



## Petroleum pipeline safety information sheet

### Overview of management of safety regulations for petroleum pipelines

#### **Introduction**

The Petroleum Safety Branch of Resources Safety administers the safety and structural integrity provisions of the onshore pipeline, petroleum and geothermal legislation, and provides specialised safety and risk management advice to the Department of Mines and Petroleum as part of its approval processes. Functions include:

- Occupational safety and health regulatory services
- Safety case technical assessment, review and approval
- Safety management system assessment, review and approval
- Specialist advice, compliance auditing and investigations, and
- Promoting safety and health outcomes, including education and information

This information sheet aims to assist in interpretation of the Petroleum Pipeline (Management of Safety) Regulations 2010 (the Regulations), which support the *Petroleum Pipelines Act 1969* (PPA), and their implications for pipeline operations. Please also refer to the guideline for submission of a petroleum pipeline safety case which provides full detail of requirements.

Separate information sheets are available covering the implications for industry of full proclamation of the regulations for occupational safety and health and management of safety for the petroleum and geothermal energy sectors.

#### **Scope of the Regulations**

##### **Part 1 – Preliminary [rr. 1-3]**

- This Part provides reference information including the allowable citation, commencement date and definitions of terms used.

##### **Part 2 – Safety management systems [rr. 4-41]**

- **Division 1 – Terms used [r. 4]**

Additional definitions are provided for terms used in this part of the Regulations, including major accident event and safety management system (SMS).

- **Division 2 – Duties as to safety cases [rr. 5-9]**

A safety case in force (i.e. accepted by the Minister or delegate) is now a legislative requirement, rather than being part of a condition of a permit or licence.

It also covers penalties associated with safety case non-compliance, maintaining appropriate records and the ability of the Minister to determine whether or not a petroleum pipeline operation requires a safety case.

- **Division 3 – Contents of safety case [rr. 10-26]**

The *contents of a safety case subdivision* describes what is required for a safety case under regulation. More guidance is provided about the contents of a safety case than was previously provided in a permit or licence.

For a safety case to cover a pipeline operation, it must include the following.

- Facility description – a description of the operation.

- Formal safety assessment – a detailed description of the risk assessment for the operation that provides evidence of the assessments and relevant studies undertaken. All hazards (both hydrocarbon and non-hydrocarbon) should be identified and their associated level of risks determined. The assessment should focus on identifying those hazards associated with major accident events (i.e. those accidents with the potential to cause multiple fatalities) and how the risks are being managed to ALARP (as low as reasonably practical).
- Safety management system – a detailed description of the SMS that provides evidence for the management of safety as identified in the formal safety assessment.
- An acknowledgement of the OSH duties that various persons have under the Act and a detailed explanation of how an licensee not only meets those obligations but also how it ensures that all other involved persons meet their obligations.
- A detailed explanation of how compliance with the safety case is to be measured and managed and how the system will be reviewed.
- Systems for inspecting, testing and maintaining plant and equipment, and adequate and appropriate communication.

The safety case needs to contain measures identified for proper implementation and improvement. Safety cases submitted for construction activities need to include as much information about the operational facility as is practicable at the time.

The *safety measures subdivision* includes the minimum requirements for matters to be covered in the safety case. These are the aspects of safety management that, regardless of whether they were identified in risk assessments, are considered important to good management of a pipeline operation. They are listed below.

- The standards, whether Australian or otherwise, applicable to the operation(s) and plant.
- The office or position(s) of those responsible and in charge of the operation(s) and emergency control. The chain of responsibility in the case of emergency. Continuity needs to be considered together with procedures to ensure adequate training, appropriate skills and experience.
- A description of how the licensee is ensuring that personnel are appropriately trained and have adequate competency for the range of tasks involved, including non-routine tasks and the actions required to respond to an emergency.
- An appropriate safe performance of work system covering the operation(s). It must be properly documented, identify responsibilities and competences, and contain measures to ensure safety is not compromised.
- Personnel involvement in the development of the safety case is important, as those expected to implement the safety case need to have “buy-in” to the process. Whether being developed for the first time, or undergoing a revision, it is a requirement for those persons engaged in the operation(s) to be involved in the development of the safety case. Effective consultation with, and participation by, the workforce is the aim. The intended result is for members of the workforce to arrive at informed opinions about the risks and hazards to which they may be exposed. Regardless of how workforce involvement is achieved, it must be documented.
- The pipeline, structures, equipment, machinery, electrical systems and control instrumentation must be kept in good condition, properly maintained and fit for purpose for normal operational mode and as required in an emergency situation.
- The method for securing, supplying and monitoring the use of drugs that have a therapeutic use, and managing the use of controlled substances and intoxicants, as defined in the Regulations.
- During the construction of a pipeline, weekly reports on the occupational safety and health of construction workers and others onsite must be provided to the Minister.

The *emergencies subdivision* requires specific matters be considered in the preparation for emergencies, ranging from design and initial studies to ongoing emergency exercises, training,

competence of personnel and maintenance. Particular attention is required to be paid to fire and explosion risks.

The emergency system should cover detection, control, petroleum isolation or shutdown, emergency preparedness, communication and control systems, as well as the emergency response plan.

Pipelines connected to other pipelines must have the ability to be shutdown or isolated. The safety case should identify mitigation measures for pipelines and facilities connected to the pipeline in the event of an emergency. Regular maintenance is required to ensure emergency shutdown (ESD) valves will operate when required.

The *record keeping subdivision* specifies the recording keeping requirements associated with safety cases, reviews, audits, accidents and dangerous occurrences. Provisions are made for when records need to be created, who they are to be available to and their secure storage. A minimum retention time of five years applies to each of the documents.

- **Division 4 – Submission and acceptance of safety cases [rr. 27-31]**  
**Division 5 – Revision of safety cases [rr. 32-38]**  
**Division 6 – Withdrawal of acceptance of a safety case [rr. 39-40]**

These divisions specify the terms, conditions and provisions in regards to the submission of new and revised safety cases. The Regulations include trigger points for a revision, new schedules, obligations on the Minister and right-of-reply provisions for the licensee.

Scheduled times for communication regarding the request for further information and the acceptability of a safety case is new for petroleum pipelines operations in Western Australia. The overall time frames for a response on a safety case are 90 days for a new submission and 30 days for a revision. The Minister's response will be:

- an acceptance;
- a conditional acceptance;
- a rejection; or
- a statement that more time is needed for the review, including a date for the decision to be made in the future.

Should more information be required within these review periods, the Minister may request information from the licensee and provide a time of no less than 30 days for a new safety case and ten days for a revised safety case for that information to be provided to the Minister.

Provided the licensee supplies all the information requested within the specified period, that information is considered to have been included as part of the original submission and thus the Minister remains obliged to provide comment within 90 days or 30 days from the original submission of the new or revised safety case, respectively.

*Note: The same provisions apply to a safety case for construction activities as for operational activities.*

The Minister has the power to withdraw an acceptance in writing if the grounds for doing so accord with the Regulations. There is a requirement to give 30 days' notice of the intention to allow an licensee to take such action as may be necessary to rectify the situation, and this must be taken into account before the final decision is made.

A licensee also has the right to request a review of the decision to withdraw an acceptance if dissatisfied with the decision.

- **Division 7 – Validation [r. 41]**

This division allows the Minister to request, in writing, an independent validation of a proposed or current pipeline operation. A validation may cover design, construction and installation aspects, and is:

- undertaken by an independent suitably qualified and competent person; and
- reported in writing in relation to matters proposed by the licensee and accepted by the Minister.

The validation must focus on compliance with the safety case, fitness for purpose of design, plant and equipment, or both, as appropriate.

The licensee is obliged to demonstrate to the Minister that the person(s) undertaking validation work has the necessary competence, ability and access to data required for the validation, and was able to arrive at an independent opinion on the matter.

### **Part 3 – Accidents and dangerous occurrences arising from operations [rr. 42-46]**

- This Part clarifies those events for which a licensee needs to notify Resources Safety, provide detailed reporting, and allow inspection as required.
- The PPA identifies reportable events as:
  - an accident where a person is seriously injured or killed, incapacitated for one or more days; or
  - a dangerous occurrence.

The Regulations expand on the concept of “dangerous occurrence” to include events that resulted in, or could have potentially resulted in:

- a fire or explosion;
- an uncontrolled release of hydrocarbon fluid or vapour;
- damage to safety critical equipment;
- enacting the emergency response plan;

An accident also includes the contraction of a disease.

- Licensees are obliged to notify Resources Safety as soon as possible once they are aware that there has been an accident or dangerous occurrence. The notification may be written or verbal, and needs to include all information that the licensee has at the time on the accident or dangerous occurrence.
- Accidents and dangerous occurrences need to be formally reported shortly after notification. Three days are allowed for reporting after notification, although an extension may be allowed if required.
- Accident and incident sites are not to be interfered with or disturbed until permitted by Resources Safety.

### **Part 4 – Miscellaneous [rr. 47]**

- This Part allows for the provision of an agent for the licensee and contact information on all submissions and applications. There is also an obligation to keep the Minister informed of any changes to the agent and contact information.

### **Part 5 – Transitional provisions [rr. 48-50]**

- This Part defines the status of existing safety cases and those submitted but not approved prior to the commencement day.
- Existing safety cases will remain in force but must comply with the Regulations before the end of their existing review date unless there is:
  - a need for an earlier review due to a significant change in the risk profile of the activity; or
  - a significant dangerous occurrence.

### **Introduction of penalties for non-compliance**

- Under section 66 (continuing offences) of the PPA, the penalties applicable to the breaches listed below are considered to be incurred daily until the breach is rectified.

*Note: The law considers a person to be either a natural person or an incorporated company as per the Interpretations Act 1984, therefore breaches of the Regulations that result from corporate system failure may also incur such penalties.*

- Breaches involving pipeline operations and the safety case:
  - undertaking a pipeline operation not covered by a safety case accepted by the Minister;
  - continuing a pipeline operation where a new risk to safety or health, or a significant increase to an existing risk, occurs and is not provided for in the accepted safety case; and
  - for a person, not complying with the requirements of the accepted safety case.
- Breach involving record keeping:
  - not keeping all documents in the manner set out in the safety case.
- Breach involving interfering with accident sites:
  - after an accident resulting in a fatality, serious injury, the incapacity of a person for more than a day, a dangerous occurrence or the potential for any of these to occur, interfering with the accident site before it has been inspected by Resources Safety.

*Note: There are defences against prosecution for this breach such as rescuing a sick, injured or endangered person, retrieving or attempting to retrieve the body of a dead person, and maintaining the safety of the operation at the accident site.*