



# Chemring Australia

## Major Hazard Facility Information to Local Community

August 2021

This document provides the local community and municipal councils with information regarding Chemring Australia's operation of a Major Hazard Facility in Lara, Victoria.

This document has been prepared in accordance with regulation 395 of the *Occupational Health and Safety Regulations 2017*.

## I.1 CHEMRING AUSTRALIA PTY LTD

At Chemring, we create market-leading technology solutions and develop world-class thinking to solve the most challenging problems. Using our extensive science and engineering expertise, we turn ideas into reality, designing and developing critical solutions that protect and safeguard in an uncertain world. We achieve this by innovating at every stage of the value chain, from research and development, through to design, manufacture and in-service support for our sensors and detection systems, countermeasures and energetic products. Our customer base spans national defence organisations and security agencies, as well as commercial markets such as space and transport. We support our customers in more than 50 countries across the globe. Chemring is organised into two sectors – Sensors & Information and Countermeasures & Energetics.

Chemring is the world leader in the design, development and manufacture of advanced expendable countermeasures for protecting air and sea platforms against the growing threat of guided missiles. We combine a deep understanding of platform signatures, missile seekers and chemical formulations to develop new countermeasures against evolving threats. Our niche, world-class energetics portfolio provides high-reliability, single-use devices that perform critical functions for the space, aerospace, defence and industrial markets.

Chemring Australia Pty Ltd is a subsidiary of the UK listed Chemring Group PLC and is Australia's preeminent manufacturer and supplier of airborne countermeasures for Australian, US and International operators. Our Australian business enables us to maintain, support and evolve next-generation capabilities for the Australian and regional customers. Our state-of-the-art manufacturing plant in Lara, Victoria, is the world's most advanced countermeasures manufacturing facility.

## I.2 SUMMARY OF THE SAFETY CASE

Chemring Australia (hereafter "Chemring") was registered by WorkSafe Victoria as a Major Hazard Facility (MHF) in June 2019. As part of the registration and subsequent licencing, Chemring was required to submit (and thereafter maintain) a compliant Safety Case. A Safety Case is a written presentation of technical, management and operational information about the hazards and risks that may lead to a major incident at a MHF, and specifically details the controls that are put in place against those hazards and risks.

Chemring's four-part Safety Case has been prepared in accordance with the *Occupational Health and Safety Regulations 2017* and relates specifically to CHA's operations at 230 Staceys Road, Lara, Victoria. The 60 hectares site is zoned Special Use Zone (Schedule 12) in the Greater Geelong Planning Scheme. The site is located to the west of Lara. The land adjoining the site and in the surrounding area is designated Farming Zone. Urban zoned land is located further south. The approved Development Plan under the Greater Geelong Planning Scheme allows for the establishment of production, testing storage, and disposal activities relating to the manufacture of energetic materiel.

The Safety Case demonstrates the ongoing commitment and dedication of Chemring to maintaining and improving safe practices in all aspects of its operations conducted at the Lara site. Accordingly, the Safety Case has been designed to be integrated and maintained at the Lara facility.

The document comprises four parts:

Part 1 – Introduction and Summary

Part 2 – Facility Description

Part 3 – Health, Safety and Environment Management System Framework

Part 4 – Formal Safety Assessment

Chemring's Safety Case and supporting documentation is subject to a comprehensive review, audit and approval process conducted by WorkSafe Victoria, as part of the initial licensing process and thereafter periodically. The accepted Safety Case demonstrates that the facility complies with the requirements stipulated in the *Occupational Health and Safety Regulations 2017*, that Chemring:

- has conducted a systematic safety assessment to identify all credible major incidents, and major incident hazards that have potential to occur at the facility;
- has identified risk control measures, that are implemented and adequately maintained, to ensure major incident hazards are minimised so far as is reasonably practicable; and
- utilises a safety management system, that provides a comprehensive and integrated system of risk control measures, pertaining to the management of major incident hazards and major incident risks.

The Safety Case has been prepared in consultation and collaboration with Chemring personnel and external stakeholders, with the intent of ensuring the document best describes practices and processes at the facility, and their safe management.

### 1.2.1 SCHEDULE 14 MATERIAL

A Schedule 14 material is listed, either by chemical name or physical properties, in the *Occupational Health and Safety Regulations 2017*.

Schedule 14 materials that are likely to be present at the Chemring facility include:

- Flammable Gas, Class 2.1
- Explosives, of division Classes 1.1, 1.2 and 1.3
- Flammable Liquids, Class 3
- Substances and mixtures which, in contact with water, emit flammable gases, Class 4
- Oxidizing Agents, Class 5

All Schedule 14 materials are stored in accordance with the *Dangerous Goods (Storage and Handling) Regulations 2012*.

### 1.2.2 MAJOR INCIDENT

The *Occupational Health and Safety Regulations 2017* defines a Major Incident as: An uncontrolled incident, including an emission, loss of containment, escape, fire, explosion, or release of energy that, involves a Schedule 14 material, and poses a serious and immediate threat to health and safety.

Chemring determines that potential Major Incidents could be attributed to the unplanned ignition of material during production, in storage, or during disposal. Chemring's Safety Case documents ten potential Major Incident scenarios. A general description of the magnitude and severity of the consequences to health and safety of these scenarios is provided in Table 1.

Chemring considers the likelihood of an uncontrolled Major Incident occurring at the site to be low. All potential incidents assessed in the Safety Case are expected to be limited to within the facility with respect to consequence. The predominant reason for this is that process controls and systems specifically limit the quantity of energetic material stored and processed within the various processing areas of the facility, which, in conjunction with the automated mitigation controls that are in place, will therefore limit the resulting size and impact of any potential incident scenario should that scenario eventuate.

MI #	MI Location	MI General Description	Health & Safety Consequence Score	Likelihood
MI-1	Disposal Grounds	Unplanned ignition event during disposal set up	5	1 in 1000 occurrences
MI-2	Mixing	Ignition event during cleaning activity, or an upset condition	4	1 in 2500 occurrences
MI-3	Extrusion	Ignition event during upset condition, manual entry required above PPE limits	5	< 1 in 2500 occurrences
MI-4	Vacuum	Unknown exposure to NEQ in bottom of vacuum vessel	4	< 1 in 2500 occurrences
MI-5	Oven	Ignition event during upset condition, manual entry required above PPE limits	4	< 1 in 2500 occurrences
MI-6 to 8	Magazine Storage	Ignition event in magazine during human access	5	< 1 in 10 years
MI-9	LPG tank	Loss of primary containment	4	< 1 in 20 years
MI-10	Magnesium storage	Ignition event in storage during human access	5	< 1 in 20 years

Table 1 - General overview of potential Major Incident (MI) scenarios at Chemring's Lara, Victoria site.

Where available, Chemring considered historical data to support the determination of both the consequence and likelihood of a Major Incident. Historical data is limited to the operational lifetime of Chemring's facility. Where available with respect to control failure or incident occurrence, Chemring has utilised either the known operating timespan, or the number of cycles performed for the task, to guide the likelihood determination.

Risk assessment workshops actively encouraged open discussion between participants, and stakeholder representation from multiple business departments afforded a comprehensive understanding of the potential failure modes of both process and safety controls. The informed assessment resulted in the determination that the likelihood of multiple major incidents occurring simultaneously would require:

- Simultaneous failures of building safety-rated control barriers
- Multiple and simultaneous personnel violations with respect to entry into major incident scenario environments
- Systemic failure of safety-critical ignition prevention control systems in the presence of an initiating medium; and
- Simultaneous failure of all propagation and mitigation controls in containing the event(s).

Owing to Chemring's current controls and operational systems, Chemring has concluded that the likelihood of multiple major incidents occurring simultaneously is not a credible outcome.

#### Severity Determination General Overview

When determining the severity score, it was deemed credible to have multiple consequence scores associated with a Major Incident hazard scenario. The key factor attributed to this was typically the human element or impact to a person's health and safety. In such a case, the worst possible scenario consequence would prevail for the purposes of determining the severity.

Whilst a Major Incident scenario may play out differently in reality, owing to the conditions that may be present at the time of the event, preparing for the worst-case scenario enables determination of the most appropriate prevention and mitigation controls to avoid such an event (be it worst-case or otherwise). Chemring utilises an established business risk matrix to determine consequence scores (or levels), provided in Table 2.

Consequence	Severity	
	Catastrophic (Level 5)	Multiple fatalities >2
	Major Events (Level 4)	1 Fatality
	Critical Events (Level 3)	Multiple lost time injuries, injury or illness, resulting in permanent disability
	Moderate Events (Level 2)	Single lost time injury, injury or illness resulting in temporary disability
	Minor Events (Level 1)	Medical treatment or restricted workday case
No Impact (Level 0)	No impact	

Table 2 - Health and Safety severity and consequence risk matrix.

#### Likelihood Determination General Overview

Determination of likelihood scores for Major Incidents is a quantitative assessment. The risk assessments made use of historical data where it was available. Where certain scenarios had not been previously realised, the risk assessment team determined the most appropriate practicable likelihood score based on industry data and experience.

For the purposes of the Major Incidents assessed in the Safety Case, likelihood scores were assessed in line with severity scores and considered with due caution. This has been done to ensure that a comparatively low likelihood score would not automatically disqualify a potential Major Incident scenario from review, particularly if the severity score was comparatively high. The severity score was the main factor when considering the adequacy of control measures, to so far as is reasonably practicable.

### 1.3 COMMUNITY NOTIFICATION

Chemring has established an Emergency Management Planning Committee (EMPC), responsible for the development, implementation and maintenance of the emergency plan, emergency response procedures and delivery of related training.

The EMPC, in the event of an emergency, will coordinate with the relevant emergency services to request additional response if required.

On requirement, the EMPC, and emergency services, will provide notification to neighbouring properties and the local community if any adverse impacts occur. An example of an adverse impact being a temporary road closure (Stacey's Road).

Community notification may be enacted by multiple means including telephone, door knocks, signage or utilisation of external emergency control websites or notification services (for example, mobile phone apps).

If a member of the community observes or has concerns with respect to operations on the site, they should contact the site on the contact details provided below.

### 1.4 MAJOR HAZARD FACILITY LICENCE

Chemring Australia Pty Ltd is licenced by WorkSafe Victoria as a Major Hazard Facility on the 16 June 2021, Licence Number MHL 059/01. A copy of the licence is provided for reference in the appendix to this document.

## I.5 FURTHER INFORMATION

For further information please direct inquiries to:

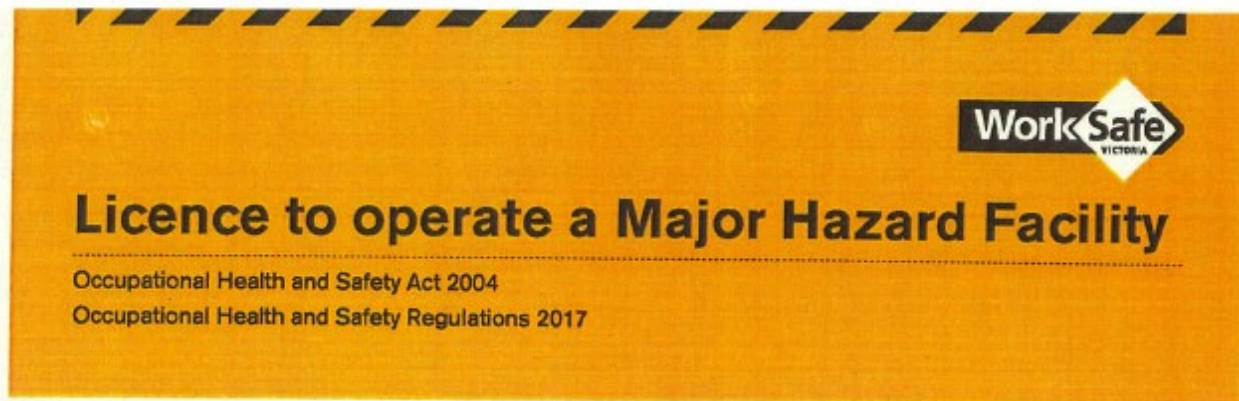
Phone: +61 (0)3 5220 8500

Email: [info@chemring.com.au](mailto:info@chemring.com.au)

Contact: Greg Kilpatrick – Health, Safety, Environment, and Security Director



I.6 APPENDIX: MAJOR HAZARD FACILITY LICENCE



This licence is issued to the operator

Chemring Australia Pty Ltd  
230 Staceys Rd  
Anakie  
Victoria 3212

ACN: 004 669 452

and authorises the facility located at

230 Staceys Road  
Anakie  
Victoria 3212


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 059/01	16 June 2021	26 July 2021	25 July 2026

Conditions:

1. Chemring Australia Pty Ltd (**Chemring**) must establish and implement a continuous improvement action plan for the Safety Management System (**SMS**) by no later than 26 January 2022 (**the CIA Plan**). The CIA Plan must contain, as a minimum:
  - a. improvement actions for performance monitoring of the SMS focusing on Management of Change and risk control measures; and
  - b. reflect the results of:
    - i. Chemring's periodic review of the SMS;
    - ii. Chemring's periodic review of control measure performance monitoring; and
    - iii. any audit.

Simon Farrar  Director Major Hazards and Dangerous Goods 9 July 2021

## Licence to operate a Major Hazard Facility

2. Chemring's senior management must provide a presentation to the WorkSafe delegate on or before 30 November 2021, outlining the work Chemring has undertaken to improve performance monitoring at the Lara Major Hazard Facility, ensuring that the performance monitoring covers all aspects of the SMS and risk control measures. The presentation must also include a description of initiatives implemented to improve the communication of key safety information on the performance of the Major Hazard Facility to employees and Health and Safety Representatives.

Simon Farrar



Director Major Hazards and Dangerous Goods

9 July 2021





# Licence to operate a Major Hazard Facility

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

## Attachment 1 to MHL 059/01

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


Extracted from Table 1 of Schedule 14  
*Occupational Health and Safety Regulations 2017*

MATERIAL	CAS or UN Nos INCLUDED UNDER NAME
33 LP GASES	1075
40 PETROLEUM AND RELATED VAPOUR CLOUD FORMING SUBSTANCES (Acetone) maintained and ambient temperature and pressure	1090

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

ITEM	MATERIAL DESCRIPTION
2 Explosive materials	All other Explosives of Division 1.1 (other than if prepared or mixed immediately before use in a borehole)
3 Explosive materials	Explosives of Division 1.2 (other than explosives of Classification Code 1.2G)
5 Explosive materials	Explosive of Division 1.3
13 Flammable materials	Flammable liquids, hazard categories 2 or 3 that, once ignited, sustain combustion
15 Flammable materials	Substances and mixtures which, in contact with water, emit flammable gases, hazard category 1 or 2
18 Oxidising materials	Oxidising gases, hazard category 1, or oxidising liquids or solids hazard category 1 or 2

**Note:** Small quantities of other Schedule 14 materials that may be present at the facility will be noted in the safety case.

Simon Farrar  Director Major Hazards and Dangerous Goods 9 July 2021