

Melbourne JUHI 2020 Safety Case Summary



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Glossary

APAM Asia Pacific Airports (Melbourne) (APAM) is the owner and operator of Melbourne Airport.

ARFF Aviation Rescue Fire Fighting provides aviation rescue firefighting at 26 of Australia's busiest airports, including Melbourne Airport.

AVGAS Aviation gasoline.

Control Measure Measures for prevention or mitigation of a potential Major Incident by reducing the likelihood of a potential Major Incident and/or of reducing the magnitude or severity of the consequences.

Hazard Any activity, event, procedure, situation or circumstance that could cause or could potentially lead to a Major Incident or could escalate to a Major Incident.

Incident A specific event or extended situation that has an undesirable and unintended impact on the safety or health of people, on property, or on the environment.

JUHI Joint User Hydrant Installation (JUHI) comprises a jet fuel storage facility and pipeline to Melbourne Airport's various subsurface aircraft refuelling points (hydrants). The scope of our Safety Case includes just the fuel storage facility.

Likelihood A qualitative description of probability and frequency.

Local community Local community includes members of the general public who reside in, or are in management and control of workplaces, or of places where persons gather for recreational, cultural, or sporting purpose, located in the surrounding area, whose health or safety could be adversely affected by a Major Incident at the terminal.

Loss of containment Unplanned release of product to the atmosphere.

Major incident (MI) An uncontrolled incident, including an emission, loss of containment, escape, fire, explosion or release of energy, that:

- involves Schedule 14 materials, and
- poses a serious and immediate risk to health and safety.

Mitigation Measures implemented in advance of an unplanned event aimed at decreasing or eliminating its impacts.

FRV Fire Rescue Victoria.

MHF Major Hazard Facility.

Mobil Oil Australia or Mobil Means Mobil Oil Australia Pty Ltd, the entity that has management and operational control of Melbourne JUHI and is therefore defined as the designated "operator" under the Victorian OHS Regulations 2017.

OHS Regulations Occupational Health and Safety Regulations 2017 (Victoria).

OIMS Operations Integrity Management System, which is Mobil's safety management system.

Risk A product of the likelihood of a potential Major Incident and the severity of associated consequences to persons both on site and off site.

Safety Case A Safety Case is prepared or revised under Part 5.2 of the OHS Regulations. The Safety Case must demonstrate that the facility is operated and maintained in a safe manner.

Safety Assessment A process of:

- Identifying Potential Major Incidents and hazards (cause)
- Risk assessment
- Control Measures analysis
- So Far As is Reasonably Practicable Assessment.

Schedule 14 material Means a material mentioned in Schedule 14 of the OHS Regulations.

So far as is reasonably practicable (SFARP) The measure of risk after implementation of control measures that eliminate or reduce risks so far as is reasonably practicable.

WorkSafe Victoria The safety regulator in Victoria responsible for assessing Safety Cases and issuing operating licences to major hazard facilities.

Message from the Melbourne Joint-User Hydrant Installation Manager

Safety is Mobil Oil Australia's (Mobil) core value 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 Melbourne Joint-User Hydrant Installation (JUHI), so that we can achieve our goal of Operational Excellence.



Since operations commenced at Melbourne JUHI in 1970, Mobil has been proactive in identifying operational risks, identifying operational hazards, and implementing measures to address those risks and hazards. In keeping with these efforts, the Melbourne JUHI Safety case is the product of an extensive process that involved a comprehensive review of the facilities operations.

This work and the safety systems described in the Safety Case are designed to maintain a safe workplace and culture that supports ongoing safe operations, for both those working here and the surrounding community.

While the Melbourne JUHI Safety Case and this Safety Case Summary have been developed to comply with the Occupational Health and Safety Regulations 2017, Mobil's approach to managing safety extends beyond compliance with applicable laws. We strive for operational excellence and are committed to engaging with the communities in which we operate, helping them to understand our business. We believe it is fundamentally important to maintain open lines of communication with the community. We have regular formal and information communications with Hume City Council, ARFF, APAM, FRV and WorkSafe Victoria. We value these relationships and the open communication created by this engagement.

Our goal is to operate in a way that ensures Nobody Gets Hurt!

We are committed to ensuring safety at Melbourne JUHI and across all our facilities.

Rick Williams
Melbourne JUHI Manager

The original JUHI facility storage tanks can be seen in the middle left of the photograph of Melbourne Airport shortly after it was opened.



Mobil in Australia

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 Melbourne JUHI. Mobil operates the Melbourne JUHI, located at 3-27 Marker Rd, Melbourne Airport, Victoria on behalf of a joint venture consisting of Mobil Oil Australia, Air BP, Viva Energy, and Caltex. Mobil Oil Australia is the operator of the Melbourne JUHI as defined in OHS Regulations.

Jet fuel is received into Melbourne JUHI by a combination of pipeline and truck deliveries. The pipeline transfers jet fuel between Somerton Terminal and Melbourne JUHI. Trucks supplying Melbourne JUHI are loaded with jet fuel at a number of Terminals in Melbourne and Geelong.

Melbourne JUHI supplies all Melbourne Airport's jet fuel and is the second largest JUHI facility within Australia.

From the Melbourne JUHI, aircraft at Melbourne Airport are supplied with jet fuel via an underground fuel hydrant network which extends beneath the Airport. A small number of aircraft are fuelled by aircraft refuelling tankers loaded at Melbourne JUHI.

Mobil is committed to maintaining safe and environmentally responsible operations at all of its sites and focuses on reducing the risk of any potential Major Incident so far as is reasonably practicable at all its sites, including Melbourne JUHI.



ExxonMobil's Safety Policy

Melbourne JUHI 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 Mobil's safety management system and provides a structured approach to meeting this commitment.

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. This commitment includes an ongoing improvement of all aspects of our Operations Integrity Management System, OIMS.

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 Melbourne JUHI. It is a summary of the hazards that may 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 Hume City Council Library. It is also available on the ExxonMobil Australia website (www.exxonmobil.com.au).

The Safety Case for Melbourne JUHI has been developed in consultation with Hume City Council and APAM. Importantly, we have discussed this Safety Case with the Emergency Response Managers for the council and APAM to ensure that emergency arrangements and communication are consistent between all parties.

We have consulted and worked closely with FRV and ARFF with regard to Occupational Health and Safety Regulations requirements and, in particular,

when developing emergency response procedures for all potential Major Incidents at Melbourne JUHI.

Mobil employees and contractors, 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 Melbourne JUHI.



What is a Major Hazard Facility?

A major hazard facility is defined by the Occupational Health and Safety Regulations 2017 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 14 of the Regulations.

Melbourne JUHI was designated a Major Hazardous Facility by WorkSafe when the facility was expanded from 7.5 million litres of storage capacity to 31.5 million litres following the construction of two new 12 million litre storage tanks to meet increasing demands.

What is a Safety Case?

The OHS Regulations require that all major hazard facilities have a Major Hazard Facility (MHF) licence to operate. To obtain a MHF 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 Melbourne JUHI Safety Case, was verified and accepted by WorkSafe and the current MHF licence to operate was issued in December 2020 for a five

year period. A copy of the MHF 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 Melbourne JUHI.

What are Schedule 14 Materials?

Schedule 14 of the OHS Regulations defines what materials must be considered in the scope of the Safety Case. The scheduled materials at Melbourne JUHI are discussed in detail in the 'Hazardous Materials' section on page 11 of this document.

What is a Potential Major Incident?

A potential Major Incident (MI) is an uncontrolled incident, including an emission, loss of containment, escape, fire, explosion or release of energy that involves Schedule 14 materials and poses a serious and immediate risk to health and safety.



Melbourne JUHI Overview

Melbourne JUHI was constructed in the late 1960's for the supply of jet fuel and Avgas to Melbourne Airport. Melbourne JUHI was upgraded over time to accommodate the increasing demand for jet fuel into Melbourne Airport.



A pipeline was installed connecting Melbourne JUHI to Somerton Terminal. Over a number of years and different projects, two additional storage tanks were constructed and the Avgas facility removed. Over the same period the underground fuel hydrant network was expanded in conjunction with the airports expansion. In 2017 a project was initiated to construct two additional jet fuel storage tanks of 12 million litres storage each. This project was completed and the new facilities commissioned in August 2019.

Melbourne JUHI receives jet fuel from Somerton Terminal via a single pipeline. Somerton Terminal is in turn supplied jet fuel via a single pipeline with branches to several storage terminals. This pipeline ends at Altona Refinery. Melbourne JUHI also receives jet fuel via road tanker. These tankers are loaded at a number of terminals throughout Melbourne and Geelong.

Melbourne JUHI is located close to the boundary of Hume City Council and within the Melbourne Airport precinct which is managed by APAM. Consequently we have consulted with both Hume City Council and APAM during the development of the Safety Case. There are no residents within the immediate area. Facilities within the area consist of the Airport Terminal and carparks, hotels and commercial and industrial facilities that predominantly support the ongoing operation of Melbourne Airport.



JET A1
TANK 7

Schedule 14 Materials

Melbourne JUHI handles and stores jet fuel which is classified as a Schedule 14 material under the OHS Regulations. This jet fuel is predominantly stored in the tank farm, however it may also be in transit through pipelines and road tankers.

Material	Common Names	Description
Flammable materials	Jet Fuel	Liquids which meet the criteria for Class 3 Packaging Group II and III materials



Melbourne JUHI Safety Case Summary

The Safety Case demonstrates how Melbourne JUHI 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 so far as reasonably practicable. In particular, the Safety Case illustrates how the major hazards at Melbourne JUHI 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 2 – SFARP

<p>SFARP</p>	<p>To make a workplace safe you must ensure that the risks have been reduced to So Far as is Reasonably Practicable (SFARP)</p>
<p>Identify Hazards Must know your facility</p>	<p>Facility Description</p> <ul style="list-style-type: none"> ▪ Explains the facility layout, equipment and processes. ▪ Necessary to be able to identify hazards
<p>Assess Risks So that risks can be controlled</p>	<p>Safety Assessment</p> <ul style="list-style-type: none"> ▪ A process of hazard and potential Major Incident identification, risk assessment, control measures analysis and so far as is reasonably practicable assessment
<p>Identify Controls So that practical controls can be implemented</p>	<p>Safety Management System (SMS)</p> <ul style="list-style-type: none"> ▪ 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
<p>Performance Standards Controls remain effective</p>	<p>Performance Standards</p> <ul style="list-style-type: none"> ▪ 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
<p>Emergency Response Response controls in place</p>	<p>Emergency Response Procedures</p> <ul style="list-style-type: none"> ▪ Identify the potential consequences from a Major Incident and pre-plan combating strategies and steps, considerations and recovery procedures

Safety Case Summary

Safety Management System

The Operations Integrity Management System (OIMS) is Mobil'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 at Melbourne JUHI 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 is to involve employees in completing a thorough safety assessment of the Melbourne JUHI. The safety assessment identifies hazards that could potentially lead to a loss of containment, and Major Incidents (MI) that could potentially occur if the hazards were not effectively managed. We then assess the likelihood and consequences of each of these potential MI's. And finally we identify the controls already in place to eliminate and reduce the risk of a MI occurring and look at additional controls that could further reduce the risk so far as is reasonably practicable. Mitigations include controls that reduce the magnitude and severity of consequences to people both onsite and offsite.

OIMS 11 Elements



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 (MI), as well as detailed prevention and mitigation control measures and examples of the possible consequences of these potential MI's. Controls to reduce the consequences and the escalation potential of MI's are also documented. Potential MI's include:

- Pool fires;
- Spray Fires; and
- Tank Top fires.

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 Melbourne JUHI 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 receipt facilities, the tank farm, pipelines, pump areas, 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
- Health effects of the release.

The immediate consequences of an un-ignited release strongly depend on the direction of the release and are typically localised.

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

[Bridger unloading bay #1, one of three unloading bays at the site.](#)



Safety Case Summary

Control Measures

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

- Eliminate the hazard
- Reduce the likelihood of a MI
- Reduce the potential severity of the MI
- Mitigate the consequences should the MI 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 Melbourne JUHI 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 potential MI's 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 MI if not detected early enough. Emergency shutdown systems are

activated if abnormal operating conditions are detected, if loss of containment occurs or to prevent the release.

Emergency Response Plan

A comprehensive Emergency Response Plan (ERP) has been prepared for Melbourne JUHI. 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 MI 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 MI's.

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

The emergency alarm system is the immediate response to an emergency and comprises continuous sirens, red flashing lights and continuous ringing bells within buildings.

The siren is tested weekly at 3:00pm 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.

Melbourne JUHI 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 FRV and ARFF, are consulted and involved in the development of our emergency response procedures.

Safety Case Summary

Community Response

The potential MI's that have been identified for Melbourne JUHI are predominantly associated with liquid hydrocarbon release and escalation through ("high consequence events"). The safety assessment has shown that, for the majority of high consequence events, the impact is expected to be contained within the terminal boundary. However, some high consequence events have the potential for offsite impacts. Events with offsite impacts are considered to have a very low probability of occurring. Mobil through its Safety Management System applies controls to manage the risk of our operations (see Safety Management System section).

In the event of an incident occurring with offsite impact, the Victoria Police have responsibility for managing any necessary evacuation in consultation with the Melbourne JUHI and FRV 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. Typical instructions may include "shelter in place" which could include closing doors and windows and turning off air conditioning systems in the event of smoke to prevent it from entering properties. If an evacuation is required Victoria Police will notify and coordinate with the local community directly.

The Melbourne JUHI also has systems in place for early notification to key community contacts such as APAM. Hume City Council is also kept informed of incidents and can provide information.

Sirens at the Melbourne JUHI 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.

Fire fighting system and booster connection for Upper Tank Farm Fire system.



Appendix i



Licence to operate a Major Hazard Facility

Occupational Health and Safety Act 2004
Occupational Health and Safety Regulations 2017

This licence is issued to the operator

Mobil Oil Australia Pty Ltd
664 Collins Street
DOCKLANDS
GPO BOX 400C
Melbourne VIC 3001

ACN: 004 327 762

and authorises the facility:

Mobil Oil Australia Pty Ltd
located at

Melbourne Airport Joint User
Hydrant Installation (JUHI)
3-27 Marker Road
Melbourne Airport
Victoria 3045

to operate as a Major Hazard Facility.

The Schedule 14 materials present or likely to be present at the facility are specified in Attachment 1.

Licence Number	Date Granted	Effective Date	Expiry Date
MHL 056/01	29 October 2020	4 December 2020	3 December 2025

Conditions:

No Conditions.

Michael Coffey

Head of Regulated Industries

4 December 2020

Appendix ii

Licence to operate a Major Hazard Facility

Attachment 1 to MHL 056/01

List of Schedule 14 materials present or likely to be present at the facility

Extracted from Table 2 of Schedule 14
Occupational Health and Safety Regulations 2017

ITEM	MATERIAL DESCRIPTION
11 Flammable Materials	Flammable liquids, hazard categories 2 or 3 that, once ignited, sustain combustion.

Michael Coffey



Head of Regulated Industries

4 December 2020



Need more information?

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

Melbourne JUHI Manager

Address: 3-27 Marker Rd,
Melbourne Airport, VIC 3045

Phone: (03) 8346 6900

Community Relations Manager

Address: 664 Collins Street,
Docklands, VIC 3008

CommunityANZ@exxonmobil.com

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).

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