

# Development licence assessment report

Environment Protection Act 2017



<b>Application No.</b>	APP009563
<b>Applicant Name</b>	ESSO AUSTRALIA PTY LTD
<b>Registered address</b>	Level 9, 644 Collins Street Docklands Victoria 3008 Australia
<b>Development activity, address and proposal</b>	<p>L01 (General emissions to air) and K01 (Power generation) 11 Bayview Road, Hastings, Victoria, 3915</p> <p>Oil and gas from the Bass Strait field is sent to Longford for processing into crude oil, natural gas and other gas liquids. The natural gas liquids (ethane, propane and butane) are sent to Long Island Point Fractionation Plant (LIP) for further processing. Liquefied petroleum gas (LPG) is then exported via trucks or ships and the ethane is transported via pipeline to a downstream customer in Altona.</p> <p>The current ethane transfer methods will no longer be available from 2022 due to changing business conditions for the ethane customer. As a result, Esso needs an alternative use for the undersubscribed ethane produced. Esso are planning to install three small, low-emission, efficient power generation units at a site next to LIP. These units will be capable of converting ethane into 35–40 megawatts of electricity to power Victorian homes, while maintaining a reliable supply of natural gas liquids across the east coast. As demand for natural gas declines, so too will the quantity of ethane gas generated. This facility is anticipated to be operational from 2023 to 2033.</p>

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## Abbreviations

Term	Definition
APAC	Air Pollution Assessment Criteria
BAT	Best Available Techniques
BATT	Best Available Techniques or Technologies
CCGT	Combined Cycle Gas Turbines
CEMP	Construction environmental management plan
CEMS	Continuous Emission Monitoring System
CFA	Country Fire Authority
CO <sub>2</sub> e	Carbon dioxide equivalents
DELWP	Department of Environment, Land Water and Planning
DL	Development licence
EES	Environment Effects Statement
EMP	Environmental Management Plan
EP Act	<i>Environment Protection Act 2017</i>
EPA	Environment Protection Authority Victoria
ERS	Environment Reference Standard
GED	General environmental duty
kWh	Kilowatt-hour
LIP	Long Island Point Fractionation Plant
LPG	Liquefied petroleum gas
NEPM	National Environment Protection Measure
NO <sub>x</sub>	Nitrous Oxides
NSA	Noise sensitive areas
OCGT	Open Cycle Gas Turbine
P&E Act	<i>Planning and Environment Act 1987</i>
RFI	Request for Further Information
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
VOC	Volatile Organic Compounds

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## Executive summary

ESSO AUSTRALIA PTY LTD applied for a development licence from the Environment Protection Authority Victoria (EPA) on 17 February 2022, under section 50(1)(c)(i) of the *Environment Protection Act 2017* (the EP Act). The proposal is to build and commission three Solar Titan 130 generators that will burn ethane to generate up to 40 megawatts of electricity.

Permission activity	Location	Description
L01 (General emissions to air) and K01 (Power generation)	11 Bayview Rd, Hastings, Victoria, 3915	<p>Oil and gas from the Bass Strait field is sent to Longford for processing into crude oil, natural gas and other gas liquids. The natural gas liquids (ethane, propane and butane) are sent to Long Island Point Fractionation Plant (LIP) for further processing. Liquefied petroleum gas (LPG) is then exported via trucks or ships and the ethane is transported via pipeline to a downstream customer in Altona.</p> <p>The current ethane transfer methods will no longer be available from 2022 due to changing business conditions for the ethane customer. As a result, Esso needs an alternative use for the undersubscribed ethane produced.</p> <p>Esso plans to install three small, efficient, low-emission power generation units at a site next to LIP. These units will be capable of converting ethane into 35–40 megawatts of electricity to power Victorian homes, while maintaining a reliable supply of natural gas liquids across the east coast. As demand for natural gas declines, so too will the quantity of ethane gas generated. This facility is anticipated to be operational from 2023 to 2033.</p>

### Conclusion of assessment:

- The applicant is a prohibited person for the purposes of section 88 of the EP Act, due to a conviction in 2012 for an offence under the *Environment Protection Act 1970*. EPA reviewed the conviction in line with current guidelines and requirements under section 66(2) of the EP Act. EPA determines that it is not contrary to the public interest for the applicant to be considered a fit and proper person and thus a development licence may be granted.

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- The proposal will primarily generate air and noise impacts. EPA reviewed air and noise information, including modelling. EPA concluded that risks of impacts to environment and human health have been understood and can be managed through conditions. EPA considers that the proposal does not pose an unacceptable risk to human health or the environment.
- EPA assessed the measures taken or proposed to be taken, relevant to the activity, to comply with the [general environmental duty under the EP Act](#). EPA concludes that smoke suppression in flare relating to ethane, the Volatile Organic Compounds reduction, Open Cycle Gas Turbine, noise mitigation measures and other measures proposed by the applicant are acceptable, subject to conditions. EPA has considered the information provided by the applicant and concludes that a development licence may be granted.
- EPA assessed the impact on human health and the environment, including relevant Environment Reference Standards. Based on the information provided, some outstanding risks need to be verified before starting construction, specifically relating to noise. EPA has reviewed the risks and concludes that the risks of impact to human health and the environment are acceptable and can be addressed by conditions of the development licence.
- EPA has reviewed the information provided and public submissions in relation to the principles of environmental protection. Based on this assessment, EPA concludes that the application aligns with the principles, subject to conditions.
- EPA reviewed the proposal in the context of Best Available Techniques or Technologies (BATT). EPA concludes that BATT would be to install better flare smoke suppression technologies at the LIP, Combined Cycle Gas Turbines and an oxidation catalyst. In stating that, EPA has further reviewed the risks associated with the proposal and determined that while BATT is preferred, the applicant installing measures to further reduce risks would not be reasonably practicable in relation to this project. EPA has taken into account BATT as part of its assessment and concludes that a development licence may be granted.
- EPA reviewed the application and consistency with the EP Act and the Environment Protection Regulations 2021 (EP Regulations). EPA concludes that the application aligns with the EP Act and the EP Regulations and that a development licence may be granted.

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- EPA received comments from referral authorities during the development licence process. EPA has reviewed the responses and concludes that an approval may be granted subject to conditions.
- EPA received 16 submissions over two public submission periods. EPA has also responded to community emails, phone enquiries and attended an information session organised by the applicant. EPA has taken community submissions into account as part of this assessment and concludes that a development licence may be granted.
- There are no prescribed matters under the EP Regulations.
- EPA has considered relevant human rights.
- EPA has considered section 17 of the *Climate Change Act 2017*. Based on the information in the application and EPA's assessment, a development licence may be granted.

## Recommendation for issue

On 11 August 2022, the development licence was issued under section 69(1)(a) of the EP Act. The development licence is subject to conditions. The L01 (General emissions to air) and K01 (Power generation) is proposed to be undertaken in a way that meets environmental standards.

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## 1 Background information

The Environment Protection Authority Victoria (EPA) received a development licence (DL) application (the application) from Esso Australia Pty Ltd (the applicant) on 15 January 2022.

EPA asked for more information and received a complete application complying with section 50 of the *Environment Protection Act 2017* (the EP Act) on 17 February 2022.

The applicant applied for a DL for the prescribed DL activities: K01 (power generation) and L01 (general emissions to air).

The applicant proposes to install three ethane power generation units next to the Long Island Point Fractionation Plant (LIP) gas refraction plant.

The *ESSO AUSTRALIA PTY LTD Hastings Generation Project Development License Application* is available on the EPA website at [www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd).

### 1.1 Development licence statutory process

EPA has four calendar months to decide on a DL application. Table 1 shows the timeline for application APP09563.

Table 1: DL application timeline for APP09563

Date	Action	Detail
17 February 2022	EPA received a complete application from Esso Australia Pty Ltd	EPA has until 17 June 2022 or 120 days after receiving an application to make a decision to comply with section 50 of the EP Act.
14 April 2022	First request for further information (RFI1) sent to the applicant by email	Day 1 of the RFI is 15 April 2022
5 May 2022	Applicant responded to RFI1	The applicant took 20 days to respond to RFI1. These days are not counted in the 120 days.
13 May 2022	RFI2 sent to the applicant by email	Day 1 of RFI2 is 14 May 2022
10 June 2022	Applicant partially responded to RFI2	

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Date	Action	Detail
15 June 2022	Applicant fully responded to RF12	The applicant took 32 days to respond to RF12. These days are not counted in the 120 days.
3 August 2022	Applicant provided an updated Air Quality Assessment	This information did not impact the timeline.
8 August 2022	Statutory due date	The original due date was 7 August 2022, but it fell on a Sunday so the date was moved to the Monday.

On 8 August 2022, EPA and Esso made an agreement under section 50(4)(b) of the EP Act to exclude the period from 8 August 2022 to 12 August 2022 to allow EPA to make a decision within the statutory timeframe.

The application (complete application as submitted, with additional information provided 5 May, 10 June, 15 June and 3 August 2022) has been assessed against the relevant criteria for a DL application.

## 1.2 Applicant information

Esso Australia Pty Ltd is part of ExxonMobil Australia Pty Ltd. Based on the 2021 annual report, the global company ExxonMobil has an estimated net capital of US\$338,923 million in total assets. ExxonMobil is one of the largest oil and gas companies in the world.

## 1.3 Existing operations

The applicant has an EPA operating licence for the LIP (EPA OL000002613) on 33 Cemetery Road, Hastings (see Appendix A for a locality plan showing the boundary of the licence). EPA understands that the applicant will be seeking to operate the works under this DL under a separate and independent operating licence.

Esso Australia Pty Ltd extract oil and gas from the Bass Strait field. Oil and gas are sent to Longford to process into crude oil, natural gas and other gas liquids. The natural gas liquids (ethane, propane and butane) are sent to the LIP in Hastings, operated by the applicant, for further processing into liquefied petroleum gas (LPG) before being distributed locally and internationally. For many years, the ethane by-

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product of this process was sent through a pipeline to a customer in Altona for plastics manufacture.

The applicant has submitted that when the customer cannot accept the ethane due to maintenance (in most cases), Esso either needs to reduce the gas liquids flowing to LIP for refining – consequentially reducing the supply of propane and butane to Victoria – or respond by flaring the ethane.

If the customer in Altona is unable to accept the ethane altogether, the applicant needs an alternative use for the ethane.

Generating power from ethane will enable Esso to safely and reliably use undersubscribed ethane, avoiding the need to flare this gas at LIP or reduce natural gas production for the south-east Australian gas market.

The applicant states that the current ethane customer will stop accepting ethane in the near future, leading to flaring or less gas being produced, unless this proposal is approved. EPA understands that the applicant currently provides 80 per cent of the Victorian gas needs.

Esso has submitted a DL application to EPA to install three power generation units at a site next to LIP. These units will be capable of converting ethane into 35–40 megawatts (MW) of electricity for distribution to the Victorian network. As the demand for natural gas declines, so will the quantity of ethane gas needing disposal and Esso expects the facility will cease operation around 2033.

Under the Environment Protection Regulations 2021 (EP Regulations), the activities in the application (L01 (General emissions to air) and K01 (Power generation)) are prescribed activities and require a DL under the EP Act. The activities are also prescribed operating licence activities.

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## 2 Proposal overview

The applicant has submitted that the current arrangements for supplying ethane gas via pipeline to a customer in Altona will no longer be available from 2022. The applicant is putting forward a proposal to combust the surplus ethane gas to generate electricity. The alternative, the applicant submits, is to continuously combust the ethane via flare at the LIP under the existing EPA licence.

The proposal involves installing three power generation units at a site next to the LIP with a predicted operational lifetime of 10 years between 2023 to 2033.

The amount of ethane that would be combusted ranges from an average maximum of 189 tonnes per day (2026) to an average minimum of 8 tonnes per day (2033).

Operational costs are listed in Table 2, as supplied by the applicant.

Table 2: Estimated facility operational costs

Activity	Estimated cost \$AUD M/yr
Technical support and maintenance	1.0
Engine exchange	2.4
Operations support (labour, etc.)	3.6
Consumables and contingency	2.8
Annual connection agreement/costs	1.0

The proposed infrastructure includes:

- piping from LIP to the proposed site
- three Solar Titan 130 gas turbine generators
- electrical infrastructure to export power to the grid
- facilities onsite for operation and maintenance.

Proposed operating hours are:

- Construction phase: Monday to Saturday 07:00 to 18:00 involving approximately 60 staff

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- Operation phase: 24 hours a day (subject to construction, commissioning and approvals).

## 2.1 EPA response to application submission

The list of documents submitted as part of the application (including further information provided) can be found in Appendix B Application documents and information.

## 2.2 Activity summary

### 2.2.1 Site location

The site is located in the Gippsland Plain bioregion. The closest geological and geomorphological significant site is 2.5 kilometres to the north. A geomorphological significant site is a site that has outstanding, rare or unique geological or geomorphological features.

Soil samples were taken at the site between 0.15 and 2.6 metres depth concluding a profile of fill, overlaying natural silty clay and sandy clays. The top fill consisted of imported silty sandy gravels.

The closest fresh surface water is estimated to be 1.5 kilometres away. Groundwater is encountered at between 10 to 12 metres below ground surface.

The site is located in a special use zone with a bushfire management overlay and is within a designated bushfire prone area. Part of the lot (Lot 39 LP3732) has an Aboriginal cultural heritage overlay, but this does not apply to the specific location of the proposal. The applicant prepared a cultural heritage assessment that did not identify any significant cultural heritage in the activity area.

The applicant has identified 11 sensitive receptors surrounding the planned activity site. The closest residential dwelling is approximately 700 metres from the site.

### 2.2.2 Proposed infrastructure

The applicant is proposing to install three Solar Titan 130 generators with a combined capacity of producing about 40 MW of electricity. The generators will be connected to a new switchyard and have an operations centre located inside the boundary of the premises. A new pipeline is proposed from the existing LIP to the generators (see Figure 2).

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To distribute electricity, a high voltage electricity line is proposed from the generators to an existing transmission network powerline. This will require connection to BlueScope Steel via a 66 kilovolt transmission line along Bayview Road (estimated to be 3.3 km in length). An existing 22 kilovolt transmission line runs to the project area.

The site will manage its stormwater onsite separate from the LIP. Gas to the project will be supplied through a new ethane pipeline from the LIP.

For more information on the plant and equipment proposed to be installed, see section 7.2.2. of the application available from [www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd).

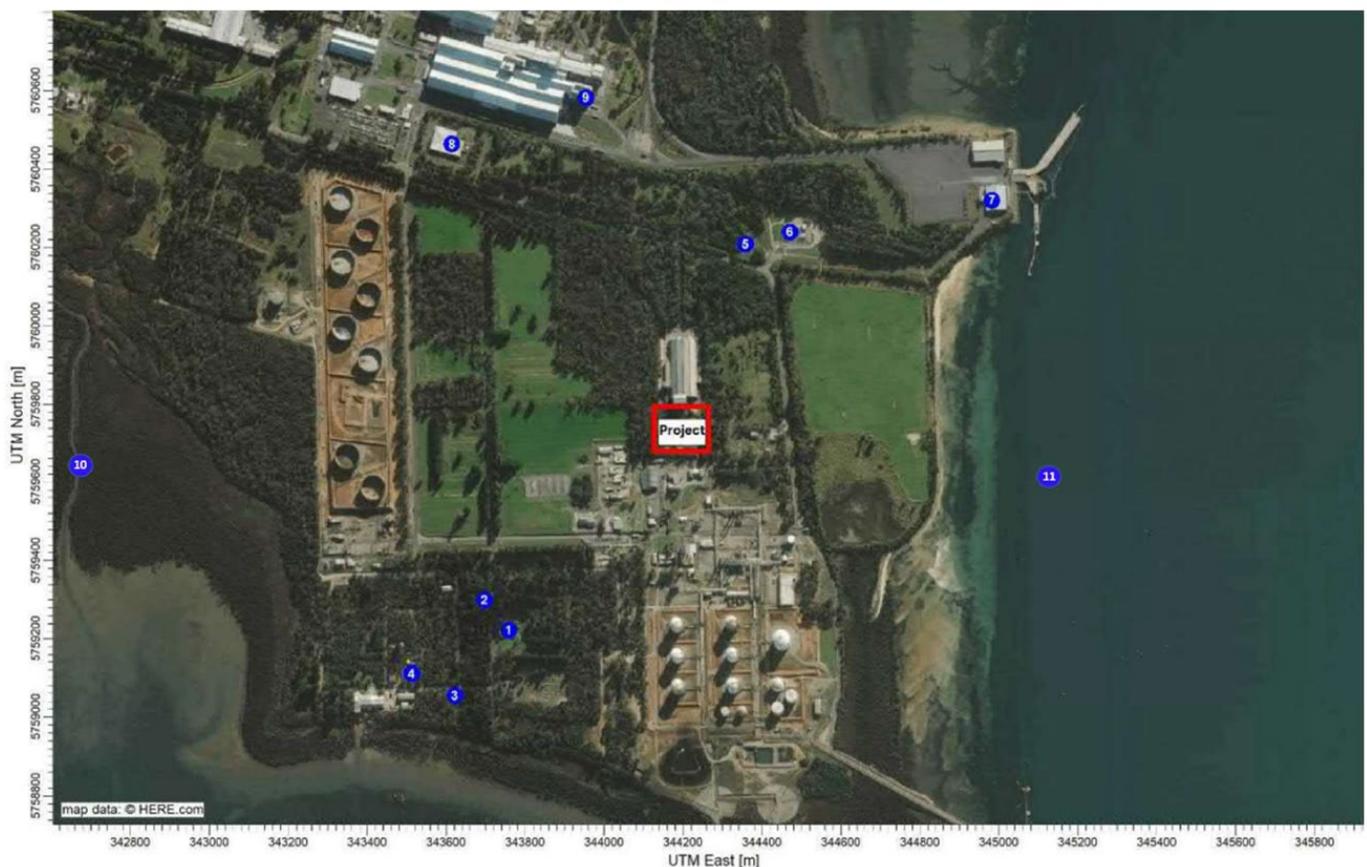


Figure 1: Project location and the 11 surrounding sensitive receptors

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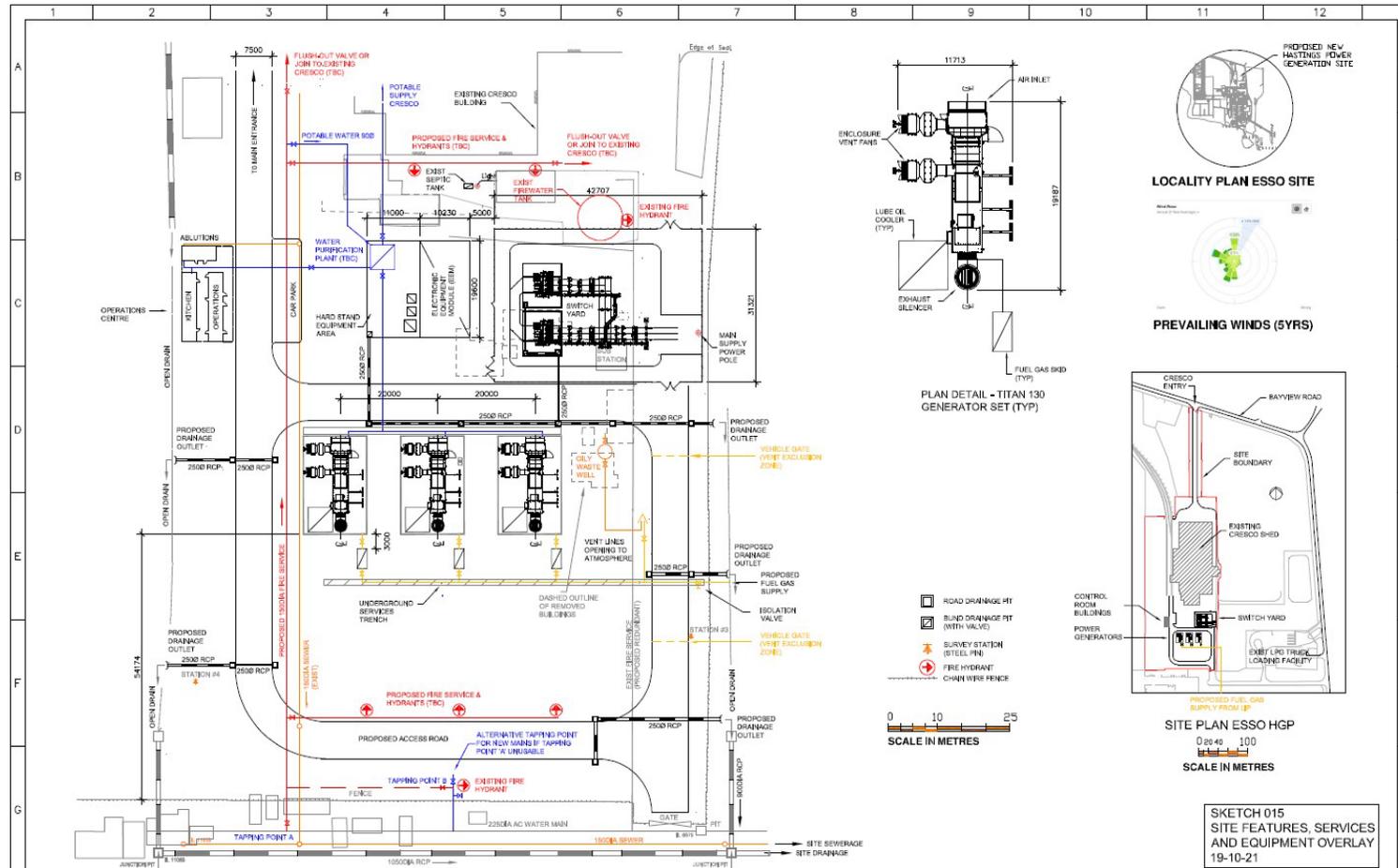


Figure 2: Site plan of the proposal

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## 2.2.3 Other approvals

Under the *Environment Effects Act 1978* (EE Act), certain projects which meet the defined criteria need to prepare an Environment Effects Statement (EES). The applicant prepared an EES self-assessment which was shared with the Department of Environment, Land, Water and Planning (DELWP). EPA notes that an EES process was not undertaken for the proposed activity. This decision is a matter for the Minister for Planning.

Under the *Planning and Environment Act 1987* (P&E Act), certain developments which meet the defined criteria require a planning permit. EPA understands that the applicant is in the process of acquiring such a permit from the relevant authority. EPA understands that the applicant has also submitted a Vegetation Removal Permit to DELWP. Decisions under the P&E Act are a matter for the relevant authority and/or DELWP.

## 2.2.4 Cultural heritage assessment

The application included a cultural heritage assessment. The assessment included both a desktop and an in-person visit. The desktop assessment concluded that the area would have been disturbed by European activities through land clearing, excavation and levelling for current land use and building gravel pad. The in-person visit did not find any artefact scatters, scarred trees, rock shelters, caves or cave entrances.

EPA contacted Bunurong Land Council Aboriginal Corporation for comment in relation to this application and did not receive a reply during the assessment period.

## 2.2.5 Community consultation

The application included a stakeholder engagement plan which identified various stakeholders across government, private sector and the community. Stakeholders were directly engaged, invited to the LIP community meeting and/or engaged through a letter drop. Pre-application engagement occurred between September and October 2021.

During the DL process, the applicant arranged an information session on 5 May 2022 to give the community an opportunity to better understand the DL proposal and be engaged on the proposal.

Refer to section 3.1 for more information on the community consultation process and submissions received.

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## 3 External consultation

In line with requirements under the EP Act, EPA consulted the community and relevant agencies.

### 3.1 EPA consultation

The Charter of Consultation is EPA's commitment to consultation with Victorians under section 53 of the EP Act. It describes how EPA may undertake consultation.

EPA undertook the following consultation activities:

- 1) EPA advertised the application and invited interested parties to make submissions in the Western Port News (23 March 2022) and the Herald Sun (16 March 2022). The DL application was open for submissions between 16 March 2022 and 13 April 2022 (21 business days).
- 2) Submissions were received either through EPA's website through a digital form ([www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd)) or via email to [permission.engagement@epa.vic.gov.au](mailto:permission.engagement@epa.vic.gov.au).
- 3) EPA participated at the applicant's information session on 5 May 2022 with two regional staff members and the lead assessing officer on hand to clarify the DL process and EPA's role and to hear concerns raised by attendees. EPA took some questions on notice during the session and provided responses to submitters on 23 June 2022.
- 4) EPA sent email updates to submitters on 3 May, 20 May and 23 June 2022. Updates included website updates, questions taken on notice from the information session, and when additional information was open for public comments.
- 5) EPA also responded to community questions by email, phone or letter on at least nine occasions during the assessment period.
- 6) EPA also invited submitters to make further submissions (over a 15-business day period) on the applicant's RFI responses provided on 10 June and 15 June 2022.

#### 3.1.1 Submissions received

Nine submissions were received during the first round of community submissions (RFI1) and seven were received during the second round of community submissions (RFI2) (16 submissions in total).

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Community concerns and questions are summarised in Appendix C. Redacted versions of the submissions together with responses from the applicant are available from:

[www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd)

## Round 1 community submissions

EPA understood the community concerns during the first round to be mostly related to (in summary) air emissions, climate change and community consultation.

Specifically, the most common concerns related to emissions from the existing flare, how the project fits in with local climate change policies and a lack of community consultation.

## Round 2 community submissions

During the second round of community submissions, EPA understood the community concerns to be mostly related to air emissions, community engagement, climate change and principles of the EP Act.

Most issues raised during the second round related to areas outside the scope of the additional information provided by the applicant.

In addition to expressing the above concerns, the community also directed specific questions towards the applicant and/or EPA.

Through the community consultation processes, EPA encouraged the applicant to carry out further consultation and answer the community's questions and comments.

Based on comments received from the community during the two rounds of consultation, EPA determined that concerns were well understood, and a community conference was not needed to resolve the issues. Further, EPA considered that the applicant's responses and EPA's review of the responses were sufficient to progress towards a decision on the application.

When deciding not to hold a community conference, EPA took into account the community engagement opportunity provided by the applicant's information session on 5 May 2022. Accordingly, EPA did not hold a dedicated conference of interested persons, a mechanism contemplated by section 236 of the EP Act.

## 3.2 External referral comments

Under section 69(2) of the EP Act, EPA must refer applications to prescribed agencies. As part of this process, EPA provides any referrals received to the applicant and invites

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them to respond to any comments raised in the referrals. This was performed for this application.

The following information relates to:

- prescribed referral authorities under EP Regulation 22(1)
- responses from other organisations that EPA made aware of this application
- responses received
- how EPA considered these responses.

All responses from referral authorities can be found in Appendix D.

## 3.2.1 Responses from prescribed referral authorities

### Minister for Planning

The Minister for Planning is the responsible authority under Clause 72.01-1 of the Mornington Peninsula Planning Scheme since the proposal is for an energy generation facility with an installed capacity of more than one MW. A response was received on 13 April 2022 outlining the following:

1. The proposed use and development are allowed under the Mornington Peninsula Planning Scheme. No conditions are specified under the Special Use Zone Schedule 1.
2. A planning permit is required for the following activities:
  - a. Use, buildings and works under the Special Use Zone Schedule 1.
  - b. Removal of native vegetation under Clause 52.17 'Native Vegetation'.
3. A permit has not been issued under the P&E Act.
4. The Minister for Planning is currently considering an application for a permit under the P&E Act (permit application no. PA2001035). The application was received on 21 February 2022 and further information has been requested.
5. The proposed use and development is not prohibited under the Mornington Peninsula Planning Scheme.

### WorkSafe

EPA and WorkSafe have a Memorandum of Understanding that specifies when EPA and WorkSafe should refer issues to each other. EPA referred the application to WorkSafe because the activity could have an impact on the major hazard facility

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licence issued to Esso Australia Pty Ltd for the operation at Cemetery Road, Hastings. WorkSafe responded on 4 April 2022 outlining the following:

- The scope of WorkSafe Victoria's review of the referral information is limited to potential incidents involving risks from dangerous goods.
- WorkSafe does not advise against the granting of the DL application at the proposed location. It is noted that the applicant will complete a fire safety study as part of the project. It is recommended that the organisation review the location of occupied buildings, in particular the 'operations centre', as part of this study to minimise the risk to operations personnel.

## Energy Safe Victoria

EPA referred the application as it relates to an activity that may require consideration from Energy Safe Victoria in its capacity as Victoria's safety regulator for electricity under the *Electricity Safety Act 1998*. EPA did not receive a response from Energy Safe Victoria within the assessment period.

## Country Fire Authority

EPA referred the application as it relates to an activity that may require consideration from the Country Fire Authority (CFA) relating to fire safety issues at the proposed facility. The CFA responded on 4 April 2022 outlining that EPA should consider including the following conditions if a DL was to be issued:

1. Provision of a hydrant system consistent with the requirements for Open Yard Protection as per section 3.3 of AS 2419.1-2005: Fire hydrant installations, area of yard >9000 m<sup>2</sup> to <27,000 m<sup>2</sup> (e.g., three fire hydrant outlets required to flow simultaneously).
2. That where the fire service infrastructure (e.g., ring main) for the proposed facility is extended from the Esso LIP facility as indicated in 'Sketch 015', that simultaneous operation of the fire infrastructure across both facilities meets specified minimum demand requirements at either facility (e.g., 30 L/s performance at the proposed facility can be achieved at the same time as the minimum demand requirement for identified Major Incidents at the Esso LIP facility is also achieved).
3. Development of a Bushfire Management Plan, to the satisfaction of CFA, before commencement of development at the facility. The Bushfire Management Plan must include:

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- a. activities, roles and responsibilities for managing fire risk at the facility (including acquisition of any required permits during the Fire Danger Period, management of vegetation, inspection and maintenance of plant and equipment, and dangerous goods storage and handling)
  - b. regular housekeeping activities before and during the Fire Danger Period to ensure removal of any extraneous flammable or combustible materials around the plant and buildings, clearance of vehicle access points to the facility, and access to and serviceability of fire protection systems and equipment
  - c. bushfire monitoring, preparedness and emergency response.
4. Development of an Emergency Management Plan consistent with the requirements of AS 3745-2010: Planning for emergencies in facilities and the Dangerous Goods (Storage and Handling) Regulations 2012 (as appropriate), before commissioning the facility. Any potential for offsite impacts to the Esso LIP facility must be considered in risk management processes for both facilities.

## **Bunurong Land Council Aboriginal Corporation**

EPA contacted Bunurong Land Council Aboriginal Corporation about this application and did not receive a reply during the period of assessment.

## **Other referrals considered by EPA**

EPA considered referrals to the Secretary of the Department of Health and to Earth Resources Regulation. EPA formed the view that 'triggers' for these referrals were not met.

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## 4 EPA assessment methodology

EPA takes an evidence and risk-based approach to its regulatory functions and decision-making while having regard for the object and principles of the EP Act and all relevant regulations and frameworks. This application has been assessed against the:

- *Environment Protection Act 2017*
- *Climate Change Act 2017*
- Environment Protection Regulations 2021 (EP Regulations)
- Environment Reference Standard (Victorian Government Gazette No. S 245)
- relevant EPA relevant guidelines.

### 4.1 Statutory matters for assessment

Under section 69(3) of the EP Act, EPA must broadly consider the following when deciding whether to issue a DL:

- measures taken or proposed to be taken, relevant to the activity, to comply with the general environmental duty
- impact on human health and the environment, including relevant environmental reference standard
- the principles of environmental protection
- Best Available Techniques or Technologies (BATT)
- consistency with the EP Act and the EP Regulations
- comments from referral authorities
- comments and submissions received during advertising period
- prescribed matters.

If any prescribed matters apply, the EPA must refuse to issue a DL (see below). There are no prescribed matters for the purposes of section 69(3)(h) of the EP Act.

Under section 69(4) of the EP Act, EPA must refuse to issue a DL if:

- the activity poses an unacceptable risk of harm to human health or the environment
- the authority determines that the applicant is not a fit and proper person

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- any prescribed circumstances apply.

There are no prescribed matters under the EP Regulations relating to section 69(4)(c) of the EP Act.

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## 5 EPA assessment

This section describes EPA's assessment of the application.

### 5.1 Measures the applicant has taken or proposes to take to comply with the general environmental duty, regarding the activity

#### 5.1.1 Application

The application included:

- a risk register rating the various risks during construction and operation and proposing mitigation measures to reduce those risks
- an Environmental Management Plan (EMP) outlining how the proposed activity will interact with the environment and obligations under the EP Act.

The application demonstrates a risk management strategy consistent with the applicant's obligations under the EP Act, that is, minimisation of risks so far as is reasonably practicable.

In relation to the construction and commissioning phases, EPA notes the following information submitted in the application:

- Construction is estimated to take 6 to 9 months with commissioning to take one month.
- The contractor must develop a Construction Environment Management Plan (CEMP) in line with the EMP provided in the application.
- Before equipment is brought to site, it will undergo factory assessment testing with the applicant in attendance. Piping will be hydrotested offsite.
- The technology provider will conduct factory acceptance testing of the turbine generators using natural gas at the manufacturing site in the USA.
- After the plant has been built onsite, pre-commissioning activities will begin including leak checks and inert gas testing before introducing hydrocarbons. Control loops and plant trip functionality will be tested to ensure appropriate controls response and safety protocols.
- Once the plant has been assembled and constructed, the plant will be commissioned and tested. During this time, NO<sub>x</sub> emissions might reach 100

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parts per million (ppm). This was considered as part of the air emission modelling supporting the application.

- Once commission testing is complete, the higher concentration of NO<sub>x</sub> is expected to reduce within a few minutes. The applicant will develop further details on commissioning testing.

## 5.1.2 EPA assessment

EPA has assessed the application to understand if the applicant has taken or proposes to take measures to comply with its obligations under the EP Act. In particular, section 25 of the EP Act which describes the general environmental duty (GED) as follows:

*Section 25(1): A person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste must minimise those risks, so far as reasonably practicable.*

*Section 25(4): Without limiting subsection (1), a person who is conducting a business or an undertaking contravenes that subsection if the person fails to do any of the following in the course of conducting the business or the undertaking, so far as reasonably practicable—*

- (a) *use and maintain plant, equipment, processes and systems in a manner that minimises risks of harm to human health and the environment from pollution and waste;*
- (b) *use and maintain systems for identification, assessment and control of risks of harm to human health and the environment from pollution and waste that may arise in connection with the activity, and for the evaluation of the effectiveness of controls;*
- (c) *use and maintain adequate systems to ensure that if a risk of harm to human health or the environment from pollution or waste were to eventuate, its harmful effects would be minimised;*
- (d) *ensure that all substances are handled, stored, used or transported in a manner that minimises risks of harm to human health and the environment from pollution and waste;*
- (e) *provide information, instruction, supervision and training to any person engaging in the activity to enable those persons to comply with the duty under subsection (1).*

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Based on information assessed in this application, EPA considers the design to be generally representative of understood and operational technology at the commercial scale. The likelihood and impact of harm is understood and suitably managed under the GED.

**EPA conclusion:** The applicant has taken measures or proposes to take measures to comply with the GED. The application meets the requirements of the GED.

## 5.1.3 Flaring at the LIP

### Community submissions

Through community submissions, EPA was made aware of existing issues with black smoke events during flaring at the LIP. On 14 April 2022, EPA asked the applicant for more information (pursuant to section 44(1)(c) of the EP Act) on flaring of ethane as part of the proposal and its relationship with flaring at the LIP.

Submitters had concerns about how flaring at the LIP would be impacted or changed as a result of the proposed activity. Concerns raised included:

- Flaring is generating a lot of smoke – when will this be resolved?
- Flaring at the LIP should be reconsidered.
- Concerns over the *Environment Protection Act 1970* exemption related to installing minimum controls for the flare.
- Flaring is causing impacts and does not meet acceptable standards.
- The LIP had not been upgraded and no longer demonstrated best practice.
- Current operation contributes to particle emissions that fall out in wetlands.
- Lack of information on the annual volumes of ethane, propane and butane flared at LIP over the past three years.

### Application

The applicant submits that flaring will still be required for safety reasons and the risk of flaring cannot be eliminated. However, the amount of flaring from the LIP should reduce through the adoption of this proposed activity. Two reasons were put forward to support this submission:

- The ethane fuelled generators will reduce the frequency of ethane flaring during planned or unplanned maintenance events at the plastic manufacturer in Altona.

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- Ethane will not be flared due to issues or disturbances related to the pipeline to Altona.

The application includes justifications as to why the current flares, using water-assisted smoke suppression, have reduced risks so far as is reasonably practicable, specifically for ethane flaring.

The applicant also proposes that ethane flaring did not cause or contribute to black smoke events at the LIP except when flaring requires relief greater than 7 per cent of the maximum relief. Further information was also provided on the risk of harm associated with flaring during non-smoky events.

## EPA assessment

EPA reviewed the information provided on the potential flaring of ethane gas now and in the future at the LIP.

The applicant has identified the risks associated with flaring at the LIP and potential measures to reduce risks as far as is reasonably practicable. The applicant submits that flares are used for safety during operational disruptions or emergency shutdowns.

The applicant submits that smoke is primarily caused by flaring of butane and propane. Ethane flaring could cause smoke during events requiring flare relief greater than 7 per cent of maximum relief. In the European Commission's document *Best Available Techniques (BAT) Reference Document for the Refining of Mineral Oil and Gas*, BAT conclusion 55 and 56 relate to flares. BAT 55 states that flaring should only be used for safety reasons or non-routine operations.

BAT 56 has the following information on flare design:

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*Flares design: includes height, pressure, assistance by steam, air or gas, type of flare tips, etc. It aims at enabling smokeless and reliable operations and ensuring an efficient combustion of excess gases when flaring from non-routine operations.*

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Accordingly, appropriate methods to prevent smoke from being generated when flaring is required include using steam, air or gas as the smoke suppressant. The LIP is fitted with water as the principal way of suppressing smoke. The LIP plant was built in the 1970s and there have since been improvements in how to design plants, including smoke suppression.

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The applicant is installing power generators to minimise ethane flaring and submits that flaring is unlikely to contribute to smoke being generated as part of flaring since butane and propane are the primary cause of smoke when flared. There is an exception to this when the relief requires flaring of 7 per cent above maximum relief case. Flaring events that are 7 per cent above the maximum relief case occurs once every one to two years.

The application sets out that some of the techniques have not been selected due to the limitations associated with cost, length of the project and current infrastructure.

The application also includes *Ambient Air Screening Report 2019* which concludes that there was no correlation between exceedances of ambient air quality standards and site flaring. This study did not include any flaring events that created large volumes of smoke. EPA has reviewed the study and confirms that is what is indicated by the data, but that a longer study is needed to better understand impacts on ambient air quality from flaring at the LIP.

The community raised an important concern about the *Protocol for Environmental Management – Minimum Control Requirements for Stationary Sources*. Within that document, Table 21 outlines the following emission requirements for safety relief flares:

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All flare systems shall operate smokelessly under routine plant operating conditions and shall employ a staged design to promote smokeless combustion or shall be equipped with a steam or air suppression system.

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In relation to that text, the following is stated (among other things):

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Excludes water suppressed flares at the Esso Longford oil and gas plant, the Esso Long Island Point fractionation plant and pit flares equipped with water suppression systems.

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The Protocol mentioned above was developed as a document empowered by the *State Environment Protection Policy – Air Quality Management*, which was developed under the *Environment Protection Act 1970* and resulted in an exemption being given to the LIP. Under the EP Act of 2017, this exemption no longer exists, and generators of risk have an obligation to reduce risks as far as is reasonably practicable.

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The application refers to a 2018 study that concludes that the plant at the time was considered compliant with BAT 55 and BAT 56. The primary reasons for it being compliant were:

- given the current design of the plant, it would take a major shutdown of the plant to replace or re-engineer the flares
- the cost of replacing or re-engineering the flares would be too high with the expected lifetime of the LIP.

EPA accepted the rationale, including the proposed improvements put forward as part of that study. It is important to note that the study was done when the *Environment Protection Act 1970* was in force and that it has not been considered in light of the current EP Act (2017). The applicant stated in their application that consultants have been engaged to revisit the study in light of the EP Act 2017.

The primary arguments as to why flaring has not been further investigated as part of this proposal include:

- ethane does not result in smoke when flared except during rare events
- the risk of harm from flaring ethane is considered low and is required as a safety feature of the LIP
- what is currently installed is considered reasonably practicable in relation to risks associated with ethane flaring.

EPA accepts the evidence in the application that the flaring of ethane is unlikely to produce black smoke given it has an approximate carbon to hydrogen mole ratio of 0.33. Propane and butane are likely to be the cause of smoky events with an approximate carbon to hydrogen mole ratio of 0.4 and 0.37 respectively. EPA notes that there are events where ethane flaring does cause black smoke.

EPA understands that this proposal is limited to handling ethane that is generated at the LIP. EPA accepts the evidence submitted by the applicant to exclude propane and butane flaring from this assessment. Although relevant in a broader context, this application does not specifically assess the suitability of flaring butane and propane at the LIP.

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## **EPA conclusion:**

Ethane is unlikely to cause smoke when flared.

The risk of harm is expected to be low from flaring ethane based on the information available.

This proposal will reduce the amount of flaring of ethane since it will stop relying on the existing pipeline to the current taker of ethane, and with three gas turbines, maintenance can be scheduled to reduce the amount of flaring required.

The cost of retrofitting the existing LIP to better suppress smoke is not proportionate to the risk of harm of flaring ethane, when considering the GED.

In coming to these conclusions, EPA highlights that it has not assessed if the applicant is fulfilling their obligations under the GED for operational factors outside the activity proposed in this application. That is, flaring of butane and propane at the LIP. Such a review will occur as part of the operating licence review of the LIP, as required under section 76 (Review of operating licences) of the EP Act.

## **5.1.4 VOC reduction**

### **Application**

Incomplete combustion of a fuel generates Volatile Organic Compounds (VOCs). Techniques exist to reduce the quantity of VOCs emitted, but combustion of ethane will unavoidably generate VOCs.

Based on a study in the USA, the primary VOCs from gas fired turbines relevant to air quality were formaldehyde, toluene and benzene. After examining the EPA Air Pollution Assessment Criteria (APAC), one additional compound was added to VOCs of concern – acetaldehyde. Three methods were examined to help minimise the VOCs emissions:

1. Operational controls to maximise combustion
2. Installing an oxidation catalyst
3. Using an alternative fuel

The applicant elected to adopt method 1, submitting that method 2 is not reasonably practicable due to the cost of installing the equipment. Method 3 is not an option due to the objective of the proposal (to combust excess ethane for power).

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## EPA assessment

In the context of combustion, VOCs are the collective name for volatile organic air pollutants generated when a material is combusted. The modelling presented in the application shows a maximum ground level concentration (including onsite) of 33.1  $\mu\text{g}/\text{m}^3$ . That was compared to the APAC of 580  $\mu\text{g}/\text{m}^3$  (1 hour) for benzene, 100  $\mu\text{g}/\text{m}^3$  (30 minutes) for formaldehyde and 15,000  $\mu\text{g}/\text{m}^3$  (1 hour) for toluene.

To reduce the generation of VOCs, the applicant has put forward operational controls and investigated whether an oxidation catalyst should be installed. The operational costs associated with installing an oxidation catalyst has been estimated to be US\$100,000 for each tonne of VOC removed. The plant is expected to generate up to 157 kg per day of VOCs, which could cost up to AUD\$4.5 million per year in operational costs.

**EPA conclusion:** Installing further measures (specifically the oxidation catalyst) would not constitute reducing the risk as far as is reasonably practicable. Further testing is required as part of commissioning to better understand the emissions from the plant (see condition DL\_R1 in Appendix E).

## 5.1.5 Proposed turbine technology

### Application

In developing its design and considering what would be BATT, the applicant investigated three types of technologies:

- Open Cycle Gas Turbines (OCGT)
- Combined Cycle Gas Turbines (CCGT)
- Cogeneration.

OCGT uses ambient air and fuel to heat the air. The air is then used to drive a turbine that generates electricity and air is exhausted as shown in Figure 3.

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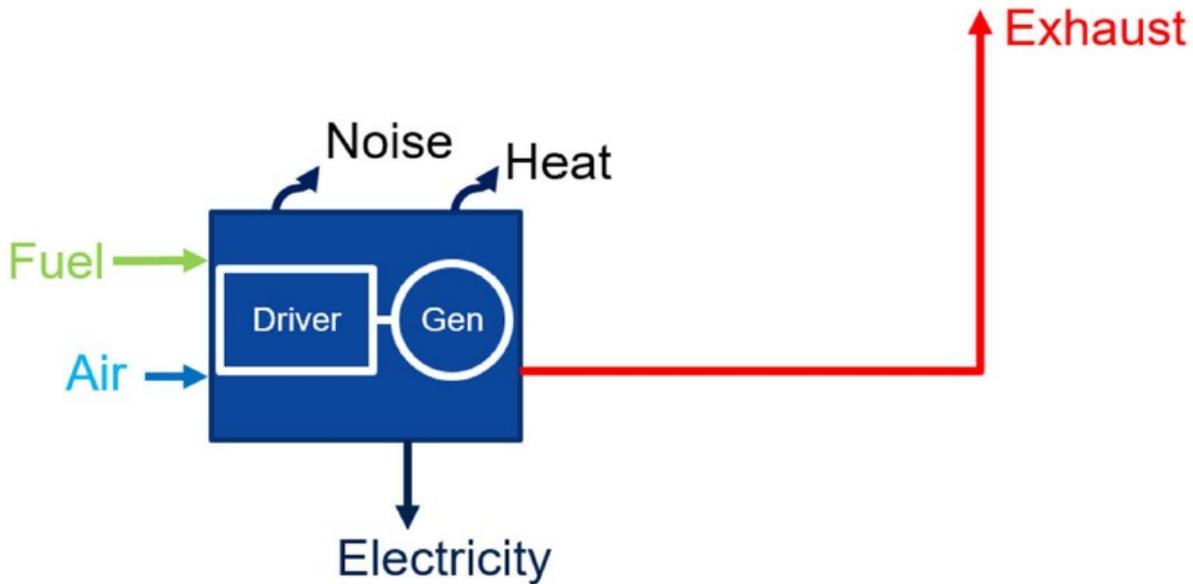


Figure 3: Simplified diagram of OCGT technology

CCGT uses both a combustion turbine and a steam turbine. The turbines drive a generator that produces electricity. CCGT would require water cooling to allow for pumping of the water back into the heat recovery system. A simplified flow diagram of CCGT is outlined in Figure 4.

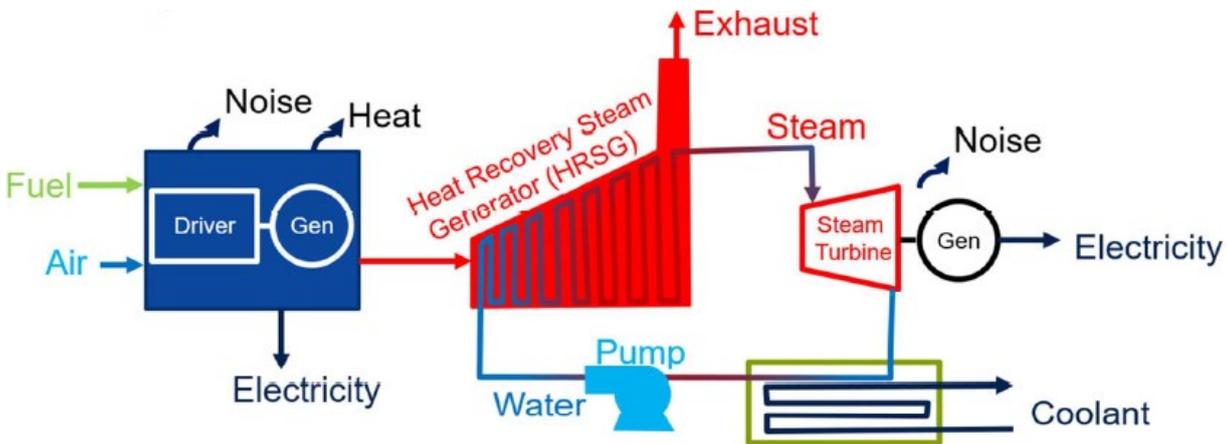


Figure 4: CCGT process, including the two outputs of electricity

Cogeneration is similar to CCGT with the difference that the water/oil/steam can be used in a different process (Figure 5).

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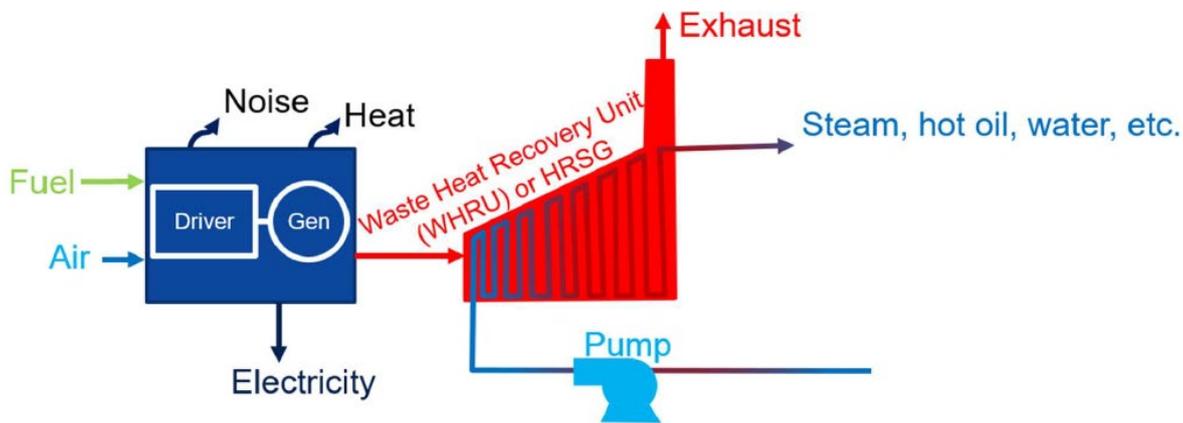


Figure 5: Simplified diagram of the cogeneration process. The steam, hot oil, water, etc. could be used in a different process where there is a need for that to be produced.

The applicant considered OCGT and CCGT and submitted that there was no viable uptake of steam or heated oil. A full comparison of the two systems can be found in section 3.4 in DL Attachment 3 Project Alternatives of the application (available from [www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd)).

Fluctuation in ethane volumes, pressure, quality and emissions appear to be the main reasons why the proposal is based on an OCGT rather than a CCGT system. The applicant submitted that an OCGT system could be installed more quickly and at less cost.

It is noted that the applicant proposed an OCGT system rather than a CCGT system notwithstanding:

- energy efficiency of CCGT is 50 to 60 per cent compared to OCGT at 30 to 35 per cent
- power capacity of CCGT is 48 MW compared to OCGT 40 MW.

## EPA assessment

EPA notes that the community raised specific concerns about using ethane to generate electricity.

Based on EPA's understanding, the preferred use of ethane is to make plastics, since this reuses the gas rather than using it to recover energy. Reusing the ethane is higher in the waste management hierarchy.

EPA accepts that avoiding the production of ethane is not possible since it forms part of the gas produced at the LIP. However, EPA concludes that if current arrangements

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for reuse are no longer viable, generating electricity from the ethane is preferable to flaring without energy recovery. Flaring the ethane is considered as waste disposal and sits at the bottom of the waste management hierarchy. In reviewing the uses of ethane, alternative options other than reuse, recovery of energy and waste disposal have not been provided to EPA.

The two gas combustion technologies were compared by the applicant. CCGTs will emit more NO<sub>x</sub> due to the fluctuating demand in natural gas. When the demand goes up, more ethane will be generated, and thus more gas will need to be combusted. Fluctuating levels of ethane is a feature of the operation at the LIP.

The scheduled delivery of a CCGT would be longer and is likely to result in more gas being flared which would also have a higher risk of impact on human health and the environment.

The capital costs for OCGT are estimated to be AUD\$90 million, compared to the AUD\$150 million for CCGT. In considering the risks to human health and the environment and reducing that risk so far as is reasonably practicable, the OCGT is considered suitable due to less emissions (although a higher greenhouse gas intensity as discussed under *Best Available Techniques or Technologies* in this assessment).

**EPA conclusion:** After consideration of emissions, greenhouse gas intensity, energy efficiency and the costs of relevant technologies, the proposed OCGT technology is considered suitable as a means of reducing risks to human health and the environment so far as reasonably practicable.

## 5.1.6 Noise

### Application

The application explained how risks of noise would be reduced so far as is reasonably practicable. This included both general and specific information on noise mitigation measures relating to equipment, administration and monitoring.

### EPA assessment

The application identifies suitable controls to reduce noise impacts from construction and operation. The applicant has noted that it will, as required by the GED, continue to assess and control risks of harm from noise during construction and operation of the plant.

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**EPA conclusion:** A condition is needed to better understand all specific measures that will be implemented before starting construction (see condition DL\_R4 in Appendix D).

## 5.2 Impact on human health and the environment, including impact on any environmental values

EPA must refuse a DL application if it considers that the proposed activity poses an unacceptable risk of harm to human health or the environment. EPA concludes that the proposal will not generate an unacceptable risk of harm to human health or the environment.

### 5.2.1 Air

#### Community submissions

As highlighted in section 3.1 of this assessment report, potential emissions of pollutants were a community concern with specific issues raised including:

- air emission impacts on surrounding residents
- impacts on health on surrounding residents
- maximum throughput and maximum air emissions
- ethane leaking into environment
- members of the public living close to coal/gas processing live 10 years less.

#### Application

The construction of the plant will generate minor air emissions which have all been categorised as small dust impacts. The dust generating activities include demolition, earthworks, construction and track-out (soil, mud or dirt on paved surfaces).

As part of the combustion process of the ethane gas, pollutants are generated. The application identified the following pollutants as being of principal concern to human health and the environment:

- nitrogen dioxide (NO<sub>x</sub>)
- carbon monoxide (CO)
- particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- sulphur dioxide (SO<sub>2</sub>)

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- VOCs (two-thirds formaldehyde and one-third benzene, polycyclic aromatic hydrocarbons, toluene and xylenes).

Modelling was done to better understand the potential impacts for each of these pollutants. Modelled values were compared against the Environment Reference Standard (ERS), Air Pollution Assessment Criteria (APAC) and the National Environment Protection (Ambient Air Quality) Measure (NEPM). The primary sources of emissions were identified as:

- combustion of ethane
- construction activities (e.g. earthworks)
- vehicles during construction.

Table 3 shows a summary of the adopted criteria from the application.

Table 3: Summary of the adopted criteria taken from the application

Substance	Reference	Averaging period	Statistic	Adopted criteria <sup>1</sup>	
				ppm	µg/m <sup>3</sup>
Nitrogen dioxide (NO <sub>2</sub> )	AAQ NEPM (2021)	1 hour	99.9th percentile	0.08	150
		1 year	Maximum	0.015	28
Carbon monoxide (CO)	ERS	8 hours	Maximum	9.0	10,310
Particles as PM <sub>10</sub>	ERS	1 day	Maximum	-	50
		1 year	Maximum	-	20
Particles as PM <sub>2.5</sub>	ERS	1 day	Maximum	-	25
		1 year	Maximum	-	8
Sulphur dioxide (SO <sub>2</sub> )	AAQ NEPM (2021)	1 hour	99.9th percentile	0.10	260
		1 day	Maximum	0.02	50

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Substance	Reference	Averaging period	Statistic	Adopted criteria <sup>1</sup>	
				ppm	µg/m <sup>3</sup>
Benzene	AQACs	1 hour	99.9th percentile	0.18	580
Formaldehyde	AQACs	30 minutes	99.9th percentile	0.08	100

<sup>1</sup>Note: Gas volumes are expressed at 25 °C and at an absolute pressure of one atmosphere (1013 hPa).

AERMOD (V21112) was used for dispersion modelling. For the purposes of air dispersion modelling, nine sensitive receptors were identified (see Figure 4 in [DL Attachment 6 Air Quality Assessment](#) of the application). Climate data from Cerberus station was used for the site (data taken from the Bureau of Meteorology). The applicant did not have background air quality monitoring data and relied on EPA's monitoring stations in Geelong, Alphington and Dandenong for NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. The applicant submitted that the values used for background air quality are very conservative. Both 70th percentile and time varying background were used to understand background air quality. Time varying background was presented for all pollutants except for CO.

Indicative data from the manufacturer was used to understand the emission of pollutants of interest. Maximum ethane combustion rates were used in the modelling. The emissions from the LIP were included in the modelling.

The results were presented as the 1-hour average 99.9th percentile in µg/m<sup>3</sup>.

The results from the modelling indicated exceedances of PM<sub>10</sub> and PM<sub>2.5</sub> which the application stated were due to the high level of background values. The high background values were attributed to bushfire activity, jurisdiction authorised hazard reduction burning or continental scale windblown dust. The maximum contribution of the ethane plant was 1.32 µg/m<sup>3</sup> for PM<sub>10</sub> which is beneath the NEPM criteria of 80 µg/m<sup>3</sup>. The maximum contribution from the plant of PM<sub>2.5</sub> was 0.20 µg/m<sup>3</sup> which is beneath the NEPM criteria of 50 µg/m<sup>3</sup>. The applicant submitted that the contributions from the ethane plant would be negligible.

Background data for VOCs was not available (neither as a group nor for individual compounds). The maximum incremental value for VOCs was 5.9 µg/m<sup>3</sup>.

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EPA notes that the applicant does not propose to install filtration or alternative systems to remove particle matter, with it submitting that only minor amounts of particulate matter are generated as part of a gas combustion process.

The applicant submits that sulphur oxides (SOx) reduction is not required due to the concentration of hydrogen sulphide (HS<sup>2</sup>) within the ethane fuel being at negligible concentrations (0.00001 per cent).

The gas combusted within the plant is 99.1 per cent ethane, 0.56 per cent methane, 0.35 per cent propane, with the remaining being i-Butane (0.001 per cent) and HS<sup>2</sup> (0.0001 per cent).

EPA notes that ethane is a fuel that has a higher risk of flashback. This is rectified by implementing a pilot flame between the pre-mixer and the combustion chamber. Further, during prolonged shutdown events, the applicant submits that ethane will be managed at the LIP to reduce the emission of unburned hydrocarbons.

During generator shutdown, of generators in this proposal, the applicant submits that some ethane will be vented to atmosphere through the single vent that is installed as part of the proposed design of the ethane power plants. The expected amount of ethane vented has been estimated by the applicant to be 1 litre per event. The plant is fitted with a relief blowdown system that will be used during emergency shutdown. During an emergency shutdown, the applicant estimates that 10 kg of ethane is expected to be vented to atmosphere with the frequency estimated to be not more than one emergency event per year.

## **EPA assessment**

Environmental values of ambient air are listed in Table 2.1 of the [Environment Reference Standard](#) (ERS). Indicators and objectives of achieving the values are listed in Table 2.2 of the ERS. In the absence of measured background ambient air quality, the applicant undertook modelling to understand what the impacts would be from the ethane generator and the existing LIP. The applicant modelled VOC, NOx, CO, particle matter and SOx both for construction and operation.

To understand the impact on human health (including residents living around the site) and the environment, EPA reviewed the modelling put forward by the applicant. There was no background data on VOCs which EPA accepts with the modelling results put forward as presenting a low risk of impact to human health and the environment. VOC modelling put forward by the applicant for VOCs concludes low incremental

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contributions of benzene and formaldehyde. EPA accepts that the risk is low and accepts that no background data was collected.

EPA determined that the methodology, the pollutants identified as relevant for this proposal and the conclusions made by the applicant are sound.

To understand the impacts from the proposal, the applicant compared the modelling data against the APAC and NEPM values. The APAC are criteria used to understand air quality impacts. They are not compliance standards but provide valuable information to quantify impacts. The modelling concluded that the project will not exceed any of the APAC and that the contribution of the proposal is low.

The gas being combusted does not contain mercury and thus EPA considers that it does not contribute to emissions that need to be investigated further under the Minamata Convention on Mercury.

Exceedances were modelled for PM<sub>2.5</sub> and PM<sub>10</sub> of the environmental value criteria which was attributed to high background concentrations. EPA accepts that this is due to the low incremental contribution of the plant and the absence of more representative air monitoring.

## **EPA conclusion:**

The risk of this proposal having a significant negative impact to environment and human health is low. This has been demonstrated through appropriate conservative estimations of emissions, robust air modelling and assessing the modelling against relevant criteria. However, the actual emissions will need to be verified throughout commissioning Proof of Performance testing (required to be detailed under condition DL\_R1(2)) and during operation (NO<sub>x</sub> and CO) through the CEMS installed (as required by condition DL\_W8). Refer to Appendix E: Draft Conditions.

## **5.2.2 Noise**

### **Community concerns**

EPA understands the community raised concerns about noise, and specifically cumulative and low frequency noise in response to additional information provided by the applicant.

### **Application**

To understand the impacts to the environmental segment from noise, the application included a noise impact assessment. As part of that assessment, modelling was

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undertaken to understand the noise levels at four sensitive areas. Effective noise levels and cumulative effective noise levels were compared against the noise limits set out in the EPA noise protocol.

Low frequency noise modelling was supplied as additional information. The application included modelling of low frequency noise in SoundPlan using the CONCAWE algorithm. Based on modelling, the project may result in exceedances of low frequency noise levels as outlined in EPA publication *1996: Noise guideline – assessing low frequency noise* in bands 60 Hz, 63 Hz and 100 Hz. The application submits that the exceedance falls below the baseline and low frequency noise is unlikely to be audible.

## EPA assessment

EPA has reviewed community concerns and information in the application (including additional information provided). EPA reviewed the noise limit zoning levels and concluded that the limits have been correctly calculated.

The noise assessment prepared by the applicant included measurements of background levels. The levels recorded at 15 A Lyall Street and 11 Cemetery Road in Hastings included substantial industrial noise and are therefore not considered valid background measurements. The industrial noise was attributed to United Hasting Terminal. Equivalent measurements were used instead.

To better understand the impact from this proposal, EPA requires a condition to update the noise report using both noise sensitive areas and/or alternative assessment locations that are considered representative of the noise exposure from the project (see condition DL\_R4 in Appendix E).

The applicant provided updated information on cumulative noise, but EPA notes that this did not take into account contributions from other local industries, such as BlueScope, BOC Westernport Production site and the United Petroleum Hastings Terminal. Additionally, detailed noise modelling calculations using the  $L_{Aeq,30min}$  metric rather than the  $L_{A90}$  metric were not provided, nor was a noise characterisation of the LIP.

Accordingly, there is some risk of exceedances to noise limits when accounting for cumulative noise outside the control of the applicant. However, since the LIP is operated within the control of the applicant, the risks are considered to be adequately controlled through the finalisation of individual equipment choices during detailed design. To ensure this matter is fully resolved, EPA requires under condition the

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provision of further detailed design and an updated noise assessment to confirm the verification of modelled noise levels.

The applicant specifically considered one source of low frequency noise (the exhaust stacks) with the modelling undertaken predicting exceedances of 1/3 octave bands thresholds outdoors in EPA publication 1996 (50 Hz, 63 Hz, 80 Hz and 100Hz). The applicant submits that this likely to only be faintly audible.

The main risks will be 50 Hz and 63 Hz, with the A-weighted 1/3 octave band spectra indicating a risk of tonal noise at 50 Hz. Based on the information provided, the outstanding risks warrant a condition where the applicant needs to review available and suitable controls to minimise the risk of high acoustic energy in the low frequency range.

The applicant submits some low frequency noise mitigation measures and that other noise mitigation controls will be adopted opportunistically. To better understand which mitigations will be implemented, EPA imposes a condition that relates to understanding the details of those mitigation measures implemented and verified.

The applicant submits that the proposal will not have a tonal character. This submission is not fully supported by the evidence in the application. Accordingly, EPA will impose a condition to better understand this aspect of the proposal.

## **EPA conclusion:**

There are some outstanding risks to the environment and human health associated with the noise emitted from the proposed development, all of which will need to be addressed before starting construction (see condition DL\_R4 in Appendix E).

## **5.2.3 Contaminated soil**

### **Application**

As part of the preparation work for construction, soil will need to be moved to prepare for piping installation and foundation work. The applicant proposes to:

- reuse soil classified as clean fill and dispose of contaminated soil at a lawful place
- dispose of wash water generated from cleaning the turbines (once every five years) offsite at a lawful place
- send scrap metal for recycling where possible

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- segregate and dispose of non-hazardous industrial waste (e.g. paper, cardboard, food waste, packaging materials and scrap metals) with other non-hazardous waste generated at the site
- segregate reportable priority waste and send it to a lawful place using the EPA Waste Tracker system.

This assessment does not require EPA to form any views on the applicant's general proposal for managing and disposing of industrial waste. EPA notes that the EP Act, EP Regulations and EPA guidance provide a detailed framework for the lawful disposal of industrial waste.

## EPA assessment

While the proposal does not contemplate any planned discharges to land, EPA determines that this is sufficiently managed to address risk of pollution from chemical spills or waste disposal.

The applicant completed a preliminary evaluation of existing land conditions to understand some of the existing risks at the site. This is considered sufficient with the commitment from the applicant to handle any contaminated waste in line with the EP Act.

Risks associated with construction are common and well understood. To provide more clarity on this, EPA requires the applicant to develop and submit for approval updates to the CEMP, specifically requiring detailed information on further investigations of potentially contaminated land. This is reflected in Condition DL\_W1 (see Appendix E).

Overall, the risks related to contaminated land are considered low due to:

- preliminary work undertaken
- the applicant undertaking further work
- the conditions imposed.

**EPA conclusion:** The impact on human health and the environment relating to contaminated soil is low, subject to conditions.

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## 5.2.4 Stormwater and water use

### Application

The day-to-day operation of the plant does not require water to be supplied. Mitigation measures have been put in place to reduce the risk of contaminated stormwater leaving the site. Those measures include:

- lube oil tanks and gas turbines fitted with a drip pan to collect any spills with material collected will be disposed of at a lawful place
- installing turbines, fuel conditioning skids, electrical equipment and transformers in a bunded area using concrete as base
- conducting maintenance work, where possible, using lubricants in a bunded area.

Sewage generated from workers (maximum five staff) will be connected to LIP's sewage system.

The applicant is managing stormwater using the above preventative measures to ensure that water entering the stormwater system is not contaminated.

Potable water and firefighting water are available by connecting to the existing water main.

### EPA assessment

The operation of the plant does not include use of potable water. EPA accepts the applicant's risk assessment in relation to sources of contaminating stormwater and the proposed mitigation measures to reduce the risks of such contamination.

Sewage from the workers will be connected to LIP treatment system. EPA determines the impact to waters from the proposal to be low. No further mitigations are proposed from EPA.

**EPA conclusion:** The risk to the environmental segment water is low. Impact of the activity on human health and the environment, including impact on any environmental values is considered low.

## 5.3 Principles of environmental protection

The application includes information on how the activity aligns with the principles of environmental protection.

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## 5.3.1 EPA assessment

EPA needs to consider how the proposal aligns with the principles of environmental protection as outlined in Part 2.3 of the EP Act.

Table 4: Principles of environment protection in Part 2.3 of the EP Act

Principle	Assessment
Principle of integration of environmental, social and economic considerations	The applicant has investigated alternatives for the ethane generated at the LIP. EPA has reviewed the proposed equipment to be installed and concluded that it is appropriate based on the risk with the proposal (see assessment of measures taken to comply with the GED and BATT). The location of the site has also been assessed based on the information put forward. EPA concludes that it is suitable balancing environmental, social and economic aspects.
Principle of proportionality	EPA has reviewed the methods proposed to minimise risk of harm to human health and the environment in this assessment. EPA concludes that the methods put forward are suitable and thus that the application aligns with this principle.
Principle of primacy of prevention	EPA has reviewed the application to understand what is proposed to prevent harm to human health and the environment. EPA concludes that the application aligns with this principle.
Principle of shared responsibility	The applicant provides an essential service to Victoria. The applicant has evaluated other options before putting this proposal forward. EPA is satisfied that this application aligns with this principle.
Principle of polluter pays	The applicant has outlined some uncertainty around contaminated soil on site. The applicant has committed to managing any contaminated soil in line with the EP Act. EPA will also propose a condition to require updates to the CEMP. With the commitments from the applicant and condition DL_W1, EPA is satisfied that this application aligns with this principle.
Principle of waste management hierarchy	EPA has undertaken a technical review of this application. While there currently are options of using ethane higher up in the hierarchy, if those options were no longer available, EPA accepts that the best option is to combust the ethane to generate electricity. That option is superior to flaring the ethane which is further down the waste management hierarchy. EPA concludes that this proposal aligns with this principle.

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Principle	Assessment
Principle of evidence-based decision making	EPA has done a technical review of that information in this application and concluded that it is based on the best available evidence. EPA concludes that the application aligns with this principle.
Precautionary principle	The applicant has taken a precautionary approach to estimating its impact on human health and the environment. The application has also reviewed the various risks with the proposal and put forward how to reduce risks so far as is reasonably practicable. EPA concludes that the application aligns with this principle.
Principle of equity	Greenhouse gases generated from the project only accounts for a small portion of the state's total emissions. The applicant has also put forward an application that estimates that generation of ethane will slow down with time due to the transition to renewable sources of energy. As that transition is happening, there will be a continued need for gas to be used in households. EPA takes the view that the application aligns with this principle.
Principle of accountability	EPA and the applicant have both engaged with the community to understand concerns. The applicant made information publicly available on EPA's website and answered questions from members of the public. EPA takes the view that the application aligns with this principle.
Principle of conservation	The applicant has taken measures to reduce the footprint of the facility given its location. The site will be in an area that is appropriately zoned adjacent to the existing LIP. The application is preferred to flaring the ethane from a biodiversity perspective due to the controlled manner in which the gas can be combusted. EPA takes the view that the application aligns with this principle.

**EPA conclusion:** The application aligns with the principles of the EP Act, subject to conditions.

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## 5.4 Best Available Techniques or Technologies

EPA guideline 2011 uses the following description for BATT:

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Best Available Techniques and Technology (BATT) can be understood as the most effective and advanced stage in the development of activities and their methods of operation.

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EPA has assessed the application against this definition to see whether the proposal includes BATT. EPA needs to take BATT into account when determining whether to issue a DL.

### 5.4.1 Air pollution controls

#### Community submissions

Through its engagement, EPA understood that submitters had concerns about air pollution controls of this proposal. Concerns raised included:

- Air pollution controls should include scrubbers.

#### EPA assessment

Scrubbers are often used to reduce the concentration of acid gases (relevant to this proposal). The applicant has put forward Dry Low NO<sub>x</sub> as the technology to reduce the concentration of NO<sub>x</sub> in the flue gas. The concentration of HS<sub>2</sub> is 0.0001 per cent of the gas combusted in the plant. During times when the LIP amine plant is not operational, the maximum modelled SO<sub>x</sub> contribution from the three ethane turbines was 0.11 µg/m<sup>3</sup> with the criterion being 260 µg/m<sup>3</sup>.

**EPA conclusion:** EPA considers the impacts during times when the LIP amine plant is not operational to be very low and thus scrubbers would provide marginal benefit.

### 5.4.2 NO<sub>x</sub>

#### Application

The application describes two catalytic methods to reduce NO<sub>x</sub>:

- Selective Catalytic Reduction (SCR)
- Selective Non-Catalytic Reduction (SNCR)

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Both methods are commonly used in combustion processes to reduce the amount of NO<sub>x</sub>. SCR has performance related issues that would make it unsuitable for an OCGT system.

Both SCR and SNCR will generate an ammonia slip which is the release of ammonia into the environment. The amount of ammonia generated varies with the dosing and the concentration of NO<sub>x</sub> in the combusted gas.

Ammonia is a compound that impacts human health and the environment ranging from minor to severe symptoms based on the exposure concentrations.

NO<sub>x</sub> are generated as part of combustion. Higher temperatures generate more NO<sub>x</sub>. To reduce the temperature, a diluent (a substance used for dilution) can be added into the air fuel mixture. The applicant considered the following two technologies:

- Dry Low NO<sub>x</sub>
- Wet Low NO<sub>x</sub>

Dry Low NO<sub>x</sub> mixes air in with the fuel to reduce the temperature of combusted gases. Part of the method is to ensure that the additional air is sufficiently mixed to avoid heat pockets within the gas. A pilot flame is incorporated to stabilise, ensure complete combustion and minimise the risk of generating carbon monoxide. The relative amount of air added is low.

Wet Low NO<sub>x</sub> injects water into the flame area of the plant. This acts as the heat sink achieving a similar effect to Dry Low NO<sub>x</sub>. Using Wet Low NO<sub>x</sub> achieves a high reduction of NO<sub>x</sub> but generates more carbon monoxide and hydrocarbons.

Based on an evaluation, Dry and Wet Low NO<sub>x</sub> can achieve a discharge of 25 ppm of NO<sub>x</sub>, reducing it down from between 99 to 450 ppm. The application submits that Dry Low NO<sub>x</sub> is the best available technology for a OCGT ethane plant.

## EPA assessment

EPA has assessed the proposed use of Dry Low NO<sub>x</sub> to determine if it constitutes BATT. Alternatives to Dry Low NO<sub>x</sub> are SNCR and SCR. SNCR uses urea injected into the process and reacts with water to create ammonia which reacts to reduce the NO<sub>x</sub> emission. For SCR, air passes over a catalytic bed where the same reaction happens as for a SNCR. Both processes generate an ammonia slip which is the excess ammonia emitted by reducing the NO<sub>x</sub> emissions.

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**EPA conclusion:** EPA considers Dry Low NO<sub>x</sub> to be BATT. This conclusion is based on the predicted NO<sub>x</sub> emissions since Dry Low NO<sub>x</sub> does not create an ammonia slip, which would be an additional emission from catalytic reactions.

## 5.4.3 OCGT and CCGT

### Application

As per section 6.1.5.

### EPA assessment

EPA considers steam or hot water generation to be BATT when there is a potential uptake, for example for use in an industrial process or district heating. The applicant has investigated the potential for hot water and/or steam uptake and concludes that there is no such uptake close to the plant.

EPA considers that generating steam or hot water for use in a steam turbine is BATT because it's more energy efficient than a gas turbine. The applicant has investigated this and concludes that there is no uptake of steam.

The proposal has been put forward with an expected life of 10 years which also comes into consideration when looking at any future uptake of steam and/or hot water. The efficiency has been estimated to be 50–60 per cent for an CCGT compared to 30–35 per cent for an OCGT. This means that a CCGT could produce 15–30 per cent more electricity than when using an OCGT.

The efficiency does make a difference in the greenhouse gas intensity between the two technologies. EPA concludes that there are clear advantages to building an OCGT plant over a CCGT plant from an energy efficiency perspective (including greenhouse gas intensity).

The greenhouse gas intensity from an OCGT is expected to be higher (16 per cent higher) than for a CCGT plant. NO<sub>x</sub> emissions are expected to be lower with a OCGT due to it being flexible in ramping up and down ethane combustions, something that is expected due to changes in production of ethane.

**EPA conclusion:** In the context of BATT, what has been put forward is not considered to be BATT. After considering the trade-off in emissions, emission intensity, costs and energy efficiency, the proposed CCGT technology is suitable (see section 6.1.5 in this report).

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## 5.4.4 Flare

### Application

As per section 5.1 of this assessment.

### EPA assessment

As part of this assessment, EPA specifically assessed BATT for flaring of ethane at the LIP. EPA concludes that the current smoke suppression system is not considered BATT. EPA concludes that BATT would be to implement steam-assisted, air-assisted or gas-assisted flaring.

**EPA conclusion:** The risk of flaring ethane does not warrant further changes to be implemented at the LIP (see section 6.1 Measures the applicant has taken or proposes to take to comply with the general environmental duty, regarding the activity in this report).

## 5.4.5 Oxidiser catalyst

### Application

As per section 6.1.4 of this assessment.

### EPA assessment

EPA understands that an oxidiser catalyst would reduce the VOC emissions by between 50 to 57 per cent. EPA concludes that installing an oxidation catalyst would constitute BATT to reduce all VOC emissions from the proposal.

**EPA conclusion:** EPA has assessed the risk of harm from the proposed VOC emissions and concludes that installing an oxidation catalyst would not be proportionate to the risk of harm (see section 6.1 Measures the applicant has taken or proposes to take to comply with the general environmental duty, regarding the activity in this report).

## 5.4.6 Continuous emissions monitoring systems

A continuous emission monitoring system (CEMS) will be adopted in each exhaust stack. The CEMS will be installed for CO and NOx. These systems will have a direct impact on the ability to optimise operation of the activity and achieve maximum combustion (Method 1: Operational controls to maximise combustion).

### EPA assessment

Using CEMS is considered BATT for relevant pollutants. Based on the composition of the ethane gas, the applicant has elected to implement CEMS for CO and NOx.

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Monitoring these two gases will provide valuable information to the applicant that helps with optimising the combustion of ethane and refine the Dry Low NOx system.

**EPA conclusion:** The proposed CEMS constitutes BATT for this proposal.

## 5.5 Consistency with EP Act and EP Regulations

### 5.5.1 EPA assessment

EP Regulation 112 applies to persons that hold an operating licence where a class 3 substance is generated. This assessment is for a DL, with the activity listed as a prescribed operating activity. To understand this proposal's consistency with the EP Act and regulations, the class 3 substances that this plant may emit were assessed. This enabled EPA to assess whether the applicant had taken reasonable steps to eliminate the generation of class 3 substances and – where not possible to eliminate – to reduce the generation so far as is reasonably practicable.

The class 3 substance that will be generated from this activity is benzene. To reduce the generation of benzene, the applicant outlined operational controls such as establishing optimum operating conditions during commissioning and operating one to two turbines with 100 per cent load and balancing the third one based on flowrate of ethane.

The applicant investigated the use of an oxidation catalyst and submitted that this measure was disproportionate to the risk.

**EPA conclusion:** The operational management practices implemented are sufficient to reduce the risks so far as is reasonably practicable. The application is considered consistent with the EP Act and the regulations.

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## 5.6 Comments from referral authorities

Prescribed referrals are found in section 3.2 and Appendix D.

### 5.6.1 EPA assessment

Table 5 lists EPA's consideration and response to the prescribed referral responses.

Table 5: Consideration of prescribed referral responses

Prescribed referral	EP Regulation	Response
Minister for Planning	22(1)(b)	The Minister for Planning responded under regulation 22(3)(a)(i) of the EP Regulations to advise that the activity is allowed by the planning scheme and under regulation 22(3)(a)(ii) of the EP Regulations that an application is being considered. Further the Minister for Planning elected to not respond under regulation 22(3)(b) of the EP Regulations.
WorkSafe	22(1)(d)	EPA needs to consider this referral response under section 69(3)(f) of the EP Act. EPA determined that the request from WorkSafe is risk appropriate. EPA has given the referral advice from WorkSafe to the applicant and determined that it is sufficient for the applicant to be made aware of WorkSafe's comments.
CFA	22(1)(d)	EPA needs to consider this referral response under section 69(3)(f) of the EP Act. EPA has determined that the request from CFA is risk appropriate. EPA has determined that using conditions (see conditions DL_W1 and DL_W8) will help with requiring the applicant to take actions in line with CFA's referral response.

**EPA conclusion:** EPA has taken into account prescribed referral responses.

## 5.7 Comments and submissions received during advertising period

As per section 3.1.1, EPA received 16 submissions during the public consultation period. Community concerns and questions are summarised in Appendix C. Redacted versions of the submissions together with responses from the applicant are available from: [www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd).

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## 5.7.1 EPA assessment

EPA has taken a broad view in relation to section 69(3)(g) of the EP Act and considered the submissions received through the two public consultation periods, the information session and late submissions. Throughout this assessment, EPA has considered the comments and submissions received.

In the submissions, EPA was repeatedly asked whether an Environment Effects Statement (EES) was required under the EE Act. EPA informed the community that it had raised the matter with DELWP, which advised that the applicant had submitted a self-assessment of the proposal for the purposes of the EE Act. The self-assessment is available on the [ExxonMobil website](#).

EPA notes that the decision to hold an EES process under the EE Act is a matter for the Minister for Planning.

The applicant's response to first and second round community submissions is published on the EPA dedicated website at [www.epa.vic.gov.au/esso-pty-ltd](http://www.epa.vic.gov.au/esso-pty-ltd).

**EPA conclusion:** EPA considered comments and submissions on this DL through the following:

Asking the applicant to respond to community submissions received during the first community consultation period.

Incorporating community comments on the existing LIP flare and low frequency noise (infrasound) into the second request for further information.

Considering the community comments received during the second community consultation period.

## 5.8 Any prescribed matter

There are no prescribed matters relating to DLs.

## 5.9 Risk of harm to human health or the environment

EPA must refuse a DL application if it considers that the proposed activity poses an unacceptable risk of harm to human health or the environment. This matter has been assessed above under section 5.2: Impact on human health and the environment, including impact on any environmental values. EPA concludes that the proposal will not generate an unacceptable risk of harm to human health or the environment.

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## 5.9.1 Human rights

Section 38 of the *Charter of Human Rights and Responsibilities Act 2006* states that:

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Subject to this section, it is unlawful for a public authority to act in a way that is incompatible with a human right or, in making a decision, to fail to give proper consideration to a relevant human right.

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EPA has considered human rights in the context of this proposal as outlined in Appendix F.

**EPA conclusion:** EPA has given proper consideration to the relevant human rights.

## 5.9.2 Climate Change Act 2017

### Application

The application reported on the greenhouse gas emissions associated with the proposal and presented information on scope 1, scope 2 and scope 3 emissions, with emissions divided into construction (Table 6) and operation (Table 7).

The construction emissions included 357 tonnes of carbon dioxide equivalents (CO<sub>2</sub>e). The major source of emissions was linked to operation with an annual maximum of 195,652 CO<sub>2</sub>e assuming a maximum daily average of 189 tonnes/day of ethane (see Table 8). The application did not include use offsets, that is an assumed reduction in CO<sub>2</sub>e emitted from the activity due to use of power generated by third parties. However, information was included to quantify offsets from electricity being generated.

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Table 6: Summary of greenhouse gas emissions from construction divided into scope 1, 2 and 3 emissions.

Emissions Source	Project Activity	Total emissions tCO <sub>2</sub> e		
		Scope 1	Scope 2	Scope 3
Stationary energy	Fuel consumed by construction plant/equipment	32.5	–	1.67
Transport	Fuel consumed by transport of construction materials and generators to site	–	–	1
Transport	Transport fuel consumed on site	61	–	3
Embodied carbon	Construction materials for ethane pipeline	–	–	13
Embodied carbon	Construction materials for generators	–	–	241
Waste	Transport of waste from construction site	–	–	0
Land use, land-use change and forestry	Carbon sequestration lost due to cleared land during construction	5	–	–
<b>Total</b>		<b>98</b>	<b>–</b>	<b>259</b>

Table 7: Greenhouse gas emissions from operation divided into scope 1, 2 and 3 emissions

Emissions Source	Project Activity	Total annual emissions tCO <sub>2</sub> e		
		Scope 1	Scope 2	Scope 3
Stationary energy	Generator fuel use	114,503.0	–	–
Stationary energy	Facility electricity use	–	109.3	12.5
Fugitive emissions	Fugitive emissions from the transmission pipeline	–	–	0.1
<b>Total</b>		<b>114,503.0</b>	<b>109.3</b>	<b>12.6</b>

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Table 8: Annual throughput of ethane, power and CO<sub>2e</sub> from the proposal

Year	Annual average ethane to generators (tonnes/day)	Ethane to generators (tonnes/year)	Power from generators (MWh/year)	Greenhouse gas emissions (t CO <sub>2e</sub> /year)
2023	182	66,390	282,984	187,883
2024	182	66,453	283,253	188,061
2025	168	61,368	261,578	173,671
2026	189	69,135	294,686	195,652
2027	174	63,449	270,452	179,562
2028	95	34,744	148,094	98,325
2029	90	32,885	140,173	93,065
2030	58	21,037	89,670	59,535
2031	50	18,317	78,074	51,836
2032	23	8,234	35,098	23,303
2033	8	3,054	13,019	8,644
<b>Average</b>	<b>111</b>	<b>40,461</b>	<b>172,462</b>	<b>114,503</b>
<b>Total</b>				<b>1,260,874</b>

IPCC data was used to quantify the CO<sub>2e</sub> emissions per kilowatt hour (kWh) produced (see Table 9).

Table 9: Greenhouse gas emissions per kWh based on source

Fuel source	Life Cycle Greenhouse Gas Emissions (gCO <sub>2e</sub> /kWh)		
	Minimum	Median	Maximum
Coal	740	820	910
Gas	410	490	650
Solar PV – utility scale	18	48	180

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Fuel source	Life Cycle Greenhouse Gas Emissions (gCO <sub>2e</sub> /kWh)		
	Minimum	Median	Maximum
Solar PV – rooftop	26	41	60
Wind offshore	8	12	35
Wind onshore	7	11	56

The applicant compared the total greenhouse gas emissions against Victoria’s total emissions during 2019. The contribution from this plant was calculated at 0.13 per cent of the state’s total emissions, as seen in Table 10.

Table 10: Emissions from this proposal compared to Victoria’s total emissions (reference year 2019)

Emissions source	Total greenhouse gas emissions (kt CO <sub>2e</sub> )	Per cent of Victoria’s annual total
Victoria 2019 (Scope 1+2)	91,330.00	100%
Hastings Generation Project (Scope 1+2)	114.61	0.13%
Hastings Generation Project (Scope 1+2+3)	114.62	0.13%

The climate in the Hastings area is predicted to change as follows (based on information from DELWP, 2019):

- Increase in temperature between 0.55 and 1.3°C by 2033 with the number of extreme heat days (>35°C) increasing from 8.3 to between 14 and 16 days by 2050.
- Rainfall during cool season predicted to decrease by 11 per cent by 2050 with an increased intensity of extreme rainfall events.
- Sea level predicted to rise by 12 cm by 2030.
- The numbers of days with high fire danger expected to increase.

The applicant included information on how climate change will impact the proposal. The primary risk outlined for this proposal relates to bushfire management. The application includes a commitment to put forward a bushfire management plan.

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The applicant has included information on broader climate change strategies at ExxonMobil outlining targets for 2030 in response to community submissions.

## Legislative framework

Under section 17 of the *Climate Change Act 2017*, decision-makers must have regard to climate change. This applies when considering a DL application. Specifically, the decision maker must have regard to:

- a) the potential impacts of climate change relevant to the decision or action
- b) the potential contribution to the state's greenhouse gas emissions of the decision or action
- c) any guidelines issued by the Minister for Energy, Environment and Climate Action under section 18 of the climate change act.

At the time of this decision, the Minister has issued no guidelines under section 18.

## Assessing the potential impacts of climate change relevant to the decision or action

In considering the potential impacts of climate change relevant to a DL, EPA has considered potential:

- biophysical impacts
- short and long-term economic, environmental, health and other social impacts
- beneficial and detrimental impacts
- direct and indirect impacts
- cumulative impacts.

Community submissions included concerns about how climate change would impact this proposal. Submitters commented on sea level rise and asked how the proposal would address climate related risks.

EPA has reviewed all available information on sea level rise. The proposed location for the Esso ethane power plant is one of four locations in Victoria where DELWP has completed Local Coastal Hazard Assessments in partnership with Melbourne Water, the South East Councils Climate Change Alliance, Bass Coast Shire Council, Cardinia Shire Council, City of Casey and Mornington Peninsula Shire Council. Western Port has been identified as at risk from the impacts of sea level rise.

From its assessment, EPA concludes that sea level rises will place some infrastructure at the LIP at risk. However, on the basis of all available evidence, the EPA assessment is

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that the location of the proposed ethane power station is not at risk because of rising sea levels. EPA concludes that this risk has been sufficiently considered and notes that as part of future ongoing licence reviews of the LIP, the applicant will need to consider potential climate resilience and implementing adaptation measures.

In the predicted future hotter climate, there is also an increased risk of bushfires. The site is in an area with a designated bushfire prone area overlay under the Mornington Peninsula Planning Scheme. With that and based on referral advice from the CFA, EPA considers it appropriate to impose a condition requesting the preparation of a bushfire management plan (see condition DL\_W1 in Appendix E).

## Assessing the potential contribution to the state's greenhouse gas emissions

In terms of the potential contribution to the state's greenhouse gas emissions relevant to a DL, EPA has considered potential:

- short and long-term greenhouse gas emissions
- direct and indirect greenhouse gas emissions
- increases and decreases in greenhouse gas emissions
- cumulative impacts of greenhouse gas emissions.

Emission of greenhouse gases was a significant concern for the community. EPA has considered these community comments and reviewed the application to better understand the proposal within the DL approvals process.

Based on EPA's assessment, the applicant has appropriately considered the impacts from this proposal against Victoria's climate change targets. The applicant used data for Victoria's emissions from 2019, which are the most recent figures, and are recommended for use by EPA.

The proposal would likely generate offsets from current ethane disposition, and/or from offsetting electricity from other sources. However, that has not been accounted for which is standard practice when comparing with Victoria's total greenhouse gas emissions.

The life of the project is proposed to be 10 years, with a maximum average of 189 tonnes of ethane being combusted per day to 8 tonnes per day (2033). While the activity is generating up to 195,652 tonnes of CO<sub>2e</sub> (2026) it is predicted to drop down to 8,644 tonnes of CO<sub>2e</sub> by 2033. The average annual contribution from the proposal to Victoria's 2019 CO<sub>2e</sub> emission equates to 0.13 per cent. Based on the reduction in CO<sub>2e</sub>

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over the project life and the average contribution, EPA concludes that the risk of this project to have an impact on the state's greenhouse gas emissions is low.

The applicant has provided answers to the community submissions.

## **EPA conclusion**

A DL can be issued. EPA considered this in line with the Climate Change Act, including understanding how the proposal contributes to Victoria's total greenhouse gas emissions and the impacts from climate change on the proposal.

## **5.10 Is the applicant a fit and proper person**

### **5.10.1 Environmental compliance (section 66(2)(a))**

At the time of submitting the application, the application identified two relevant offences that would make the applicant a prohibited person:

- Item 1: An incident on 21 August 2009 (conviction on 22 October 2012) for an offence under section 27A(1)(c) of the *Environment Protection Act 1970*.
- Item 2: An incident in November 2009 (conviction on 31 July 2012) for a breach under 21(1) and 21(2)(e) of the *Occupational Health and Safety Act 2004*.

If the period between the offence and EPA's decision is greater than 10 years, it is not considered an offence that would make a person prohibited under the Act

For Item 2, EPA decided on the DL after 31 July 2022, which is more than 10 years after the offence. Accordingly, Item 2 was not considered further in this assessment.

For Item 1, the breach is less than ten years ago making the company prohibited under section 88(1)(a)(ii) of the EP Act. One of the current directors at Esso Australia Pty Ltd is a director at Mobil Refining Australia which is the company that was convicted for the offence. EPA is unable to find any other relevant offence relevant to section 88.

EPA reviewed the background and court orders related to the offence.

The applicant provided the following information on measures taken to prevent this from happening again:

- Mobil Gellibrand Terminal now subscribe to the Bureau of Meteorology service to obtain directly relevant weather bulletins and have updated their procedures to ensure that vessels are aware of local weather warnings. The Harbour Master's directions have been updated to advise vessels on how to obtain local weather

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information. The Leyte Spirit's owners have circulated a Fleet Notice advising all vessels to be vigilant and take appropriate action against unpredictable weather.

Under section 66(2) of the EP Act, a person is not a fit and proper person when found to be a prohibited person, unless it is not contrary to the public interest to be found fit and proper.

EPA must satisfy itself that it is not contrary to the public interest that Esso Australia Pty Ltd be found a fit and proper person. In considering this matter EPA has also considered:

- the nature of the offence and culpability of Mobil Refining Australia Pty Ltd
- the remedial and preventative actions implemented by Mobil Refining Australia Pty Ltd
- the context of the activity performed by Mobil Refining Australia Pty Ltd
- the track record and compliance history of Mobil Refining Australia Pty Ltd.

EPA notes that the court orders referred to the incident as 'a very high potential risk of environmental harm to highly sensitive marine habitats'. EPA notes that the court orders do not talk about the culpability of Mobil Refining Australia when it writes that high winds fractured the loading arm that led to the crude oil spill.

Mobil Refining Australia accepted the sentence imposed by the court, paid a fine of \$150,000 and has taken a series of actions in response to the incident. The incident occurred in 2009 and has not occurred again since. EPA consider it to be an isolated event.

Mobil Refining Australia Pty Ltd undertook actions to prevent it from happening again including subscribing to weather reports and making vessels aware of those weather conditions. In addition to this, the Harbour Master has also updated their procedure and the owner of the vessel involved has informed other vessels to help prevent something like this from happening again. The incident has not repeated since the implementation of preventative actions.

Relevant matters have been truthfully disclosed and supported by relevant information describing each matter. EPA determines that it is not considered contrary to the public interest that the applicant, while a prohibited person, be found a fit and proper person under section 66(2) of the EP Act.

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Taking into account the matter addressed above, the applicant can be considered a fit and proper person for the purposes of section 66 of the EP Act when assessing the status as a prohibited person.

### 5.10.2 Financial capacity to comply (section 66(1)(b))

The applicant submitted information on its financial standing including an ExxonMobil Australia annual report for 2020 and the independent auditor's report (from Price Waterhouse Cooper) of the 2020 report.

#### **EPA conclusion:**

Based on the financial standing (annual reports and a financial audit) of the company and the annual operating costs, EPA is satisfied that the applicant has the financial capacity to comply with obligations imposed by a permission and the annual operating costs of the facility.

In reviewing the offence committed under the *Environment Protection Act 1970*, EPA found that it is not contrary to public interest to find Esso Australia Pty Ltd a fit and proper person.

EPA has determined that the applicant is a fit and proper person for the purposes of section 66 of the EP Act.

### 5.11 Financial assurance

This activity is not a prescribed permission listed under EP Regulation 167. No further assessment was required.

### 5.12 Activity risk mapping

Table 11 outlines the risks associated with the application, the proposed control measures and whether the risks can be covered by the GED alone or by a condition, whether standard or bespoke.

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Table 11: Proposed EPA management of activity risks

Source	Risk	Pathway	Control	Covered by GED alone	Existing standard condition	Condition code or bespoke condition required
Air emissions (NO <sub>x</sub> , SO <sub>x</sub> , particles and VOCs)	Low	Inhalation	Effective combustion control, Dry Low NO <sub>x</sub> , continuous emission monitoring system, and operational management practices	No	Yes	N/A
Noise	Medium	Low frequency noise, operational and construction noise	Among other things, acoustic blankets, cladding and enclosed blanket	No	Yes	N/A
Stormwater contamination	Low	Plant equipment, oil tanks and maintenance	Drip pans and bunding	No	Yes	N/A
Bushfire	Medium	Bushfire in surrounding area	Establish bushfire management plan	No	Yes	N/A
Construction management	Low	Dust, noise, contamination and contaminated land	Information in the EMP and contractor to update a final CEMP	No	Yes	N/A
Contaminated land	Low	Construction activities	Additional information to be provided	No	Yes	N/A

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EMP = Environmental Management Plan; CEMP = Construction Environmental Management Plan

## 5.13 Summary of assessment

EPA has reviewed the DL application submitted by Esso Australia Pty Ltd. EPA concludes that a DL can be granted subject to conditions.

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## 6 Recommendation

The conclusions of the assessment are that:

- the applicant is considered fit and proper
- the proposal does not pose any unacceptable risks to human health or the environment
- there are no prescribed matters that would warrant a refusal.

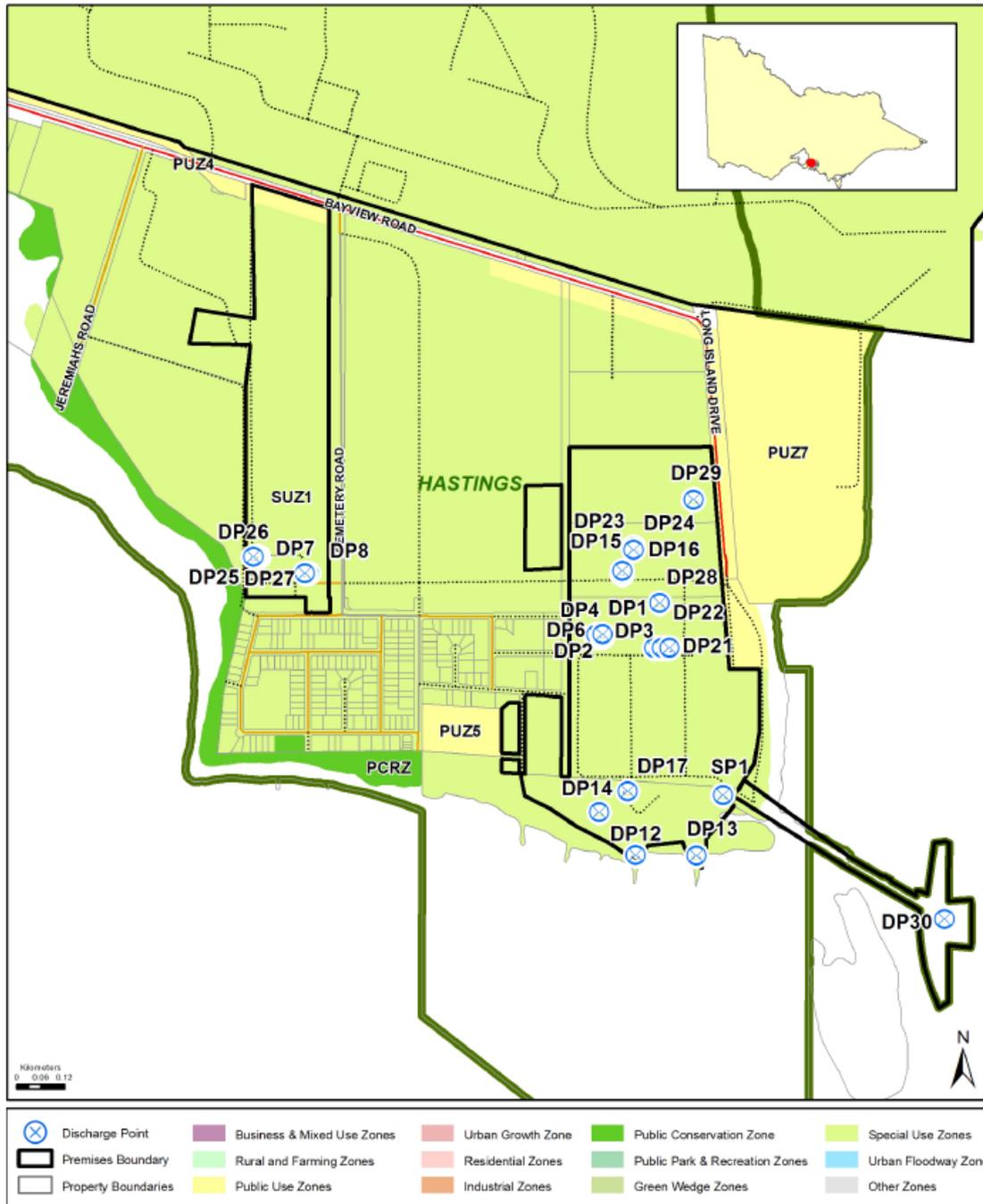
EPA has taken into consideration matters under the EP Act, the Climate Change Act and other matters under other Acts to conclude that a DL should be granted subject to conditions.

EPA recommends that the application for the DL is approved under section 69(1)(a) of the EP Act, subject to the proposed conditions of approval, as listed in Appendix E of this report.

# Development licence assessment report

Environment Protection Act 2017

## Appendix A: Locality plan of EPA licence OL00002613



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# Development licence assessment report

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## Appendix B: Application documents and information

Subject	Document or Plan Title	Date
Main application	APP009563 – Application Details HG Project - F1017 – Fit and Proper Person Questionnaire HG Project - F1018 – Prohibited Persons Questionnaire F1017_Supporting_Information ESSO AUSTRALIA PTY LTD Hastings Generation Project Development License Application Attachment 1A – Site Sketch 015 Attachment 1B – Site Sketch 016 Attachment 1C – Site Sketch 017 Attachment 2 – Figures and Maps Attachment 2a – Geological and Geomorphologic Figures Attachment 2b – Site Vegetation Attachment 3 – Project Alternatives Attachment 4 – Greenhouse Gas Assessment Attachment 5 – Environmental Management Plan Attachment 6 – Air Quality Assessment Attachment 7 – Environmental Noise Impact Assessment Attachment 8 – Cultural Heritage Assessment Attachment 9 – Threatened Flora and Fauna Likely to Occur in Project Area Attachment 10 – Victorian Heritage Register Attachment 11 – Environment and Human Health Risk Assessment Attachment 12 – Decommissioning Plan Attachment 13 – Stakeholder Engagement Plan VOC Emissions Supplementary Information GTG 3D Model Picture	17/02/2022

## Development licence assessment report

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Subject	Document or Plan Title	Date
	Supplementary Information – Principles of Environment Protection and comparative Greenhouse Gas Emissions Supplementary Information 16 Feb 2022	
Responses to RFI001982	Response to questions raised during public consultation Attachment 1 – Esso generators good for the environment, Frankston Times, 29 March 2022 Attachment 1 – Western Port News 22 September 2021 p.14 Attachment 1 – Western Port News 23 March 2022 p.12	05/05/2022
Responses to RFI002141	Esso response to EPA Request for Further Information Attachment A – Hastings Environmental Noise Impact Assessment Rev 2 Attachment B – Hastings Noise Control Addendum Attachment C – Hastings Infrasound Addendum Ambient Air Screening Report 2019	15/06/2022
Update to Attachment 6 – Air Quality Assessment	Appendix C – Time varying background concentrations	02/08/2022

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## Appendix C: Summary of community submissions and concerns raised

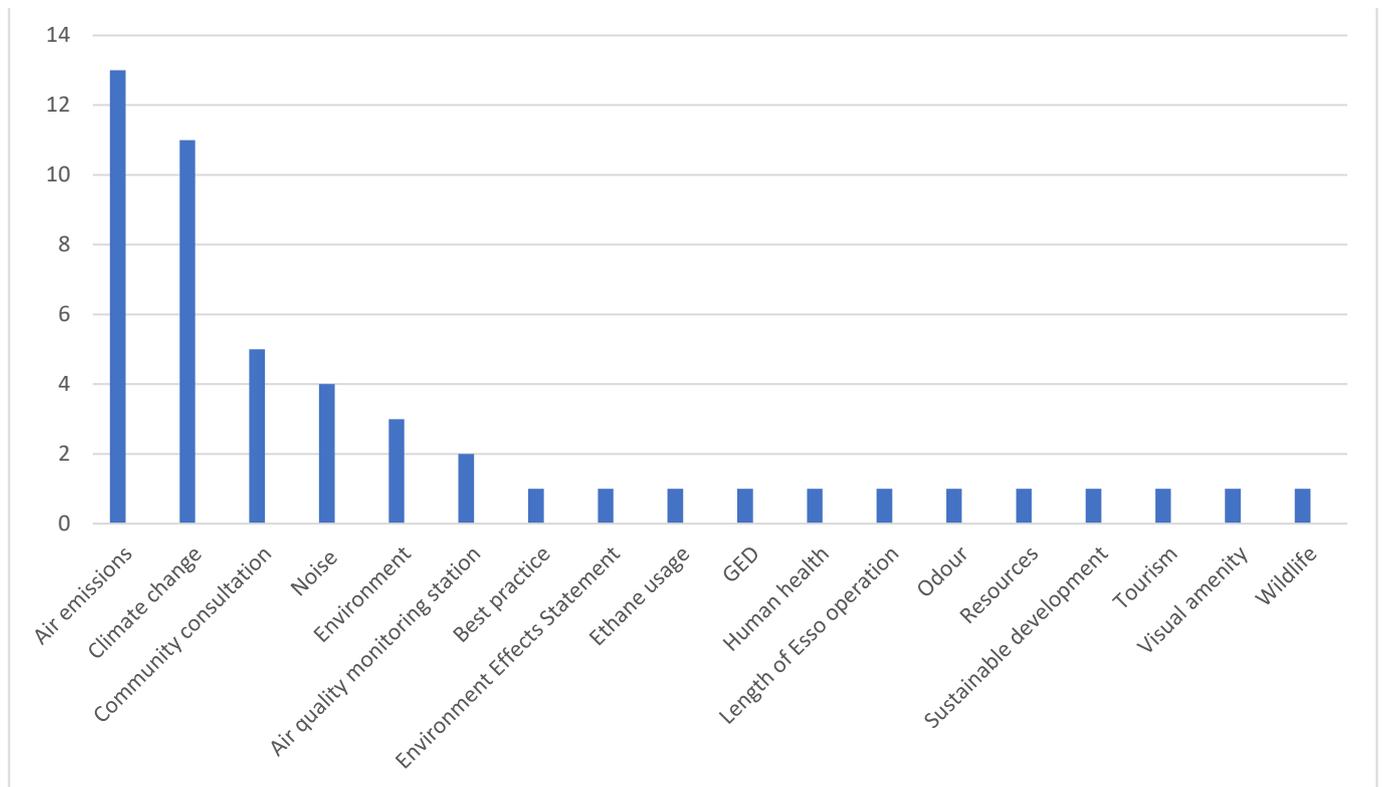


Figure 6: Number of submissions raising issues within the context of EPA's assessment during the first round of submissions (RF1)

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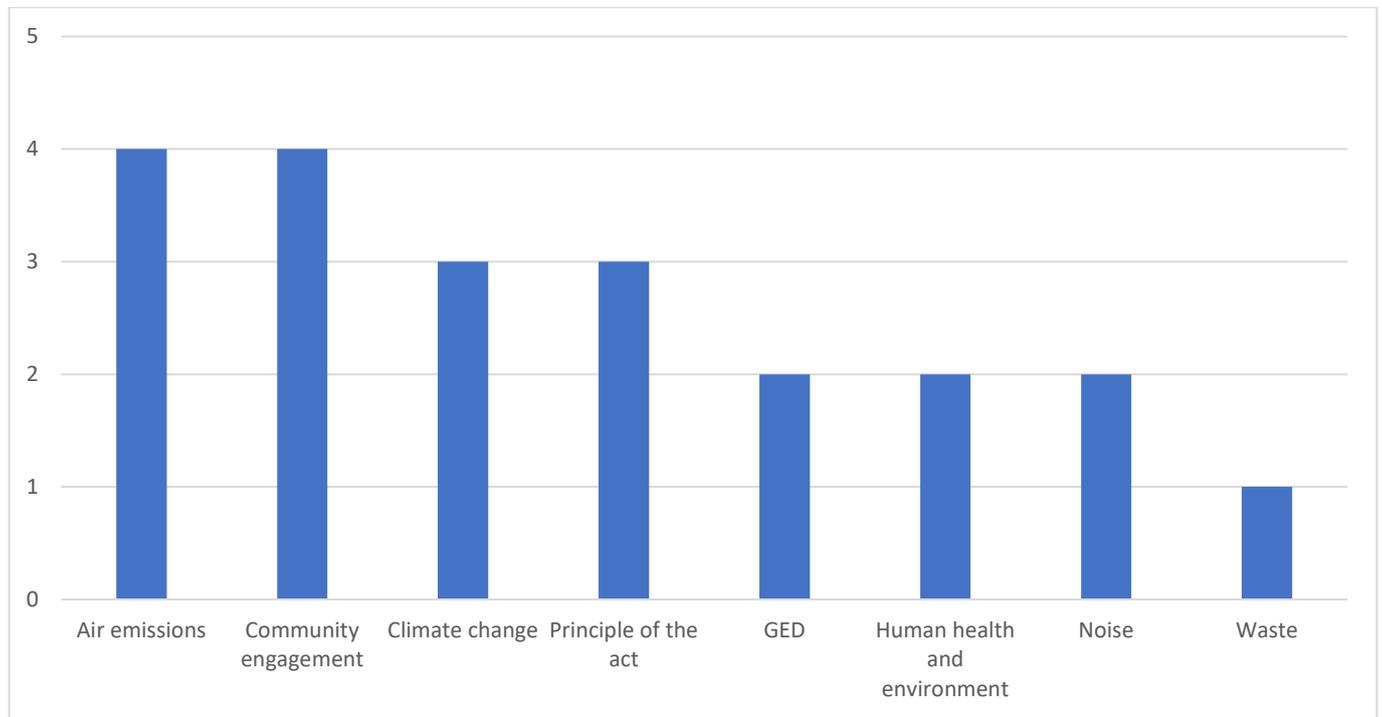


Figure 7: Number of submissions raising issues within the context of EPA's assessment during the second round of submissions (RFI2)

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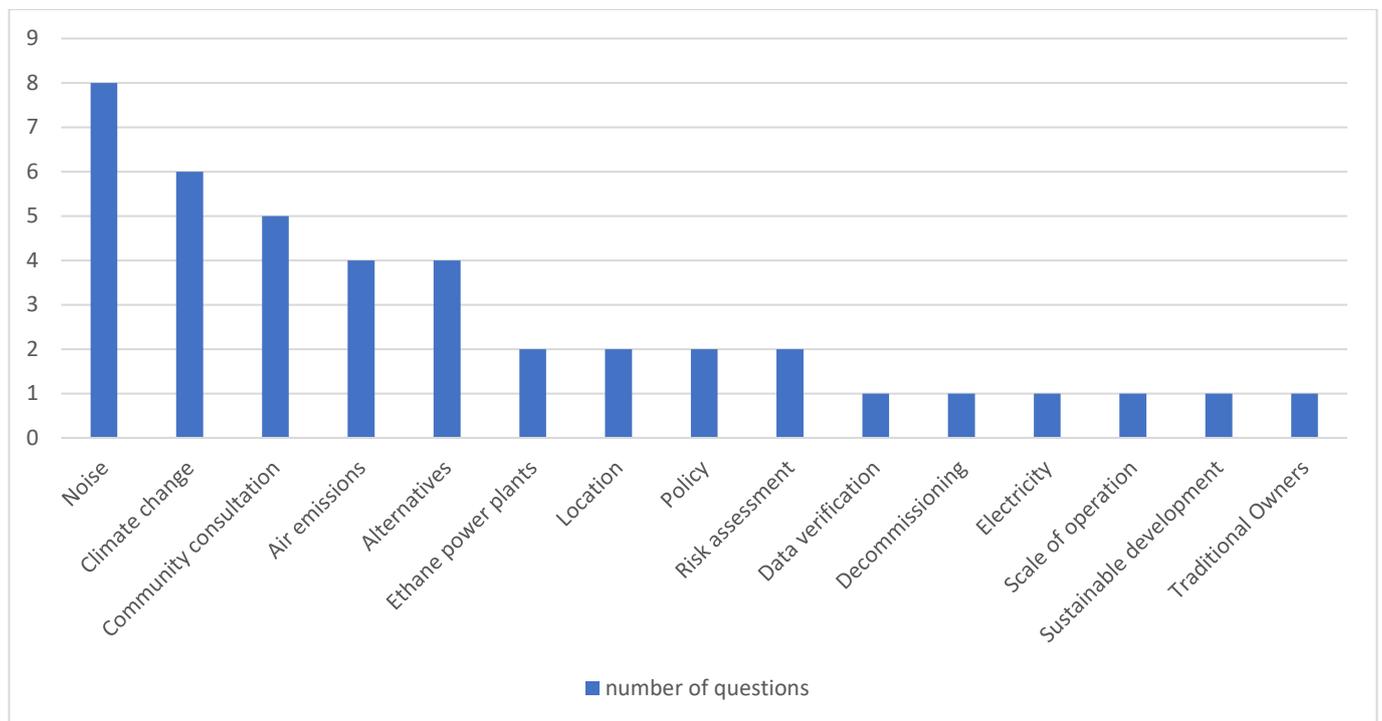


Figure 8: Questions asked by submitters between RF1 and decision. Questions generally sought clarity on information already provided in the application that EPA reviewed.

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# Development licence assessment report

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## Appendix D: Referral agencies responses



cfa.vic.gov.au

Our patron, Her Excellency the Honourable Linda Dessau AC, Governor of Victoria

CFA Community Preparedness  
8 Lakeside Drive Burwood East Vic 3151  
Email: firesafetyreferrals@cfa.vic.gov.au

CFA Ref: 69260-75970-117972

4 April 2022

██████████  
EPA Victoria  
GPO Box 4395  
MELBOURNE VIC 3001  
██████████

Dear ██████████,

### ***CFA Advice on EPA Development Licence Application Referral***

**Application ID:** APP009563  
**Applicant Name:** Esso Australia Pty Ltd  
**Address:** 11 Bayview Road HASTINGS VIC 3915  
**Purpose:** Installation of three power generation units.

I refer to correspondence from EPA dated 18<sup>th</sup> March 2022 regarding referral of an application for a development licence in accordance with the provisions of Section 69(2) of the *Environment Protection Act 2017* and Regulation 22(1) of the *Environment Protection Regulations 2021*.

CFA has considered the following (provided) documentation:

- **Site Plan - Dwg. 'Sketch 015', Site Features, Services, and Equipment Overlay, dated 19/10/21.**
- **Site Plan - Dwg. 'Sketch 016', Esso HGP Plot Plan, dated 19/10/21.**
- **Site Plan - Dwg. 'Sketch 017', Esso HGP Plot Plan on Google Earth, dated 19/10/21.**
- **Environmental Management Plan, Hastings Generation Project, Document Number: 619-21003-AUCL-EM-RPENV-001, Rev. 0, dated 22/11/21.**
- **Hastings Power Generation Project - Environment and Human Health Risk Assessment, Rev. 0, undated.**
- **Development Licence Application: Attachment 2b: Site Vegetation, Hastings Generation Project, Doc. No. 619-21003-EM-RGPER-001, undated.**
- **Project Alternatives, Hastings Generation Project, Rev. 0, dated 11/10/21.**

# Development licence assessment report

Environment Protection Act 2017

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CFA does not object to the proposed development licence application, and recommends that the following conditions be included in the development licence if it is issued:

1. The provision of a hydrant system consistent with the requirements for Open Yard Protection as per Section 3.3 of AS 2419.1-2005: Fire hydrant installations, area of yard >9000m<sup>2</sup> to <27,000m<sup>2</sup> (eg. three fire hydrant outlets required to flow simultaneously).
2. That where the fire service infrastructure (eg., ring main) for the proposed facility is extended from the Esso Long Island Point facility (MHF) as indicated in 'Sketch 015', that simultaneous operation of the fire infrastructure across both facilities meets specified minimum demand requirements at either facility. (Eg., 30L/s performance at the proposed facility can be achieved at the same time as the minimum demand requirement for identified Major Incidents at the Esso LIP facility is also achieved.)
3. The development of a Bushfire Management Plan, to the satisfaction of CFA, prior to commencement of development at the facility. The Bushfire Management Plan must include:
  - a. The activities, roles and responsibilities for managing fire risk at the facility (including acquisition of any required permits during the Fire Danger Period, management of vegetation, inspection and maintenance of plant and equipment, and dangerous goods storage and handling).
  - b. Regular housekeeping activities prior and during the Fire Danger Period that ensure the removal of any extraneous flammable or combustible materials around the plant and buildings, clearance of vehicle access points to the facility, and access to, and serviceability of fire protection systems and equipment.
  - c. Bushfire monitoring, preparedness and emergency response.
4. The development of an Emergency Management Plan consistent with the requirements of AS 3745-2010: Planning for emergencies in facilities and the Dangerous Goods (Storage and Handling) Regulations 2012 (as appropriate), prior to commissioning of the facility. Any potential for off-site impact to the Esso Long Island Point facility must be considered in risk management processes for both facilities.

For clarification on any matter within this letter or if any further information is required regarding, please contact [REDACTED] on [REDACTED].

Yours sincerely,

[REDACTED]

[REDACTED]  
Senior Specialist Risk Advisor  
CFA Community Preparedness

012370

# Development licence assessment report

Environment Protection Act 2017



## Department of Environment, Land, Water and Planning

PO Box 500, East Melbourne,  
Victoria 8002 Australia  
delwp.vic.gov.au

██████████  
Senior Permissioning Officer  
Approvals – Permissioning Unit  
Environment Protection Authority Victoria  
200 Victoria Street  
CARLTON VIC 3053

Ref: MIN092328



Dear ██████████

### **REFERRAL OF EPA VICTORIA DEVELOPMENT LICENCE APPLICATION APP009563 11 BAYVIEW ROAD, HASTINGS**

Thank you for your letter of 26 March 2021, to the Hon Richard Wynne, Minister for Planning, regarding development licence application AP009563 at 11 Bayview Road, Hastings. As this matter is in my area of responsibility, I am responding on the Minister's behalf.

In response to the matters raised, I advise the following:

1. The proposed use and development is allowed under the Mornington Peninsula Planning Scheme. There are no conditions specified under the Special Use Zone Schedule 1 (SUZ1).
2. A planning permit is required for the following activities:
  - a. Use, buildings and works under the SUZ1.
  - b. Removal of native vegetation under Clause 52.17 'Native Vegetation'.
3. A permit has not been issued under the *Planning and Environment Act 1987*.
4. The Minister for Planning is currently considering an application for a permit under the *Planning and Environment Act 1987* (permit application no. PA2001035). The application was received on 21 February 2022 and further information has been requested.
5. The proposed use and development is not prohibited under the Mornington Peninsula Planning Scheme.

If you would like more information, please contact ██████████, Manager, Renewables, Development Approvals and Design, Department of Environment, Land, Water and Planning, on email ██████████.

Yours sincerely

██████████

Executive Director, Statutory Planning Services

13/04/2022

Any personal information about you or a third party in your correspondence will be protected under the provisions of the *Privacy and Data Protection Act 2014*. It will only be used or disclosed to appropriate Ministerial, Statutory Authority, or departmental staff in regard to the purpose for which it was provided, unless required or authorized by law. Enquiries about access to information about you held by the Department should be directed to [foi.unit@delwp.vic.gov.au](mailto:foi.unit@delwp.vic.gov.au) or FOI Unit, Department of Environment, Land, Water and Planning, PO Box 500, East Melbourne, Victoria 8002.



OFFICIAL

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# Development licence assessment report

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567 Collins Street Melbourne VIC 3000  
GPO Box 4306 Melbourne VIC 3001  
Tel/ 03 9641 1555 Fax/ 03 9641 1222  
[www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au)



Our Ref: DOC/22/62723

Attn.: [REDACTED]  
Senior Permissioning Officer  
Permissioning Unit  
EPA Victoria  
GPO Box 4395, Melbourne, 3001

1 April 2022

Dear [REDACTED]

## EPA VICTORIA DEVELOPMENT LICENCE APPLICATION NO. APP009563

Thank-you for the letter dated 18 March 2022, referring the above EPA development licence application to WorkSafe for our advice.

The referral concerns a development licence application for the installation of three power generation units at 11 Bayview Rd. This site neighbours the Esso Australia Pty Ltd (Esso) Long Island Point major hazard facility and will convert excess ethane gas (a by-product of the liquid petroleum gas (LPG) processing) into 35-40 megawatts of electricity.

The scope of WorkSafe Victoria's review of the referral information is limited to potential incidents involving risks from Dangerous Goods.

WorkSafe **does not advise against** the granting of the development licence application at the proposed location. It is noted that Esso will complete a fire safety study as part of the project. It is recommended that the organisation review the location of occupied buildings, in particular the "operations centre", as part of this study to minimise the risk to operations personnel.

If you have any questions, please email the WorkSafe Victoria Major Hazard Unit [MHUnit@worksafe.vic.gov.au](mailto:MHUnit@worksafe.vic.gov.au).

Yours sincerely,



[REDACTED]  
Director, Major Hazards & Dangerous Goods  
Regulated Industries Division

File ref: FOU/22/13/14

Template ref: OHS17/05580  
BMS: LTR 17.886 - 10/2020

er: PAS012370

# Development licence assessment report

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## Appendix E: Draft conditions

### General conditions

- DL\_G1 A copy of this licence must be kept at the site and be easily accessible to persons who are engaging in an activity conducted at the site. Information regarding the requirements of the licence and the EP Act duties must be included in site induction and training information.
- 
- DL\_G2 The development activity involving installation of 3 Solar Titan 130 generators works must be engaged in accordance with the approved plans and documents referenced in TABLE 1. In the event of any inconsistency between the approved documents and the conditions of this permission, the conditions of this permission shall prevail.
- 
- DL\_G3 Subject to the following conditions, this development licence allows you to: in accordance with the application, construct and commission 3 Solar Titan 130 generators.
- 
- DL\_G4 This permission does not take effect until a copy of any planning permit or amendment to a planning scheme required under the *Planning and Environment Act 1987* (Vic) and related planning schemes has been provided to the Authority by the applicant.
- 
- DL\_G5 This permission expires:
- (a) on the issue or amendment of an operating licence or permit relating to all activities covered by this permission;
  - (b) when the Authority advises in writing that all activities covered by this permission have been satisfactorily completed and the issue or amendment of an operating licence or permit is not required; or
  - (c) on the expiry date listed on the front page of this permission.
- 
- DL\_G7 You must:
- (a) develop and maintain a decommissioning plan that is in accordance with the current decommissioning guidelines published by the Authority;
  - (b) provide the decommissioning plan to the Authority upon request;
  - (c) supply to the Authority an updated detailed decommissioning plan 60 business days prior to commencement of decommissioning, if you propose to divest a section of the licensed site, cease part or all of the licensed activity or

# Development licence assessment report

Environment Protection Act 2017

## General conditions

reduce the basis upon which the licence was granted to a point where licensing is no longer required; and

(d) decommission the licensed site in accordance with the detailed decommissioning plan, to the satisfaction of the Authority and within any reasonable timeframe which may be specified by the Authority.

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## Standard conditions

DL_C1	Commissioning activities must be undertaken in accordance with the commissioning plan approved by the Authority.
DL_C2	<p>You must immediately notify the Authority by calling 1300 EPA VIC (1300 372 842) in the event of:</p> <ul style="list-style-type: none"><li>a) A discharge, emission or deposit which gives rise to, or may give rise to, actual or potential harm to human health or the environment;</li><li>b) A malfunction, breakdown or failure of risk control measures at the site which could reasonably be expected to give rise to actual or potential harm to human health or the environment; or</li><li>c) Any breach of the licence.</li></ul>
DL_C5	<p>1. You must develop a risk management and monitoring program for your activities which:</p> <ul style="list-style-type: none"><li>(a) identifies all the risks of harm to human health and the environment which may arise from the activities you are engaging in at your activity site;</li><li>(b) clearly defines your environmental performance objectives;</li><li>(c) clearly defines your risk control performance objectives;</li><li>(d) describes how the environmental and risk control performance objectives are being achieved;</li><li>(e) identifies and describes how you will continue to eliminate or minimise the risks in 1(a) (above) so far as reasonably practicable; and</li><li>(f) describes how the information collated in compliance with this clause, is or will be disseminated, used or otherwise considered by you or any other entity.</li></ul> <p>2. The risk management and monitoring program must be:</p> <ul style="list-style-type: none"><li>(a) documented in writing;</li><li>(b) signed by a duly authorised officer of the licensed entity; and</li><li>(c) made available to the Authority on request.</li></ul>
DL_C6	Within 30 days of the expiry of this permission, you must provide to EPA a report detailing the results of the commissioning monitoring program.
DL_C7	Within 30 days of the completion of the approved activities, you must provide to EPA a written report that summarises the activities undertaken and includes

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## Standard conditions

a commissioning report that summarises the results of all commissioning activities.

DL\_W3 You must notify the Authority when the construction associated with the development activities covered by this approval has been completed.

DL\_W4 You must not commission or use the operating components of the development activities without the written approval of the Authority.

## Specific conditions

DL\_C3 Development activities and commissioning must not cause or result in any breach of any permission issued by the Authority for the permission activity, except where authorised by a condition of this licence.

DL\_R1 At least 20 business days before the commencement of any commissioning, you must provide to the Authority: 1) an operational noise management plan; 2) a detailed commissioning plan; and 3) an emergency management plan, for approval by the authority, that include(s):

1) Operational noise management plan:

a) Inspection, maintenance and testing programs to prevent the emission of unreasonable noise (as defined in section 3 of the *Environment Protection Act 2017*, and the prescriptions under Division 3 and Part 5.3 of the Regulations);

b) Program for the implementation of contingency measures, wherever necessary;

c) Procedures to investigate and respond to noise complaints, including measures to be taken to address the cause of valid complaints; and

d) Implementation of continual improvement, to ensure the risk of harm from noise to human health and the environment is minimised so far as reasonably practicable, through across the whole life of the project.

2) A detailed commissioning plan including monitoring program to determine plant performance in accordance with the application and specifically a measurement program to ensure acoustic objectives of the project are satisfied at the onset of operation; and

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## Specific conditions

- 3) An emergency management plan that includes (as a minimum):
  - a) Consideration of off-site impact to the Esso Long Island Point facility as part of the risk management processes; and
  - b) The requirements of AS 3745- 2010: Planning for emergencies in facilities and the Dangerous Goods (Storage and Handling) Regulations 2012 (as appropriate).

DL\_R4

At least 15 business days before the commencement of any construction, you must provide to the Authority an updated noise report, supported by evidence, that include(s):

- 1) A review of the noise sensitive areas (NSA) that will be affected by the project and identification of existing commercial, industrial and trade premises emitting noise that may contribute to the effective noise level at these NSA;
- 2) Verification that the noise limits set by Division 3 of Part 5.3 of the Environment Protection Regulations 2021 (the Regulations) will not be exceeded. This verification must be conducted in accordance with the publication 1826 and consistent with the provisions of EPA publication 1997 and include:
  - a) Identification of key NSA and/or alternative assessment locations that represent the noise exposure within all NSA that will be affected by the project;
  - b) Measurement of existing industry noise levels, expressed as effective noise levels for the cumulative noise including contributions from all current commercial, industrial and trade premises impacting noise sensitive areas that will be affected by the project;
  - c) Definition of Project Noise Criteria determined within the key NSA to ensure that the cumulative noise, including noise from the project and all contributions from pre-existing commercial, industrial and trade premises, will not exceed the noise limits of the Regulations in any NSA;
  - d) Determination of the noise limits and/or alternative assessment criteria that will apply at the key NSA, based on measurements of the background levels that are not influenced by noise from any commercial, industrial and trade premises;

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## Specific conditions

- e) Assessment of the noise due to the project against the Project Noise Criteria, that considers measurement/calculation uncertainty; and
  - f) Details of contingency measures to be implemented to address, as necessary, the risk of exceedance of the Project Noise Criteria or of the noise limits of the Regulations, supported by evidence of their effectiveness.
- 3) A characterisation of the current noise environment including measurements consistent with the verification assessment in DL\_R4 (2) of:
    - a) Background levels at the NSA or equivalent background locations; and
    - b) Existing industry noise levels at the NSA.
  - 4) Assessment of tonal character at any frequency from the development activity supported by an inventory of all the noise sources associated with the development activity that includes verifiable one-third octave band data, and narrow band data where relevant;
  - 5) Identification of any additional available and suitable controls to minimise the risk of high acoustic energy in the low frequency range, including a review of the proposed equipment and proposed installation consistent with EPA publication 1996. This assessment must be supported by an inventory of all the noise sources associated with the project, including for each source, its noise levels and frequency spectrum supported by verifiable data, and the effectiveness of the controls;
  - 6) Steps followed to ensure iterative consideration through all the planning and design phases of the project, and eventual adoption of all opportunities to minimise the risk of harm from noise to human health and environment so far as reasonably practicable, consistent with the General Environmental Duty (GED);
  - 7) The final noise mitigation measures to be implemented at source, and their itemised acoustic performance, including controls to mitigate low frequency noise and address potential noise character; and
  - 8) Assessment of the risk associated with low frequency noise emitted from all noise sources associated with the project, consistent with the provisions of EPA publication 1996, including details of measures to be implemented to address, as necessary, the risk of unreasonable noise

# Development licence assessment report

Environment Protection Act 2017

## Specific conditions

associated with the emission of low frequency noise, supported by evidence of their effectiveness.

DL\_W1

15 business days prior to commencing construction of the following components of the development activity, you must provide to the Authority for approval:

1) Fire Management System:

a) Fire hydrant system consistent with the requirements for Open Yard Protection as per Section 3.3 of Australian Standard (AS) 2419.1-2005: Fire hydrant installations (area of yard >9000m<sup>2</sup> to <27,000m<sup>2</sup>);

b) A report supporting that fire service infrastructure:

i) Can operate simultaneously across the LIP and the area covered by this development licence; and

ii) That meets specified minimum demand requirements at both facilities.

c) A bushfire management plan, endorsed in writing from Country Fire Authority, that includes (as a minimum):

i) The activities, roles and responsibilities for managing fire risk at the facility (including acquisition of any required permits during the Fire Danger Period, management of vegetation, inspection and maintenance of plant and equipment, and dangerous goods storage and handling);

ii) Regular housekeeping activities prior and during the Fire Danger Period that ensure the removal of any extraneous flammable or combustible materials around the plant and buildings, clearance of vehicle access points to the facility, and access to, and serviceability of fire protection systems and equipment, and

iii) Bushfire monitoring, preparedness, and emergency response.

2) Civil works: an updated construction environmental management plan (CEMP) including as a minimum, details of further investigations to be undertaken relating to contaminated land.

DL\_W2

You must notify the Authority in writing when the development activity authorised by this permission has commenced.

DL\_W8

You must install:

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# Development licence assessment report

Environment Protection Act 2017

## Specific conditions

- 1) A continuous emissions monitoring system, in each stack, capable of measuring temperature, stack gas flow, pressure, carbon monoxide and oxides of nitrogen
- 2) A dry low NOx system in each power generation unit
- 3) All fire service infrastructure identified as being required in the Fire Management System required under condition DL\_W1.

---

DL\_W9      You must install all exhaust stacks so that provisions for sampling are included in accordance with 'A Guide to the Sampling and Analysis of Air Emissions and Air Quality' (EPA Publication 440.1, released December 2002).

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# Development licence assessment report

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## Appendix F: Human rights

Human rights obtained from the *Charter of Human Rights and Responsibilities Act 2006* and relevance to this permission:

Human right		Relevance to this permission
Recognition and equality before the law	Every person has the right to recognition as a person before the law.	Yes: all parties that are stakeholders to this permission are recognised as persons.
Recognition and equality before the law	Every person has the right to enjoy their human rights without discrimination.	Yes: community consultation and decision making can be seen as discrimination if every person doesn't have the opportunity to be involved in decisions that impact them. EPA used its channels to initially make persons in the area aware of the application and then involved them in the various updates.
Recognition and equality before the law	Every person is equal before the law and is entitled to the equal protection of the law without discrimination and has the right to equal and effective protection against discrimination.	Yes: EPA considers all parties to this application to require equal protection. This presents itself through a fair and just process for the applicant. In the context of community members, they should all be protected from the harmful effects from pollution and waste. The assessment report balances the information provided in the application against relevant criteria.
Recognition and equality before the law	Measures taken for the purpose of assisting or advancing persons or groups of persons disadvantaged because of discrimination do not constitute discrimination.	N/A
Right to life	Every person has the right to life and has the right not to be arbitrarily deprived of life.	Yes: the EP Act (including subordinate legislation) sets out to protect human health and the environment from pollution and waste. As part of this

# Development licence assessment report

Environment Protection Act 2017

Human right		Relevance to this permission
		assessment, EPA has considered the potential impacts on how it could arbitrarily deprive life through considerations against criteria for issuing a development licence.
Protection from torture and cruel, inhuman or degrading treatment	A person must not be— (a) subjected to torture; or (b) treated or punished in a cruel, inhuman or degrading way; or (c) subjected to medical or scientific experimentation or treatment without that person's full, free and informed consent.	N/A
Freedom from forced work	A person must not be held in slavery or servitude.	N/A
Freedom from forced work	A person must not be made to perform forced or compulsory labour.	N/A
Freedom of movement	Every person lawfully within Victoria has the right to move freely within Victoria and to enter and leave it and has the freedom to choose where to live.	N/A
Privacy and reputation	A person has the right— (a) not to have that person's privacy, family, home or correspondence unlawfully or arbitrarily interfered with; and (b) not to have that person's reputation unlawfully attacked.	EPA has redacted certain information to prevent parties from having their private information exposed and to prevent the attack on a person's reputation without that person being a public person.
Freedom of thought,	(1) Every person has the right to freedom of thought,	N/A

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# Development licence assessment report

Environment Protection Act 2017

Human right		Relevance to this permission
conscience, religion and belief	conscience, religion and belief, including— (a) the freedom to have or to adopt a religion or belief of that person's choice; and (b) the freedom to demonstrate that person's religion or belief in worship, observance, practice and teaching, either individually or as part of a community, in public or in private.	
Freedom of thought, conscience, religion and belief	A person must not be coerced or restrained in a way that limits that person's freedom to have or adopt a religion or belief in worship, observance, practice or teaching.	N/A
Freedom of expression	Every person has the right to hold an opinion without interference.	N/A
Freedom of expression	Every person has the right to freedom of expression which includes the freedom to seek, receive and impart information and ideas of all kinds, whether within or outside Victoria and whether— (a) orally; or (b) in writing; or (c) in print; or (d) by way of art; or (e) in another medium chosen by that person.	N/A
Peaceful assembly and freedom	Every person has the right of peaceful assembly.	N/A

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Human right		Relevance to this permission
of association		
Peaceful assembly and freedom of association	Every person has the right to freedom of association with others, including the right to form and join trade unions.	N/A
Protection of families and children	Families are the fundamental group unit of society and are entitled to be protected by society and the State.	N/A
Protection of families and children	Every child has the right, without discrimination, to such protection as is in the child's best interests and is needed by the child by reason of being a child.	N/A
Taking part in public life	Every person in Victoria has the right, and is to have the opportunity, without discrimination, to participate in the conduct of public affairs, directly or through freely chosen representatives.	N/A
Taking part in public life	Every eligible person has the right, and is to have the opportunity, without discrimination— (a) to vote and be elected at periodic state and municipal elections that guarantee the free expression of the will of the electors; and (b) to have access, on general terms of equality, to the	N/A

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Human right		Relevance to this permission
	Victorian public service and public office.	
Cultural rights	All persons with a particular cultural, religious, racial or linguistic background must not be denied the right, in community with other persons of that background, to enjoy their culture, to declare and practice their religion and to use their language.	N/A
Cultural rights	Aboriginal persons hold distinct cultural rights and must not be denied the right, with other members of their community— (a) to enjoy their identity and culture; and (b) to maintain and use their language; and (c) to maintain their kinship ties; and (d) to maintain their distinctive spiritual, material and economic relationship with the land and waters and other resources with which they have a connection under traditional laws and customs.	Yes: EPA contacted Bunurong Land Council Aboriginal Corporation twice to invite the Traditional Owners to provide comments to the application. EPA has not received any correspondence.
Property rights	A person must not be deprived of that person's property other than in accordance with law.	N/A
Right to liberty and security of person	Every person has the right to liberty and security.	N/A

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Human right		Relevance to this permission
Right to liberty and security of person	A person must not be subjected to arbitrary arrest or detention.	N/A
Right to liberty and security of person	A person must not be deprived of that person's liberty except on grounds, and in accordance with procedures, established by law.	N/A
Right to liberty and security of person	A person who is arrested or detained must be informed at the time of arrest or detention of the reason for the arrest or detention and must be promptly informed about any proceedings to be brought against that person.	N/A
Right to liberty and security of person	A person who is arrested or detained on a criminal charge— (a) must be promptly brought before a court; and (b) has the right to be brought to trial without unreasonable delay; and (c) must be released if paragraph (a) or (b) is not complied with.	N/A
Right to liberty and security of person	A person awaiting trial must not be automatically detained in custody, but that person's release may be subject to guarantees to attend— (a) for trial; and (b) at any other stage of the judicial proceeding; and	N/A

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Human right		Relevance to this permission
	(c) if appropriate, for execution of judgment.	
Right to liberty and security of person	Any person deprived of liberty by arrest or detention is entitled to apply to a court for a declaration or order regarding the lawfulness of that person's detention, and the court must— (a) make a decision without delay; and (b) order the release of the person if it finds that the detention is unlawful.	N/A
Right to liberty and security of person	A person must not be imprisoned only because of that person's inability to perform a contractual obligation.	N/A
Humane treatment when deprived of liberty	All persons deprived of liberty must be treated with humanity and with respect for the inherent dignity of the human person.	N/A
Humane treatment when deprived of liberty	An accused person who is detained or a person detained without charge must be segregated from persons who have been convicted of offences, except where reasonably necessary.	N/A
Humane treatment when deprived of liberty	An accused person who is detained or a person detained without charge must be treated in a way that is	N/A

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Human right		Relevance to this permission
	appropriate for a person who has not been convicted.	
Children in the criminal process	An accused child who is detained or a child detained without charge must be segregated from all detained adults.	N/A
Children in the criminal process	An accused child must be brought to trial as quickly as possible.	N/A
Children in the criminal process	A child who has been convicted of an offence must be treated in a way that is appropriate for that child's age.	N/A
Fair hearing	A person charged with a criminal offence or a party to a civil proceeding has the right to have the charge or proceeding decided by a competent, independent and impartial court or tribunal after a fair and public hearing.	N/A
Fair hearing	All judgments or decisions made by a court or tribunal in a criminal or civil proceeding must be made public unless the best interests of a child otherwise requires or a law other than this Charter otherwise permits.	N/A
Rights in criminal proceedings	A person charged with a criminal offence has the right to be presumed innocent until proved guilty according to law.	N/A

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Human right		Relevance to this permission
Rights in criminal proceedings	<p>A person charged with a criminal offence is entitled without discrimination to the following minimum guarantees—</p> <ul style="list-style-type: none"><li>(a) to be informed promptly and in detail of the nature and reason for the charge in a language or, if necessary, a type of communication that that person speaks or understands; and</li><li>(b) to have adequate time and facilities to prepare their defence and to communicate with a lawyer or advisor chosen by that person; and</li><li>(c) to be tried without unreasonable delay; and</li><li>(d) to be tried in person, and to defend themselves personally or through legal assistance chosen by that person or, if eligible, through legal aid provided by Victoria Legal Aid under the Legal Aid Act 1978; and</li><li>(e) to be told, if that person does not have legal assistance, about the right, if eligible, to legal aid under the Legal Aid Act 1978; and</li><li>(f) to have legal aid provided if the interests of justice require it, without any costs payable by that person if the person meets the eligibility criteria set out in the Legal Aid Act 1978; and</li><li>(g) to examine, or have</li></ul>	N/A

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Environment Protection Act 2017

Human right		Relevance to this permission
	<p>examined, witnesses against that person, unless otherwise provided for by law; and</p> <p>(h) to obtain the attendance and examination of witnesses on that person's behalf under the same conditions as witnesses for the prosecution; and</p> <p>(i) to have the free assistance of an interpreter if that person cannot understand or speak English; and</p> <p>(j) to have the free assistance of assistants and specialised communication tools and technology if that person has communication or speech difficulties that require such assistance; and</p> <p>(k) not to be compelled to testify against themselves or to confess guilt.</p>	

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