Mobil Yarraville Terminal
Safety Case Summary
2013-2017
Note: Yarraville Terminal is operated by Mobil Oil Australia Pty Ltd, an affiliate of Exxon Mobil Corporation. The terms Corporation, Company, affiliate, ExxonMobil, Mobil, Esso, our, we and its as used in this document may refer to Exxon Mobil Corporation, to one of its affiliates or to any one or more of the foregoing. The shorter terms are used merely for convenience and simplicity.
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<td><strong>Control measure</strong></td>
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<td><strong>Mobil Oil Australia or Mobil</strong></td>
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<td><strong>Hazard</strong></td>
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<td><strong>Local community</strong></td>
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<td><strong>Major Incident (MI)</strong></td>
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In keeping with our corporate values, safety is Mobil Oil Australia’s first priority and we are committed to protecting the health and safety of our workers and the local community. We put safety first in everything we do in operating the Yarraville Terminal, so that we can achieve our goal that “Nobody Gets Hurt”.

Mobil has been proactive in assessing the risks that may be present in our operations, identifying any hazards and implementing controls to manage those hazards.

In keeping with these efforts, the Yarraville Terminal Safety Case is the product of an extensive process that involved a comprehensive review of the terminal’s operations.

This work and the resulting safety systems described in the Safety Case are designed to create a safe workplace and a culture that truly values the safety of those working here and the surrounding community.

While the Yarraville Terminal Safety Case and this Safety Case Summary have been developed to comply with the Occupational Health and Safety Regulations 2007, Mobil’s approach to safety and corporate citizenship extends beyond strict compliance with applicable laws.

We strive for flawless operations, and are committed to engaging with the communities in which we operate, and helping them to understand our business.

We believe it is fundamentally important to maintain open lines of communication with the community, and have regular formal and informal communication with Hobsons Bay and Maribyrnong City Councils, local schools, WorkSafe Victoria, EPA Victoria, Metropolitan Fire Brigade and Port of Melbourne Corporation.

We value these relationships and the open communication created by this engagement, which helps us to continually improve the way we operate.

At Yarraville Terminal we are committed to ensuring safety is our number one priority.

Ravinesh Kumar
Yarraville Terminal Manager
Mobil Oil Australia is a subsidiary of ExxonMobil Australia, one of Australia’s leading gas and oil companies. In Australia, ExxonMobil operates a refinery in Altona, Melbourne and a number of product distribution terminals and bulk storage facilities around the country, including the fuel distribution terminal in Yarraville, Melbourne which is jointly owned by BP.

Mobil is committed to maintaining safe and environmentally responsible operations and focuses on reducing any potential for a major incident to as low as reasonably practicable at all its sites, including Yarraville Terminal.

Where such incidents may occur, measures are in place to ensure that their consequences are reduced to the extent practicable.

Yarraville Terminal is the largest fuel storage and distribution terminal in Melbourne, supplying around one third of Victoria’s fuel needs.
Safety Policy

The Yarraville Terminal is operated in accordance with ExxonMobil’s global Safety Policy. This policy requires compliance with all applicable laws and regulations. The policy also requires that facilities are designed to appropriate standards, and are operated and maintained with systematic identification and management of safety, health and environmental risks. The Operations Integrity Management System (OIMS) is ExxonMobil’s safety management system and provides a structured approach to meeting this commitment.

ExxonMobil’s Safety Policy

It is the Company’s policy to conduct its business in a manner that protects the safety of employees, others involved in its operations, customers, and the public. The Company will strive to prevent all accidents, injuries, and occupational illnesses through the active participation of every employee. The Company is committed to continuous efforts to identify and eliminate or manage safety risks associated with its activities.

Accordingly, the Company’s policy is to:

- design and maintain facilities, establish management systems, provide training and conduct operations in a manner that safeguards people and property;
- respond quickly, effectively, and with care to emergencies or accidents resulting from its operations, in cooperation with industry organisations and authorised government agencies;
- comply with all applicable laws and regulations, and apply responsible standards where laws and regulations do not exist;
- work with government agencies and others to develop responsible laws, regulations, and standards based on sound science and consideration of risk;
- conduct and support research to extend knowledge about the safety effects of its operations, and promptly apply significant findings and, as appropriate, share them with employees, contractors, government agencies, and others who might be affected;
- stress to all employees, contractors, and others working on its behalf their responsibility and accountability for safe performance on the job and encourage safe behaviour off the job;
- undertake appropriate reviews and evaluations of its operations to measure progress and to foster compliance with this policy.
Introduction

This Safety Case Summary provides information about safety at Yarraville Terminal. It summarises the hazards that could cause a major incident at the terminal, and addresses the likelihood of such incidents occurring and the control measures that are in place to prevent or minimise the consequences of such incidents, should they occur.

Copies of this Safety Case Summary have been distributed to the Hobsons Bay and Maribyrnong City Council libraries. It is also available on the ExxonMobil Australia website (www.exxonmobil.com.au).

The Safety Case for Yarraville Terminal has been developed in consultation with both the Hobsons Bay and Maribyrnong City Councils to ensure community interests are observed and protected. Importantly, we have discussed this Safety Case with the Emergency Response Managers for each council to ensure that emergency arrangements and communication are consistent between all parties.

In addition, we have discussed the Safety Case development with the community at our Yarraville Terminal Community Liaison Committee meetings, which are held in November and May each year. We have consulted and worked closely with the Metropolitan Fire Brigade with regard to Occupational Health and Safety Regulations requirements and, in particular, when developing emergency response procedures for all potential major incidents at Yarraville Terminal.

Employees, including our Health and Safety Representatives, are also actively involved in developing and implementing operating and maintenance procedures for new projects and in conducting risk assessments, audits and inspections.

As part of Mobil’s commitment to continued improvement, the Safety Case is reviewed and updated regularly. In addition, this Summary document will be updated, as required, to ensure it continues to accurately reflect the operations of Yarraville Terminal.
What is a Major Hazard Facility?

A major hazard facility is defined by the Occupational Health and Safety Regulations 2007 as an industrial site that stores, handles or processes large quantities of hazardous materials, including chemicals and dangerous goods that are above the threshold levels detailed in Schedule 9 of the Regulations. Major hazard facilities must be registered.

Yarraville Terminal handles refined petroleum fuels above the threshold quantity of some of these ‘Schedule 9 Materials’ and was first registered as a major hazard facility in 2002.

What is a Safety Case?

The OHS Regulations require that all major hazard facilities have a licence to operate. To obtain a licence, a facility must submit a Safety Case for assessment by WorkSafe Victoria. The Safety Case must demonstrate that the facility is operated and maintained in a safe manner. The Yarraville Terminal Safety Case was verified and accepted by WorkSafe and the current licence to operate was issued in December 2012 for a five year period. A copy of the licence is included in the Appendix.

Mobil has systems in place to ensure that the Safety Case and its requirements are maintained, reviewed and revised in accordance with the OHS Regulations. This includes assessing the need for re-submission of the Safety Case when significant changes have occurred at the Terminal.

What are Schedule 9 Materials?

Schedule 9 of the OHS Regulations defines what materials must be considered in the scope of the Safety Case. The scheduled materials at Yarraville Terminal are discussed in detail later in this document.

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 9 materials and poses a serious and immediate risk to health and safety.
Yarraville Terminal Overview

Yarraville Terminal was constructed in 1926 for the supply of products into the Victorian marketplace. Initially the Terminal consisted of four fuel and 20 lubricant tanks, with products shipped in from overseas.

Yarraville Terminal has been progressively upgraded to accommodate Altona Refinery production since 1949. In 1987 the Yarraville Terminal lubricant facilities were expanded and Holden Dock was upgraded.

In 2011 lubricant oil blending and packaging operations at the Terminal ceased and decommissioning of those facilities was finalised in 2012. Also in 2012, ethanol storage and blending facilities were commissioned at the Terminal.

Today, Yarraville Terminal is a major Victorian distribution centre for bulk petrol, diesel fuel and aviation jet fuel. The terminal operates 24 hours a day, 365 days a year and occupies an area of approximately 15 hectares in the inner Melbourne suburb of Yarraville.

The site has been licensed to operate as an MHF since December 2002 when the Major Hazard Facility regulations first came into force.

Refined products are transported to Yarraville Terminal by pipeline from Mobil Altona Refinery and from Shell's refinery in Geelong or delivered by ships at Holden Dock. Refined products are normally distributed from the Terminal by truck with road tankers transporting approximately 8 million litres of bulk refined product per day delivered predominantly to customers in Victoria and Southern NSW. On occasion, refined blendstocks are distributed from Mobil Altona Refinery via Yarraville Terminal to ships at Holden Dock. Yarraville Terminal handles approximately 90 – 100 marine tankers each year via Holden Dock.

Before being collected by road tankers or loaded onto ships, fuel products are stored in the Terminal’s tank farm, which has 20 operational fuel storage tanks, with a total capacity of 120 million litres. The tanks contain varying quantities of Schedule 9 flammable substances, including various grades of petrol, jet fuel, hydrocarbon slops and ethanol, or non-Schedule 9 substances, including diesel and light cycle oil. Several other tanks contain either water or are currently decommissioned and oil-free.

Yarraville Terminal is located within the boundaries of the City of Hobsons Bay, however it borders the City of Maribyrnong. Consequently, we have consulted with both councils during
the development of this Safety Case. There are limited buffers between the Terminal and mixed commercial and residential zoned areas to the west and northwest. The nearest residents are approximately 20 meters from the site boundary in these directions. Stony Creek backwash is located to the south of the Terminal, while the Yarra River borders it to the east.

**Schedule 9 Materials**

Yarraville Terminal handles and stores a number of products that are classified as Schedule 9 materials under the OHS Regulations. These materials are predominantly stored in the tank farm, however they may also be in transit through terminal pipelines, marine vessel transfers and truck loading.

Yarraville Terminal also handles and stores non-Schedule 9 materials that are combustible such as diesel fuel and light cycle oil.

<table>
<thead>
<tr>
<th>Material</th>
<th>Common Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable materials</td>
<td>Petrol, Jet Fuel, Slops, Ethanol</td>
<td>Liquids which meet the criteria for Class 3 Packaging Group II and III materials</td>
</tr>
</tbody>
</table>

Just under 3 billion litres of refined fuel products pass through the Yarraville Terminal each year.
The Safety Case demonstrates how Yarraville Terminal is being managed and operated safely to ensure that risks to personnel are reduced and that potential damage to property, the environment and the community is minimised. In particular, the Safety Case illustrates how the major hazards at Yarraville Terminal are identified, understood and controlled. It also facilitates further continuous improvement in our safety and reliability performance and provides a mechanism to demonstrate compliance.

Figure 1 – ALARP

To make a workplace safe you must ensure that the risks have been reduced to As Low as Reasonably Practicable (ALARP)

Facility Description
– Explains the facility layout, equipment and processes.
– Necessary to be able to identify hazards.

Safety Assessment
– A process of hazard and potential Major Incident identification, risk assessment, control measures analysis and so far as practicable assessment.

Safety Management System
– A comprehensive integrated system for managing or organizing safety through implementation of processes, procedures and practices
– Controls which would result in a significant increase in risk if disabled or ineffective.

Performance Standards
– A benchmark, target or reference level of performance set for a control measure, or an aspect of the SMS against which performance may be tracked.

Emergency Response Procedures
– Identify the potential consequences from a Major Incident and pre-plan combating strategies and steps, considerations and recovery procedures.
Safety Management System

The Operations Integrity Management System (OIMS) is ExxonMobil’s safety management system. OIMS provides a structured framework to identify and control risks by:

- defining the scope and objectives of the safety management systems
- establishing procedures for the management of hazards
- identifying responsibility and accountability
- determining functional verification and measurement
- providing feedback mechanisms that ensure the appropriate preventative and mitigation controls are implemented, maintained and remain effective.

OIMS is subject to extensive ongoing assessment and review to ensure continuous improvement and adequate control and monitoring of risks. All relevant changes are subject to formal change control processes.

Safety Assessment

A key step of the Safety Case process has been to involve employees in completing a thorough safety assessment of the Yarraville Terminal. The safety assessment identifies hazards that could potentially lead to a loss of containment, and major incidents that could potentially occur if the hazards were not effectively managed. We then assess the likelihood and consequences of each of these potential major incidents.

And finally we identify the controls already in place to prevent and mitigate the potential major incidents, and look at any additional controls that could further reduce the risk to as low as reasonably practicable.
Yarraville Terminal Safety Case Summary

Hazard Register
Another key component of the Safety Case is the hazard register. This register captures all findings and assumptions made during the safety assessment process, including hazards that could lead to a potential major incident, as well as detailed prevention and mitigation control measures and examples of the possible consequences of these potential major incidents. Controls to reduce the consequences and the escalation potential of major incidents are also documented. Potential major incidents include:

- Un-ignited spills
- Fires
- Explosions.

High contribution hazards that could potentially lead to a release of liquid hydrocarbon if not controlled and managed are:

- Failure of equipment
- Failure of operating and maintenance procedures
- Mechanical impact and vibration
- Over-pressure of pipelines
- Vehicle impact on process piping or equipment
- Over-fill of storage vessels
- Corrosion.

Potential Major Incidents
The Yarraville Terminal safety assessment focused on the loss of containment of hydrocarbons because all releases of these liquids have the potential to cause harm to personnel and the plant even if they do not ignite. The infrastructure considered includes the tank farm, pipelines, the pump house, the vapour recovery unit, wharf operations, the truck load rack and other site services.

Historically, evidence suggests that the majority of hydrocarbon releases do not ignite. However, personnel close to the site of a release may be harmed by:

- Mechanical energy released
- Potential toxic effects of the release
- Temperature of the material.

The immediate consequences of an un-ignited release strongly depend on what is in the path of the release and are typically localised.

Off-site risks to close neighbours that may be potentially impacted by a major incident are also examined in the Safety Case.

In addition the Yarraville Terminal Safety Case includes assessment of the potential for other Major Hazard Facilities to impact on the safety of the Yarraville Terminal as well as any impact on those sites from the Yarraville Terminal. Facilities considered in this assessment are Mobil Altona Refinery, Shell Newport Terminal and Caltex Newport Terminal.

Control Measures
In the safety assessment we identify all controls that have the potential to reduce risks associated with a potential major incident. Effective control measures are designed to include compliance with appropriate standards, ongoing risk assessment, effective management of change and workforce involvement. The focus of these control measures is to:

- Eliminate the hazard
- Reduce the likelihood of a major incident
- Reduce the potential severity of the major incident
- Mitigate the consequences should the major incident occur.
The control measures in place to protect against hazards include:

- Equipment inspection programs
- Permits to do work
- Lifting controls
- Change approval process
- Vehicle controls (speed limits, entry restrictions, and ignition controls)
- Operational procedures
- Shutdown systems
- Monitoring and observation of process conditions
- Testing of protective devices
- Training of personnel to perform their tasks.

Although the majority of controls at Yarraville Terminal eliminate or prevent risks, they are also in place to ensure that if the unexpected occurs, the severity of the incident is minimised (mitigated). Examples of controls to mitigate the escalation of major incidents include:

- Monitoring and surveillance
- Emergency shutdown systems
- Fire protection
- Safety equipment
- Personal protective equipment
- Emergency Response Plan

**Emergency Shutdown Systems**

Shutdown of equipment items and the isolation of equipment and storage areas are controls for preventing loss of containment if an abnormal situation is detected early enough, or for mitigating the consequences of a potential major incident if not detected early enough. Emergency shutdown systems are activated if abnormal process conditions are detected, if loss of containment occurs or to prevent the release.

**Emergency Response Plan**

A comprehensive Emergency Response Plan has been prepared for Yarraville Terminal. The ERP is regularly tested (major tests may include the community and emergency services) to ensure efficient and effective response so as to reduce the consequences should a potential major incident occur.

Mobil ensures that adequate resources (people, equipment, skills, and consumables) are available at the site, or can be readily obtained, in the event of any potential major incidents.

A plant-wide emergency alarm system is installed at the Terminal to enable early warning of an incident or a suspected incident so that potentially hazardous areas are quickly evacuated and the consequences for personnel are eliminated or reduced.

The siren is tested weekly at 8am on Fridays. Other than at this regular test time, on hearing the emergency alarm, all non-essential personnel on site muster at their emergency assembly area for a headcount.

Yarraville Terminal is equipped with extensive fixed and mobile fire protection systems, emergency shut-down and isolation systems and other equipment to protect against and combat fire in any section of the facility.

The local emergency services, notably the Metropolitan Fire Brigade, are consulted and involved in the development of our emergency response procedures.
Community Response

The potential major incidents that have been identified for Yarraville Terminal are predominantly associated with liquid hydrocarbon release, fire and explosion. The safety assessment has shown that the risk to the public is considered very low. The offsite impact of any incident involving liquid release and subsequent fire is expected to be contained within the specific plant area, although it is possible there will be smoke impact on surrounding neighbours depending on wind direction.

There are a number of potential incidents with impacts that could extend beyond the Terminal boundary, impacting neighbours and potentially disrupting traffic on both Hyde St and Francis St, however, the likelihood of these incidents occurring is extremely low.

In the event of an incident occurring with offsite impact, the Victoria Police have responsibility for managing any necessary evacuation in consultation with the Terminal and MFB Incident Controller. If necessary, the police will use the electronic media, including major radio stations 3AW (693 AM), ABC (774 AM) and local community radio station Stereo 974 (97.4 FM) to broadcast information and advice to the community.

The Terminal also uses a Telephone Tree for early notification to key community contacts including local schools and kindergartens. Both Hobsons Bay and Maribyrnong City Councils are kept informed of incidents and can provide information. Mobil provides feedback on incident investigations to the community as part of the Community Liaison Committee meetings. Community members can also contact the Terminal directly via its 24 hour Community Hotline – 9286 5112.

Mobil also offers a free SMS service so that the Yarraville Terminal can keep interested community members informed during incidents or any other event which may cause the community concern. If you are interested in subscribing to this service details are available on our website at www.exxonmobil.com.au

Sirens at the Yarraville Terminal are sounded to alert on-site personnel only. People in the community do not need to take action in response to the sounding of these sirens. In the case of an emergency, Police and other Emergency Services personnel will direct community members if any action is required.
This licence is issued to the operator

Mobil Oil Australia Pty Ltd
12 Riverside Quay
Southbank
VIC 3006

ACN: 004 052 984

and authorises the facility located at

Yarraville Terminal
29 Francis Street
Yarraville
VIC 3013

to operate as a Major Hazard Facility

The Schedule 9 materials authorised by this licence are specified in Attachment 1

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<tr>
<th>Licence Number</th>
<th>Date Granted</th>
<th>Effective Date</th>
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<td>13 November 2012</td>
<td>5 December 2012</td>
<td>4 December 2017</td>
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Conditions:

No Conditions.

Jarrod Edwards  Director - Workplace Hazards and Hazardous Industries Group  3 December 2012
**Attachment 1 to MHL 024/04**

List of Schedule 9 materials authorised by this licence

Extracted from Table 1 of Schedule 9
Occupational Health and Safety Regulations 2007

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Extracted from Table 2 of Schedule 9
Occupational Health and Safety Regulations 2007

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<tr>
<td>Flammable Materials</td>
<td>Liquids which meet the criteria for Class 3 Packing Group II or III</td>
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Need more information?

This document presents a summary of the Safety Case for Yarraville Terminal. Should you like to know more about any of the information in this document, please contact Mobil:

**Yarraville Terminal Manager**
Address: 29 Francis St, Yarraville
Phone: (03) 9286 5061
Fax: (03) 9689 7813

**Community Relations Adviser**
Address: 12 Riverside Quay, Southbank 3006
Phone: (03) 9270 3124
Fax: (03) 9270 3494

The Terminal’s Community Hotline provides contact 24 hours a day. Please phone (03) 9286 5112.

More information regarding the requirements for Major Hazard Facilities is available from the Worksafe Victoria website www.worksafe.vic.gov.au or via telephone through the WorkSafe Victoria Advisory Service on 1800 136 089 (toll free).