QUANTEM
BULK LIQUID STORAGE & HANDLING

Pelican Point Terminal

2021 Safety Case

Summary

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INTRODUCTION

This Safety Case Summary provides the community with information about the safety at the Terminals Pty Ltd (Trading as Quantem) Terminal. It includes a summary of the potential major incidents that could occur, including the hazards that could cause those incidents and the control measures that are in place to prevent or minimise the consequences of such incidents, should they occur.

What is a Major Hazard Facility?

Major hazard facilities (MHFs) are industrial sites which store, handle or process large quantities of chemicals and dangerous goods, including petroleum products. This includes those facilities where scheduled materials are present or likely to be present in a quantity exceeding their threshold amounts specified within the Schedule.

The Quantem Terminal has been registered as a Major Hazard Facility since 2016.

What are Scheduled Materials?

The WHS Regulations define what materials must be considered in the scope of the Safety Case. The scheduled materials at Pelican Point are discussed in the 'Scheduled Materials' section of this document.

What is a Safety Case?

Major Hazard Facilities are required to demonstrate their operational safety through a Safety Case developed specifically for their unique operations and situation.

The Safety Case sets out the adequacy of the site's safety management system by specifying prevention measures, as well as strategies for reducing the effects of a major incident if one does occur.

The Safety Case must demonstrate:

- All potential major incidents are identified
- All hazard or threats that could result in a major incident are identified
- A comprehensive and systematic safety assessment has been conducted
- Control measures have been identified to eliminate or reduce the risk so far as reasonably practicable
- An emergency plan is in place to control and minimise any potential major incident
- A robust safety management system is in place

The safety case is conducted with involvement and consultation with employees and safety representatives.

What is a Major Incident?

A major incident is an uncontrolled incident, including an emission, loss of containment, escape, fire, explosion, or release of energy that involves Schedule 15 materials and poses a serious and immediate risk to health and safety.

FACILITY DESCRIPTION

Quantem provides bulk liquid storage solutions at twelve strategic locations throughout Australia and New Zealand. We offer storage and handling services for a range of products including chemicals, petroleum fuels, vegetable and edible oils, base oils and bitumen.

We do not use the products or manufacture anything from them. However, many of the products we store are used in the production of commonly used goods such as paints, plastics, lubricating oils, detergents, pharmaceuticals and building products.

Our customers include major oil and chemicals companies, as well as independent chemical and commodity traders. We are a trusted partner in our customers' supply chains, connecting our customers to their domestic and international markets.

The Pelican Point facility is a fuel storage and transfer facility and commenced operations in the 2013.

The fuel storage facility receives products from ships berthing at Outer Harbor, berth no 4. The product is delivered via two steel pipelines from the unloading points on the berth to the Quantem site. These products are then loaded to truck for deliveries to local and regional markets.

Our focus is to deliver safe, reliable and efficient storage and handling services for our customers. We achieve this through our commitment towards engineering excellence, consistent operating procedures and strong operational leadership.

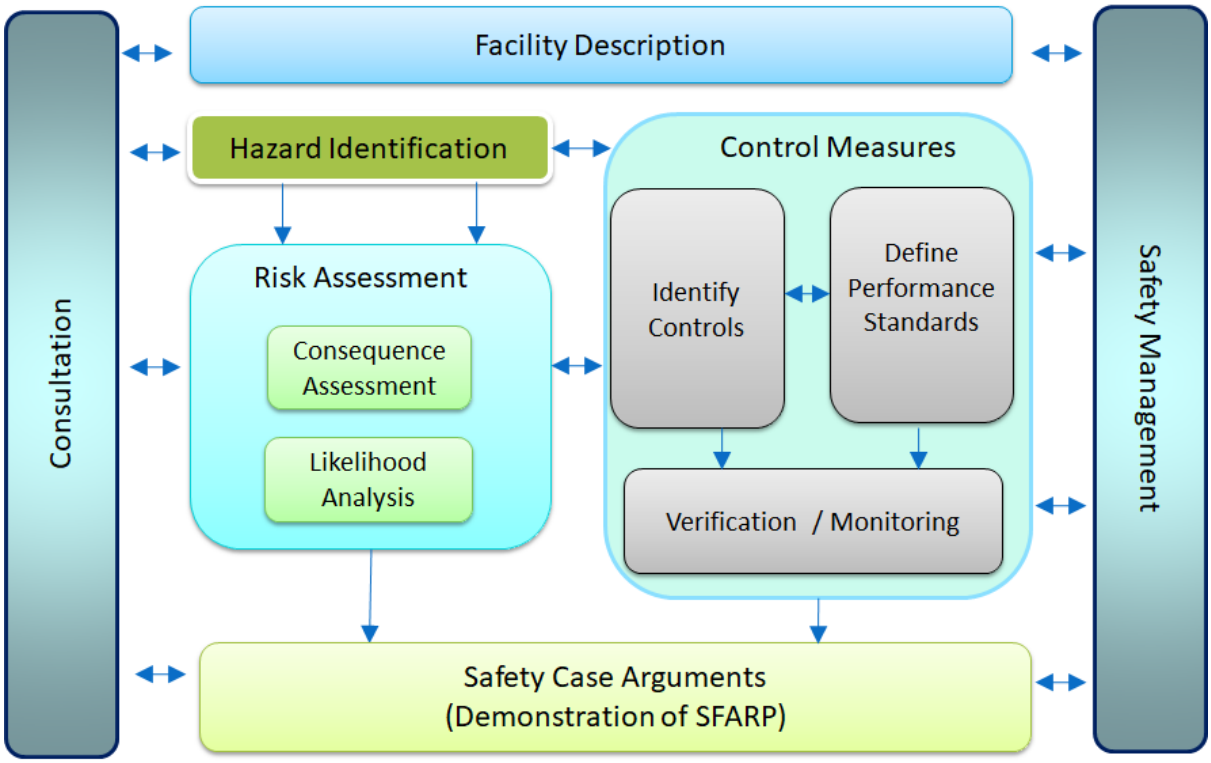
Quantem owns and operates the facility however the product is owned by its customers who also arrange all transport.

our workforce is our highest priority.

SAFETY CASE SUMMARY

The Pelican Point Safety Case demonstrates that Quantem systems and procedures are effective and safe and reliable operations are maintained. This in turn ensures that we protect our people and assets, the environment and the community. The Safety Case describes the potential incidents and demonstrates how they occur and how they are controlled.

A summary of the Safety Case is provided in the diagram below.



Safety Assessment

The core of the Safety Case is a systematic and comprehensive safety assessment. The safety assessment involves identifying all potential major incidents, involving scheduled chemicals, which pose a serious and immediate risk to health and safety if not effectively controlled.

The safety case then seeks to analyse those incidents such that there is a detailed understanding of how they occur (hazards) and the risk to health and safety from those potential incidents in terms of likelihood and consequence.

This process also involves identifying the control measures that are already in place to eliminate or reduce the risk of each major incident occurring, as well as identify additional controls that could further reduce the risk so far as reasonably practicable.

Our goal was to seek control in depth (multiple barriers) as well as assess and ensure the robustness of the identified controls.

This process was carried out with the involvement of operators, health and safety representatives, engineers and managers.

Scheduled Materials

The Pelican Point Terminal handles materials that are classified as Schedule 15 material under the WHS Regulations.

There are no specifically listed chemicals but there are a range of materials falling under the category of flammable liquids which meet the criteria for Class 3 Packaging Group II and III. These include unleaded petrol grades ULP91, 95 and 98.

Potential Major Incidents

The potential major incidents that have been identified for the terminal are associated with liquid hydrocarbon release and escalation through fire and/or explosion.

The infrastructure considered includes the tank farm, truck loading gantries, pipelines, pumps and emission control equipment.

Most hydrocarbon releases do not ignite; however personnel close to site may be exposed to the health impacts of the release. Controls are in place to prevent or mitigate escalation.

The safety assessment has shown that for most major incidents the impact is expected to be contained within the terminal boundary. However, some high consequence events have the potential for offsite impacts. No toxic, fire or explosion events were identified that impact residential areas.

Events with offsite impacts have a very low probability of occurring. The risk of these incidents occurring is controlled so far as reasonably practicable by comprehensive systems and procedures.

Control Measures

In the safety assessment we identify all controls that have the potential to prevent and mitigate the risks associated with a potential major incident.

The control measures in place to protect against a major incident include:

- Safety protective systems (pressure relief, level devices)
- Asset integrity inspections
- Testing of protective systems
- Permit to Work system
- Operational procedures
- Management of change process
- Competency assessment

Control measures also include controls to mitigate the escalation of a major incident. These include:

- Ignition controls
- Emergency shutdown systems
- Fire and gas detection
- Fire protection systems
- Personal protective equipment
- Emergency response plan

For the protective measures in place performance requirements and associated performance standards were set. These define the requirements for controls to be effective and allow monitoring of the effectiveness of those controls

Safety Management System

The Quantem Safety Management Manual describes the health and safety requirements that apply across the Terminal.

The SMS clearly defines the activities required to ensure safe operation including, but not limited to:

- Establishing accountability and responsibility
- Establishing procedures for the management of hazards
- Control of work procedures

- Ensuring that procedures are in place to manage activities safely
- Ensuring personnel are competent
- Change management
- Design, management, inspection and verification of control measures
- The role of workers and consultation.

The management system is subject to an ongoing review process to ensure rigorous control is maintained and to drive continuous improvement.

Emergency Response

A comprehensive Emergency Management Plan (EMP) has been developed for the Pelican Point Terminal and this has been reviewed with the Metropolitan Fire Service (SAFMFS) as the designated control agency.

The plan comprises actions and guidelines to enable Terminals to:

- Utilise available resources (including personnel and equipment) to bring an emergency under control as quickly as possible
- Support any response in the field, providing operational assistance and advice
- Facilitate appropriate notifications and communications with relevant key stakeholders (internal and external)
- Co-ordinate sourcing and deployment of additional resources as required
- Undertake recovery activities

Training exercises, both desktop and simulations of various incident scenarios are also undertaken on a regular basis to ensure readiness. This involves site personnel and emergency services.

A site emergency alarm system is installed to warn personnel of a potential incident so that hazardous areas are evacuated promptly to reduce the risk of harm to personnel. In the unlikely event of an incident impacting beyond the site boundary the neighbouring industries will be notified by phone.

In the event of a major incident the emergency shutdown system is initiated. This isolates storage tanks and shuts down power to non-essential equipment. This is to mitigate the consequence of a potential major incident.

The site also has an extensive fire protection system to protect and combat fire in any area of the facility.

Community Response

Sirens at the Terminal are sounded to alert on-site personnel only. In the event of a major incident with offsite impact, emergency services have the responsibility of informing impact communities and neighbours.

If the wider community needs to respond to an incident relating to odours, low levels of chemicals and smoke, people should stay indoors with windows and doors shut and air conditioners off to prevent entry into the property.

If an evacuation is required SA Police will notify and coordinate with the local community directly.

The Port Adelaide and Enfield Council would be kept informed of such incidents and can provide information.

Quantem welcomes queries from the community to enable them to feel safe.

APPENDIX A LICENCE TO OPERATE

Government of South Australia
SafeWork SA

Licence to operate: Major Hazard Facility

Work Health and Safety Act 2012 (SA)
Work Health and Safety Regulations 2012 (SA)

Operator:	Terminals Pty Ltd
Site address:	Lot 104 Pelican Point Road Outer Harbor SA 5018
Licence number:	587495
Licence granted:	25 November 2016
Licence expiry:	24 November 2021

Condition:

None.

Marie Boland

Marie Boland
Executive Director
SafeWork SA

0933 JUN 2016