



Operational Air Quality Monitoring Program

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1 Introduction

This document provides an outline of the risk based Air Quality monitoring at Viva Energy Australia Limited's Clyde Terminal in response to condition C30 of Development consent SSD 5147. The overarching goal of the monitoring program is to evaluate the performance of the operation and determining compliance with key performance indicators agreed in consultation with the EPA.

Condition C30 of the Development Consent is as follows:

The Applicant shall prepare and implement an Air Quality Monitoring Program for the operation. The plan shall:

- a) Be prepared and implemented by a suitably qualified and experienced expert;
- b) Be prepared in consultation with the EPA;
- c) Be submitted to the Secretary for approval within 3 months of the date of this consent;
- d) Describe an air quality monitoring program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators agreed in consultation with the EPA; and,
- e) Includes record keeping, a complaints register and response procedure and compliance reporting.

Beyond this, the primary environmental management goals for Clyde Terminal include:

- To dispose of waste generated from the site's activities in an appropriate manner;
- To minimise the discharge of volatile organic compounds, to the extent practicable, beyond the boundaries of the premises; and,
- To prevent discharge of offensive odours beyond the boundaries of the premises.

The objective associated with these goals is to demonstrate compliance with the development consent and environmental licence for the facility and provide information for continuous improvement in environmental protection.

Risk Management Framework

The Clyde Terminal Hazards and Effects Management Process (HEMP) document is available in the Controlled Document Management System (CDMS).

It provides an assessment of the hazards arising at the site from the storage, handling and distribution of hydrocarbon fuels and solvents. The hazards are systematically identified, risk-assessed and control measures are identified and implemented to provide a safe and healthy workplace and minimise environmental impacts.

2 Key Performance Indicators

No complaints raised by the community / surrounding businesses/stakeholders with regards to air emissions, dust or odour related to terminal operations.

Benzene and VOC Emission limits - Compliance with emission levels set by EPL570	
Assessable Pollutant	Load limit (kg)
Benzene (Air)	26,000.00
Volatile organic compounds – Summer (Air)	
Volatile organic compounds (Air)	1,250,000.00

Odour Limits – Compliance with requirements set by SSD5147 and EPL570
<p>SSD5147 - C29: The Applicant shall not cause or permit the emission of offensive odours from the site, as defined under Section 129 of the POEO Act.</p> <p>EPL570 – L7.1: No condition in this licence identifies a potentially offensive odour for the purpose of section 129 of the Protection of the Environment Operations Act 1997.</p> <p>Note: Section 129 of the Protection of the Environment Operations Act 1997 provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.</p>

3 Sensitive Receptors

Sensitive receptors are identified by the EPA in the Approved Methods as anywhere someone works or resides or may work or reside, including residential areas, hospitals, hotels, shopping centres, play grounds, recreational centres, and the like.

The Terminal is adjacent to commercial and industrial receivers on all sides, although Parramatta River and Duck River separate it from receivers to the south and east. The nearest residential receivers are located approximately 400m to the north-east, 1.1km to the south-east, 600m to the south and 800m to the west.

Figure F-5A illustrates the location of the nearest sensitive receivers in relation to the Terminal.



THE SHELL COMPANY OF AUSTRALIA

CLYDE TERMINAL CONVERSION
DEMOLITION AND CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

AIR QUALITY - SENSITIVE RECEIVERS

URS

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Figure: F-5A

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4 Dust

Risk Assessment

The risk associated with dust generated at the Viva Energy Clyde Terminal facility is low. The highest potential for dust generation from routine activities at the facility is during vehicle movements.

Controls

No additional controls are required for the emission of dust during routine activities as the risk is low.

Potential for dust generation during non-routine activities is to be assessed and managed by the Permit to Work system (HS-SAF-0001-GD).

Monitoring Requirements

Abnormal dust levels to be observed and recorded during regular Operator rounds. Potential for dust generation during routine activities may also be assessed during Job Start meetings.

Where dust generated from the facility is observed potentially leaving the facility or an air quality complaint is received from the community, this is reported and investigated according to Viva Energy's Incident Notification, Reporting and Investigation procedure (HS-MAS-0001-PR). Note any incidents that have the potential to cause serious and material environmental harm will be reported directly to both the NSW Environment Protection Authority (EPA) and the Department of Planning, Industry and Environment (DPIE).

5 Odour

Risk Assessment

Due to the distance to the nearest sensitive receptors, the risk associated with odour generated at the Viva Energy Clyde Terminal facility is low.

Potential sources of odour during Operations include:

- Odours associated with hydrocarbon vapour emissions from storage tanks;and,

Odours generated during waste management (i.e. sludge).

Controls

Odour emissions are minimised through the use of floating tank covers and associated vapour sealing systems for gasoline storage tanks. The effectiveness and integrity of this equipment is maintained through a routine inspection and maintenance program.

No additional controls are required for the emission of odour during routine activities as the risk is low.

Potential for odour generation during non-routine activities is to be assessed and managed by the Permit to Work system.

Monitoring Requirements

Odour levels to be observed and recorded during regular Operator rounds. Potential for odour generation during regular activities may also be assessed during Job Start meetings.

Where odour is observed at the boundary or potentially leaving the facility or an air quality complaint is received from the community, this is reported and investigated according to Viva Energy's Incident Notification, Reporting and Investigation procedure (HS-MAS-0001-PR).. Note any incidents that have the potential to cause serious and material environmental harm will be reported directly to both the EPA and the DPIE.

6 Volatile Organic Compounds (VOC) Emissions

Risk Assessment

The risk associated with VOCs generated at the Viva Energy Clyde Terminal facility is low to moderate. Potential sources of VOCs include:

- VOC emissions from hydrocarbon storage tanks; and,
- Fugitive VOC emissions associated with storage and movement of hydrocarbon products through storage tanks, pipelines and fittings.

Controls

VOC emissions are minimised through the use of floating tank covers and associated vapour sealing systems for gasoline storage tanks. The effectiveness and integrity of Terminal equipment is maintained through a routine inspection and maintenance program as described below:

- Operations Surveillance and Assurance, including a program of site inspections of tanks, pumps and pipelines. (Tanks inspected monthly via checklist, pump monitoring conducted twice a shift)
- Maintenance Program, Documented in JDE, which also generates instructions for equipment maintenance. Safety Critical Equipment is tracked nationally i.e. the target is to have zero safety critical maintenance items overdue. A specialist contractor is retained to carry out any required maintenance in a short timeframe.

The tank maintenance program also includes maintenance on floating covers and associated vapour sealing systems as part of scheduled off stream inspections.

Potential for VOC emissions during non-routine activities is to be assessed and managed by the Permit to Work system.

Monitoring Requirements

Emissions from the storage tanks are estimated using the techniques in line with the National Pollutant Inventory (NPI) reporting process). These estimates are used both for submission to NPI and for the Annual Return required under EPL 570.

The NPI is a database of air, land and water emissions of 93 substances that have been identified as important due to their potential effect on human health and the environment.

The Department of Environment administer this database. Data is submitted on a site by site basis and is reviewed and verified by the relevant State or Territory Environment Protection Agency (EPA). Once verified, the data is published on the NPI website annually for general public access.

Reporting emissions to the environment as part of the NPI is a legislative requirement if the reporting threshold is tripped within a reporting year.

The process for calculating and reporting air emissions is largely to comply with the NPI requirements. The reporting process has been divided into four stages as outlined below:

STAGE 1 - REVIEW AND UPDATE

- Review updates to the National Pollution Inventory (NPI) guidelines and NPI Emission Estimation Technique Manuals methodology.
- Review and update the NPI reporting assets (facility) database.
- Review any infrastructural changes and new combustion sources.
- Update changes to the fuel speciation.

STAGE 2 - DATA COLLATION

Collate and validate data for each reporting facility.

STAGE 3 - EMISSIONS CALCULATION

Complete NPI threshold assessment to determine which sites are to be reported.
Calculate emissions for each facility.

STAGE 4 – EMISSIONS REPORTING

Report emissions in NPI Online Reporting System.
Report Total VOCs in the Viva Energy reporting system.
Emissions publication externally on the NPI website.

Emissions are calculated using the methodology contained in the NPI Emission Estimation Technique (EET) manuals. The manuals that are used specifically for calculating emissions at the Clyde Terminal include:

- NPI Emission Estimation Technique Manual for Fuel and Organic Liquid Storage, Version 3.2, February 2010.

7 Record Keeping

Documented routine site surveillance and assurance activities are stored in JDE and can be accessed at any time., Records of maintenance are stored in JDE

Records regarding throughput are retained on site by the Terminal Manager, with annual emissions calculated in line with Environment Protection Licence (EPL570) and National Pollutant Inventory (NPI) requirements. Submissions pertaining to EPL570 are retained by the Terminal Manager, with NPI records retained by the Environment Operations Lead.

These records will be made available to DPIE on request.

Air Quality - Monitoring Requirements Summary				
Aspect	Description	Frequency	Record Keeping	Responsibility
Complaints	Complaints register maintained	Ongoing, as required	Complaints Register retained on site for 4 years	Terminal Manager
Odour	Internal monitoring of odours	Ongoing, as required	Not required, may be noted in daily log	Terminal Controller
Dust	Visual	At all times	Not required, may be noted in daily log.	Terminal Controller
VOCs	Terminal throughput data	At all times	Files retained on site	Terminal Controller
	Annual Returns	Annual	Lodged with EPA and retained on site	Terminal Manager
	NPI submission	Annual	Submitted to NPI database, calculations retained on company server	Environment Operations Lead

8 Complaints and Incident Management

Where air emissions (odour, dust, etc) generated from the facility are observed potentially leaving the facility or an air quality complaint is received from the community this is reported according to Viva Energy's Environment Incident Notification local operating procedure (HS-MAS-0001-PR) and an incident report and investigation commenced according to Viva Energy's HSSE & SP Management System Manual. Note any incidents that have the potential to cause serious and material environmental harm will be reported directly to both the EPA and the Dept of Planning.

It is expected that if complaints are received from the community regarding air quality from the facility the above risk assessment will be reviewed and further monitoring activities considered.

9 Compliance Reporting

Reporting on air quality will be completed according to requirements under the EPL 570 and NPI.

Under EPL 570, VOC emissions and any non-compliance with licence conditions relative to dust and odour are reported,

In order to comply with condition C30 of SSD5147, data collected from actions detailed in this monitoring plan will be collated an annual statement prepared in line with the anniversary date during July each year in accordance with condition D4(b) of SSD5147.