implement a defined level of risk control.

The safety assessment must clearly explain how the adopted risk control approach is appropriate to each pipeline, is practicable, and meets the duties of the pipeline licensee for safety protection. This section also provides the pipeline licensee's approach on how the risk has been minimised AFARP⁶.

An acceptable safety assessment will demonstrate a clear description of its methodology and decisions and the adopted risk control approach, including the:

- personnel involved (position/title)
- data and information used to identify hazards and assess risks (including incidents)
- relevant standards used in the safety assessment process
- definitions of likelihood and consequence, including a risk matrix
- the company's definition of AFARP, including AFARP decision criteria
- a description of risk controls adopted to minimise risk AFARP; the required controls may be in addition to risk controls mandated in AS2885
- how all risks have been reduced AFARP and why it is not practicable to implement risk controls that are available but not being adopted
- identification of uncertainty arising from incomplete or indirect data, and how this has been considered in the safety assessment process.

Table 1 is an example of one approach to presenting a risk description and assessment case that risk has been minimised AFARP, but pipeline licensees may use any appropriate method to present an AFARP case. At a high level, the example demonstrates the reasoning flowing from each identified

⁵ See the Terminology section for the definition of a reportable safety incident.

⁶ See the Terminology section for the definition of AFARP.

risk/risk description and its causes and controls through to its risk ranking and demonstration of risk minimisation AFARP. This example is generic and licensed network operators (LNO) may need to modify it to address specific risks.

Table 1: safety assessment AFARP presentation example

Risk description	Control and function	Effectiveness of control at minimising risk	Likelihood	Consequence	Risk ranking	Demonstration of risk minimisation AFARP
<p>Third party civil works damages pipeline causing a leak and ignition of flammable gas and jet fire with fatalities.</p> <p>Hazard – high-pressure flammable gas</p> <p>Event – gas leak and ignition</p> <p>Cause – third party works</p> <p>Consequence – jet fire leading to fatalities</p>	<p>DBYD: identification of underground asset.</p>	<p>Partially effective because DBYD is not mandatory, may not be used, and not all asset location information may be current.</p>	Hypothetical	Catastrophic	Intermediate	<p><i>Provide a statement of how risk has been reduced AFARP.</i></p> <p><i>Available risk controls: what else could be done?</i></p> <p>Concrete slabbing over the pipeline to prevent third party damage.</p> <p><i>Practicability: justification as to why the feasible risk controls are not adopted.</i></p> <p>Cost of concrete slabbing is estimated to be \$XXX and is grossly disproportionate to the safety benefits gained.</p>
	<p>Marker posts: identification of pipeline location.</p>	<p>Partially effective because visibility can be obstructed.</p>				
	<p>Pipeline patrols: identification of unauthorised third party works.</p>	<p>Partially effective because patrollers are not on site continuously.</p>				
	<p>Depth of cover: this pipeline is buried at a depth of 1.5 metres.</p>	<p>Partially effective because a depth of 1.5 metres should minimise contact as many civil works do not excavate to that depth. But it does not remove all possibility of contact.</p>				
	<p>Wall thickness: provides resistance to penetration.</p>	<p>Partially effective because third parties can still penetrate with certain types of machinery.</p>				
<p>External corrosion of pipe wall due to electrochemical reaction leading to release of product, pooling and subsequent ignition leading to serious injury.</p> <p>Hazard – flammable liquid</p> <p>Event – loss of containment</p> <p>Cause – Electrochemical Reaction</p> <p>Consequence – serious injury</p>	<p>Pipeline coating: insulating barrier that isolates the external wall of the pipeline from environmental factors.</p>	<p>Partially effective due to defective and damaged coating whilst in operation.</p>	Remote	Severe	Low	<p><i>Available risk controls: what else could be done?</i></p> <p>Further controls considered: DCVG survey.</p> <p>Cost: Estimated to be \$XXX to be conducted every five years. Relatively easy to implement due to readily available service providers.</p> <p>Outcome: Implement DCVG surveys as an additional control every five years as the cost is not disproportionate to the risk reduction gained and is</p>
	<p>Cathodic protection: Impresses current to oppose any corrosion currents and ensures adherence to AS2832.1.</p>	<p>Partially effective due to presence of stray current from DC traction systems, where CP cannot completely protect against stray currents.</p>				

Risk description	Control and function	Effectiveness of control at minimising risk	Likelihood	Consequence	Risk ranking	Demonstration of risk minimisation AFARP
	<p>Electrolysis mitigation: Returns stray current to the source in a controlled manner.</p> <p>In-line inspection: Non-destructive examination technique to detect and size internal and external anomalies.</p>	<p>Partially effective because not all stray currents are returned to source due to balancing the need of protecting all assets and the limitations of the system.</p> <p>Partially effective because anomalies may go undetected due to the sophistication of in-line inspection tools and subsequent interpretation of results.</p>				<p>easy to implement.</p> <p>This is expected to reduce the likelihood of the risk from remote to hypothetical and the risk ranking to negligible.</p>
	<p>Etc. Further controls may be relevant and needed to achieve risk minimisation AFARP.</p>	Etc.				

The components of the safety assessment AFARP presentation table include the following:

- Risk description.
- Control and function.
- Effectiveness of control at minimising risk.
- Likelihood.
- Consequence.
- Risk ranking.
- Demonstration of risk minimisation AFARP.

Risk description

This column shows the risk description, which is a statement summarising the key elements of a risk and forms the basis for its analysis and assessment. A risk description summarises a scenario and should contain elements that describe the:

- hazard
- event
- causes of the event
- foreseeable consequences of the event.

Control and function

This column identifies all relevant controls that can reduce the risk identified by the risk description. The control types are:

- preventative controls, which aim to prevent a cause or initiating event from occurring
- mitigating controls, which reduce the severity of the consequence of a risk event after it has occurred.

Risk controls are aligned with the risk description's context and assessed for their individual effectiveness. A description of how the risk control functions act to minimise a risk should be clearly defined, and where multiple functions exist for a control, only the functions relevant to the specific risk description should be detailed.

Effectiveness of control at minimising risk

This is the estimate of a control's effectiveness at minimising the risk and the evidence the estimate is based on. Evidence (proof of the control's effectiveness) can include monitoring activities, incidents, and near misses.

Likelihood

This is the result from the assessment of the chance the event will occur after applying controls. It should clearly describe the assessment criteria.

Consequence

This is the result from the assessment of the consequences after applying controls. It should clearly describe the assessment criteria.

Risk ranking

This is the result from the assessment of the risk after applying controls. It should clearly describe the assessment criteria.

Demonstration of risk minimisation AFARP

This needs to show how AFARP has been achieved. It also needs to establish what is not practicable in terms of further minimising risk.

2.1.4 Emergency response plan (34)

Requirement

(1) The Safety Management Plan must provide for the establishment and maintenance of an emergency response plan that—

- (a) identifies all potential emergency situations that may arise in relation to the pipeline operation; and
- (b) identifies and assesses the risks to safety of the public and employees and contractors arising from the potential emergency situations identified in paragraph (a); and
- (c) includes detailed response arrangements to eliminate or minimise as part of practice the risks identified in paragraph (b).

(2) The Safety Management Plan must include procedures to ensure that the response arrangements in the emergency response plan are tested—

- (a) when the response arrangements are introduced; and
- (b) when the response arrangements are significantly amended; and
- (c) not later than 12 months after the most recent test.

Guideline

At a minimum, the Emergency Response Plan (ERP) should be prepared in accordance with AS2885.3, Section 11, and should contain clear steps of action to mitigate and recover from the consequences of all reasonably foreseeable emergencies and gas incidents. It should address the following topics:

- The ERP's purpose.
- Detailed response and recovery strategies for all reasonably foreseeable emergencies including:
 - loss of containment

- full-bore pipeline rupture
- fires
- natural events
- terrorism.
- Emergency roles and responsibilities.
- The incident escalation process, which may provide the:
 - categorisation of emergencies
 - description of what triggers emergency management team activation
 - description of what triggers an emergency escalation.
- Emergency and key emergency responder contacts (internal and external) with 24/7 availability.
- Arrangements for utilising third party support (which may also cover arrangements for the storage of equipment).
- A general emergency response overview, which may include details about the:
 - isolation of supply
 - emergency control centre
 - remediation process following an incident.
- Management of change and handover responsibilities.
- Stakeholder communication protocols.
- Emergency response personnel training and competency.
- Specification of the emergency response exercises and training to be undertaken each year.
- The person responsible for reporting emergency response effectiveness (actual and simulated).
- The triggers for an ERP review.

The ERP must also be reviewed at least every 2 years and, if changes are required, revised and approved.

2.1.5 Safety management system (35)

Requirement

- (1) The Safety Management Plan must specify a safety management system followed or to be followed in relation to the pipeline operation.
- (2) The safety management system must contain the information specified in Division 2.

Guideline

The purpose of a safety management system (SMSy) is to provide appropriate organisational control structures and processes to ensure that the:

- risk control approach proposed in an accepted SMP is implemented, managed and reported
- licensee has mechanisms in place to continuously improve the safety management approach the SMP describes.

The SMSy is a holistic approach to managing pipeline safety and should describe existing structures, processes and procedures, and be capable of identifying areas where improvements or changes are required.

2.1.6 Safety policy, systems and procedures (36)

Requirement

The safety management system must specify the licensee's safety policy and the systems and procedures to be used to ensure that the licensee meets the licensee's duties under section 124 of the Act.

Guideline

A safety policy describes the principles, rules and guidelines a licensee will apply to manage and operate each of its pipelines to meet its duties under section 124 of Pipeline Act.

ESV will accept a description in the SMSy (as meeting the requirement for a safety policy) that articulates the principles, rules, and guidelines a licensee will apply.

2.1.7 Organisational structure and responsibilities (37)

Requirement

The safety management system must specify the responsibilities, accountabilities and authority levels of personnel with respect to the various aspects of the pipeline operation.

Guideline

The organisational structure needs to explain the linkages between the parent organisation and its operational structure or any subsidiaries in relation to the licensed entity.

Ideally, this section will include an organisational chart that shows:

- position titles
- specific SMP responsibilities (including contract relationships)
- how management control and assurance is extended to contract activities.

It will also show the key responsible personnel relating to SMSy activities (regardless of organisation) and how the SMSy is integrated with contractors (in other words, how the licensee will ensure that contractors will meet their general duties as per the Pipelines Act).

2.1.8 Incident recording, investigation and reviewing (38)

Requirement

The safety management system for a facility must specify:

- (a) how reportable and non-reportable safety incidents are to be recorded and investigated and;
- (b) the management systems to be used for reviewing and taking action on information that is recorded or identified by an investigation to improve the safety of the pipeline operation.

Guideline

This section should detail the processes and procedures to be followed when investigating and reporting reportable and non-reportable safety incidents⁷ and should provide information that addresses the following topics:

- The reporting, recording, investigation, and review of reportable and non-reportable safety incidents, including the close-out and review of corrective and preventative actions.
- Standards and procedures for reportable and non-reportable safety incident investigation.
- The requirement for investigating reportable and non-reportable safety incidents and how the contributing factors and root causes are identified.
- Responsibilities for identifying, reviewing and implementing actions identified in an investigation report.
- Management (and their positions) involved in the review and implementation of recommendations made by incident investigation teams.

⁷ A safety incident means an incident involving a risk to the safety of the public.

- Training in investigative methods and procedures for the personnel responsible for conducting incident investigations.
- The method incident investigations will use to identify hazards and assess risk.
- The way incident outcomes will be fed back to the safety assessment.

2.1.9 Work and staffing systems (39)

Requirement

(1) The safety management system must specify the work and staffing systems to be used for the pipeline operation to ensure, as far as reasonably practicable, that—

- (a) each area of safety-critical work in relation to the pipeline operation is assessed to identify the minimum skills, knowledge and experience requirements for a person assigned to carry out that work; and
- (b) only persons with the skills, knowledge and experience appropriate to an area of safety-critical work are assigned to carry out that work; and
- (c) any training necessary for persons assigned to carry out safety-critical work is provided; and
- (d) a permit to work system, as set out in subregulation (2), is to be followed for any safety-critical work carried out in relation to the pipeline operation.

(2) A permit to work system must—

- (a) prohibit any person from performing safety-critical work without a written permit to work issued by a person authorised by the licensee to issue that permit; and
- (b) specify by position the persons who are authorised to issue a permit to work and to supervise that work; and
- (c) ensure that persons responsible for the issuing of permits to work and persons carrying out safety-critical work under a permit to work are competent and are provided with appropriate training, procedures, tools, equipment and emergency support.

(3) In this regulation, safety-critical work means work which affects or may affect the safety of the pipeline operation.

Guideline

This section should be completed in two parts:

1. Training and competency.
2. Permit to Work system.

1. Training and competency

This section should specify and identify training system needs in relation to the pipeline. To achieve this, the section should identify the training system and how:

- training will be provided
- training records will be kept
- personnel are qualified
- skills and competencies are reviewed for currency and relevance to the pipeline's operational requirements.

It should also provide information about:

- the training systems to be used in relation to the pipeline
- how contractor competencies are identified and evaluated
- minimum qualifications, skills and competencies required for works in relation to the pipeline

- the mechanisms in place to:
 - ensure that only persons with the qualifications, skills and competencies appropriate to a given type of work are assigned to carry it out
 - provide the necessary training for persons assigned to carry out work
- the frequency of retraining and requalification.

2. Permit to Work system

The Permit to Work system ensures sufficient levels of safety are maintained when conducting safety critical activities. This section should provide descriptions of:

- any work activities that require implementation of a Permit to Work system
- the various types of Permit to Work that are issued and the process involved
- the positions of those responsible for issuing a Permit to Work
- any competency requirements and preliminary training required for persons responsible for issuing a Permit to Work
- authorised contractors who can issue a Permit to Work and how the pipeline licensee monitors that process
- the training, procedures, tools, equipment and emergency support provided to people carrying out work under the Permit to Work system.

2.1.10 Compliance management (40)

Requirement

The safety management system must—

- (a) specify procedures for identifying, collecting and analysing a pipeline's operational, maintenance and integrity data to identify trends in a pipeline's operation and performance; and
- (b) specify procedures for planning and implementing audits of the safety management system to determine compliance with this regulation; and
- (c) specify procedures for regular management review of the effectiveness and appropriateness of the safety management system; and
- (d) specify procedures for managing changes to the procedures, pipeline design and operation.

Guideline

See Section 2.1.11, Performance standards (29), which captures the information needed to meet both Regulation 29 and 40.

2.1.11 Performance standards (29)

This section captures the information needed to meet both Regulation 29 and 40.

Requirement

Performance standards (29)

In this Part, a performance standard in relation to a pipeline operation must specify—

- (a) who is responsible for carrying out the operation; and
- (b) what has to be done in the performance of the operation; and
- (c) when the operation has to be performed; and
- (d) the expected outcomes of the operation.

Guideline

To comply with Regulation 29, the completed section should detail the implementation of all the control measures, and the system that will ensure the measures remain effective and reliable. At a minimum, the performance standard should detail the:

- responsible person
- required activity frequency
- expected outcome of the activity.

See Table 2 for an example of how to record performance standard auditing and monitoring information for risk controls.

To comply with Regulation 40, the completed section should also detail the pipeline licensee's formal, systematic, and disciplined approach to:

- monitoring the performance and adequacy of its SMSy
- its audit framework to gain assurance of the performance and adequacy of its SMSy
- continuous improvement
- change management.

This can be achieved by specifying the relevant performance indicators that capture the SMSy's adequacy, and detailing the formal communication protocols for reporting to the facility's senior management.

The whole section, which should also provide information about the auditing program and its frequency, management review, data analysis of performance indicators, reporting frequency, and audit selection process, can be completed in four parts:

- Monitoring.
- Auditing.
- Review.
- Change management.

Monitoring

This section needs to specify:

- aspects of the SMSy that need to be monitored and measured
- the methods for monitoring, measurement, analysis, and evaluation
- monitoring and measuring intervals
- the key performance indicators (KPI) being used.

At a minimum, the Monitoring section should cover the controls identified in the safety assessment.

Table 2 shows an example of how to record performance standard auditing and monitoring information for risk controls.

Table 2: performance standard auditing and monitoring for risk controls⁸

Control	Activity	Frequency	Responsible person
Pipeline patrol	Number of pipeline patrols conducted against planned	Weekly pipeline report review by Operations Manager	Pipeline Supervisor
	Pipeline patrol adherence to specified route		

⁸ This table is only an example and not exhaustive.

Auditing

This section needs to specify how the pipeline licensee implements and maintains an audit program, including the frequency, methods, responsibilities, and reporting, by including:

- a description of the auditing procedure/process
- the audit topic selection process
- the persons/division responsible for SMSy auditing
- the process for recording audit outcomes and the communication of audit results to relevant personnel and management
- how audit actions are tracked and closed out.

Review

This section needs to specify how the review process will be conducted by including the:

- management review process brief
- personnel/division responsible
- frequency of review
- SMSy effectiveness.

Change management

This section needs to specify processes for managing any changes to the following:

- Pipeline operational procedures.
- Pipeline design.
- Pipeline operation.

3 Records and reporting

3.1.1 Records (41)

Requirement

The safety management plan must contain details of arrangements to record and keep—

- (a) information about the licensee's performance in ensuring the safety of the public, employees and contractors; and
- (b) details of all reportable and non-reportable safety incidents, including emergency situations; and
- (c) details of the emergency response testing undertaken, in accordance with the requirements of regulation 34; and
- (d) in the case of any emergency situation, information on the effectiveness of the emergency response plan in eliminating or minimising, as far as reasonably practicable, risks to the safety of the public, employees and contractors.

Guideline

This section should describe the record keeping system the pipeline licensee uses to ensure it manages the records described under Regulation 41. The system needs to specify:

- what records must be kept
- the format (soft copy/electronic or hard copy or both)
- where records must be kept (the location of the information storage, electronic system, document library or archive facility)
- how the records are retrieved (this includes the security of storage)
- how long the records are stored (noting the retention time in years, or any other arrangements, such as for the lifetime of the asset)⁹.

3.1.2 Reporting (42)

Requirement

For the purposes of reporting to the Minister under regulation 11(1)(c), the Safety Management Plan must contain details of arrangements for reporting on the licensee's performance in ensuring the safety of the public, employees and contractors.

Guideline

Pipeline licensees must provide a report to the Minister and ESV (at esvreportsgpis@energysafe.vic.gov.au) within 90 days of the end of each financial year on the performance of the licensee in maintaining the safety and integrity of the pipeline.

⁹ In relation to records management, other legislative requirements may also need to be considered.

See the ESV guideline 'Completing the Annual Safety and Integrity Compliance Report' available from the ESV website (at <https://www.esv.vic.gov.au/pdfs/completing-the-annual-safety-and-integrity-compliance-report/>) for information about meeting this requirement.

4 Construction and operation of pipelines

4.1.1 Incident reporting (20)

Requirement

(1) A licensee must notify the Minister and Energy Safe Victoria of a reportable environmental incident or a reportable safety incident in accordance with subregulation (2).

Penalty: 20 penalty units.

(2) A notification under subregulation (1) must—

(a) be in writing and given as soon as practicable but no later than 2 hours—

(i) after the incident occurs; or

(ii) if the licensee is not initially aware of the incident, after the licensee becomes aware of the incident; and

(b) include the following information—

(i) the date, time and location of the incident;

(ii) a description of the incident;

(iii) any known or suspected cause of the incident;

(iv) whether any emergency service attended the incident and, if so, the name and contact detail of the emergency controller.

(3) After receiving a notification under subregulation (1), the Minister and Energy Safe Victoria may require the licensee to provide further information regarding the incident.

(4) A licensee must, as soon as practicable but not later than 7 days (or a longer period as agreed by the Minister or Energy Safe Victoria) after the occurrence of a reportable environmental incident or a reportable safety incident, submit a written report to the Minister and Energy Safe Victoria that includes the following information—

(a) the date, time and location of the incident;

(b) a description of the incident;

(c) details of any known or suspected causes of the incident;

(d) details of any corrective action that has been taken, or is proposed to be taken, to prevent a similar incident;

(e) in the case of an escape or ignition of anything in the pipeline, a description of—

(i) the nature and approximate quantity of the thing that escaped, or escaped and ignited; and

(ii) any damage resulting from the escape or ignition; and

(iii) the methods adopted to carry out repairs.

Penalty: 20 penalty units.

(5) A licensee must keep a record of all reportable environmental incidents and reportable safety incidents that occur during the pipeline operation.

Penalty: 20 penalty units.

(6) This regulation does not apply to a reportable safety incident in respect of a pipeline to which the Gas Safety Act 1997 applies.

Guideline

This section should provide information about the process for the initial written notification of a reportable safety incident within 2 hrs after the incident occurred or after the licensee becomes aware of incident, and the timeframe to submit the written report to ESV at esvreportsgpis@energysafe.vic.gov.au, with the following information:

- Description of the incident.
- Date and time it occurred.
- Location of the incident.
- Cause.
- Emergency services attending and their details (if applicable).

Formal incident report information about an incident must be presented to ESV in writing not later than 7 days of its occurrence unless otherwise agreed by ESV, and at a minimum should include the following information:

- Description of the incident.
- Date and time it occurred.
- Location of the incident.
- Cause.
- Emergency services attending and their details (if applicable).
- Corrective/preventative actions taken.

In case of a loss of containment, the additional details required include the following:

- Nature and approximate quantity of fluid escaped.
- Resulting damage to the pipeline.
- Repair methods.

5 Terminology

Term	Definition
As far as reasonably practicable (AFARP)	<p>The test to be applied in a SMP to demonstrate that the risk control efforts made by the pipeline licensee are adequate for meeting their general duties and applicable regulatory requirements.</p> <p>The term '<i>as far as reasonably practicable</i>' can be taken as intended to mean 'as far as practicable', so long as all reasonable steps are taken to reduce or remove risk, without making it an absolute duty, and so that cost factors are not given excessive emphasis.</p>
Dial Before You Dig (DBYD)	A free national referral service designed to assist in preventing damage and disruption to underground infrastructure networks.
Direct current voltage gradient (DCVG)	A survey technique for assessing the effectiveness of corrosion protection on buried steel structures.
Safety Incident	A safety incident, which is an incident involving a risk to the safety of public including injury or death.
Safety assessment (SA)	A term that refers to the safety assessment described in Regulation 33 of the Pipeline Regulations 2017. A Safety Management Study performed in accordance with AS 2885 may form part of the SA for a SMP. The term refers to a risk assessment that must be performed by pipeline licensees as part of their SMP development and submission.
Reportable safety incident	<p>An incident as a result of pipeline operation that caused or has the potential to cause:</p> <ul style="list-style-type: none"> • any person to suffer a serious injury or to die; or • substantial damage to, or destruction of, property or the pipeline; or • an ignition or escape of anything being conveyed in a pipeline; <p>Note:</p> <p>In addition to above, unauthorised excavations, construction or boring within 3 meters of a pipeline is also considered a reportable safety incident.</p>
Risk	Refers to potential events that may have undesirable safety consequences, or that may limit or negatively impact on the achievement of acceptable levels of safety. The PA requires that assessment of the severity of risk weight both the potential consequences that could eventuate, and the likelihood of occurrence.
Safety Management Plan (SMP)	<p>A detailed document in which a pipeline licensee describes how it will meet the general duties of the Pipelines Act (PA), and comply with regulations and prescribed standards, to achieve acceptable levels of safety.</p> <p>SMPs are risk-based and explain how the pipeline licensee's risk management is adequate to achieve acceptable levels of safety, propose a formal approach for achieving these outcomes, and make commitments that this approach will be implemented, maintained, and managed to ensure that it remains effective.</p>

Term	Definition
Safety Management System (SMSy)	<p>The safety-specific management control system (or systems) required under the PA, it includes elements specified in subordinate regulations that must be included in a SMP.</p> <p>The primary role of the SMSy is to ensure that there are adequate organisational control structures and processes in place to ensure that the:</p> <ul style="list-style-type: none"> • risk control approach proposed in an accepted SMP is implemented, managed and reported • pipeline licensee has mechanisms in place to continuously improve the safety management approach the SMP describes.