



Air Quality Management Plan

**For
Banksmeadow Transfer Terminal**

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QUALITY INFORMATION

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Definitions/Abbreviations

AQMP	Air Quality Management Plan
BTT	Banksmeadow Transfer Terminal
DA	Development Application
DD	Depositional Dust
DMP	Dust Management Plan
DPE	Department of Planning and Environment
EIS	Environment Impact Statement
EMP	Environment Management Plan
EP&A	Environmental Planning and Assessment (Act and Regulations)
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ERP	Emergency Response Plan
NIMS	National Integrated Management System
OEMP	Operational Environmental Management Plan
OMP	Odour Management Plan
OU	Odour Unit
PM_{2.5}, PM₁₀	Particulate Matter
POEO	Protection of the Environment Operations (Act and Regulations)
The Vault	Veolia Incident and Compliance Management System
SMP	Site Management Plan
TPA	Tonnes per annum
TSS	Total Suspended Solids
Veolia	Veolia Australia and New Zealand

SECTION 1 INTRODUCTION

1.1 Overview

Veolia Australia and New Zealand (Veolia) operates the Banksmeadow Transfer Terminal (BTT), which is located at 14 Beauchamp Road and 34-36 McPherson Street, Banksmeadow (refer to site plans in OEMP Appendix A).

The BTT facility has been approved receive up to 500,000 tonnes per annum (TPA) of waste (including 400,000 TPA of putrescible waste and 100,000 TPA of non putrescible waste) from within the Sydney Region. The waste will be containerised and loaded onto rail wagons for transportation by rail to the Woodlawn Eco Project Site (owned and operated by Veolia) in the Southern Tablelands (approximately 250 kilometres southwest of Sydney) for treatment, recycling and energy recovery.

The BTT includes the following infrastructure:

- An access road for waste trucks entering and exiting the facility from Beauchamp Road.
- Incoming and outgoing weighbridges to check the waste type and weight of the waste being delivered to the facility.
- An enclosed building for the unloading and handling of waste, with environmental controls such as dust suppression and odour control systems.
- A hardstand area for temporary storage and manoeuvring of full and empty sealed shipping containers prior to loading on to trains.
- Rail sidings for the loading of containers onto trains for rail transport to Woodlawn.

The NSW Department of Planning and Environment (DPE) assessed the State Significant development (SSD 5855) and granted Development Consent for the 'State Significant' development on 28 April 2015, in accordance with section 89 (e) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In addition, an Environmental Protection Licence (EPL) has been issued under the *Protection of the Environment Operations Act 1997* (POEO Act) by the NSW Environment Protection Authority (EPA).

This Air Quality Management Plan (AQMP) has been prepared in accordance with the requirements of the Conditions of Development Consent (the Consent Conditions) and Environment Protection Licence issued for the BTT. The AQGGMP ensures that air quality impacts, from the activities undertaken during its operational phase are suitably managed and details the relevant control strategies and monitoring procedures.

The AQMP incorporates the Dust Management Plan and the Odour Management Plan.

1.2 Scope and Objectives

The purpose of this AQMP is to provide, in accordance with Consent Conditions, EPL, relevant legislation and as part of Veolia's National Integrated Management System (NIMS), air quality management procedures to form part of the BTT Operational Environmental Management Plan (OEMP).

The OEMP is the working environmental management tool for the operation of the BTT, concentrating on key environmental issues, including supporting detailed plans for the management of water quality, waste, traffic, air quality, noise, landscape and vegetation and emergency response.

This AQMP provides information on the key air quality issues including dust, odour, as follows:

- Quantitative assessment of the potential air quality impacts for the BTT in accordance with relevant EPA guidelines and requirements;
- Detailed emission control techniques/practices to be employed;
- Details of ongoing management and monitoring measures for preventing and/or minimising air quality point and fugitive emissions; and
- Systems for measuring and reporting the effectiveness of the adopted air quality control measures demonstrating compliance with relevant regulatory framework.

1.3 Legal and Other Requirements

The following regulatory framework applies to this AQMP:

- Development Consent (DA SSD 5855) issued under the *Environmental Planning and Assessment Act 1979*
- Environment Protection Licence (EPL 20581) issued under the *Protection of the Environment Operations Act 1997* (POEO Act)

1.3.1 Conditions of Development Consent

Consent conditions 33 to 38 and 37 of Schedule 3 relate to air quality (odour and dust). In particular, Condition 38 requires the preparation and implementation of an Air Quality Management Plan. The requirements considered relevant to this AQMP are detailed in Table 1.1 below.

Table 1.1 Development Consent Requirements

Relevant Conditions	Requirement	AQMP Reference
Air Quality Management Plan		
38	The Applicant shall prepare and implement an Air Quality Management Plan for the development to the satisfaction of the Secretary. The Plan must:	Noted
38(a)	be prepared by a suitably qualified and experienced expert in consultation with	Noted
38(b)	be approved by the Secretary prior to the commencement of operation;	Noted
38(c)	describe the measures that would be implemented to: <ul style="list-style-type: none"> • minimise the fugitive emissions from excavating, handling and treating contamination hot spots including details on methods for dealing with soil contamination variability; 	Not relevant for operations

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	<ul style="list-style-type: none"> include well-defined triggers for additional air quality measures for excessive fugitive emissions including stop-work during adverse weather; ensure all reasonable and feasible dust and odour mitigation measures are employed to prevent and minimise dust and odour emissions from construction and operation of the development ensure compliance with the relevant conditions of this consent and the EPL; and prevent and minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events; 	<p>Refer to Section 4</p> <p>Refer to Section 5</p>
38(d)	<p>include a cleaning protocol which:</p> <ul style="list-style-type: none"> details the procedures to be undertaken to routinely manage, maintain and clean the internal surfaces of the premises to ensure operating conditions inside the facility minimise the potential to generate odour, dust and the carriage of waste outside the facility; and describes how all external surfaces would be routinely managed and maintained so as to be kept free of dust, waste material and other contaminants; and 	Refer to Section 4
38(e)	include a protocol for determining any exceedances of the relevant conditions of approval and criteria in the EPL and responding to complaints.	Refer to Section 5
Odour		
33	The Applicant shall ensure the development does not cause or permit the emission of any offensive odour (as defined by the POEO Act).	Refer to Section 1.3.3
Odour Management Plan		
34	The Applicant shall prepare and implement an Odour Management Plan to the satisfaction of the Secretary. This plan must:	Noted
34(a)	be prepared by a suitably qualified and experienced expert in consultation with the EPA and City of Botany Bay Council;	Noted
34(b)	be approved by the Secretary prior to the commencement of operations;	Noted
34(c)	describe the measures that would be implemented on site to minimise the odour impacts of the development;	Refer to Section 4.2
34(d)	identify triggers for contingency action; and	Refer to Section 4.2
34(e)	Include a program for monitoring the odour impacts of the development.	Refer to Section 5
Dust Management		

35	The premises shall be maintained in a condition which minimises or prevents the emission of dust from the premises.	Refer to Section 4.1
36	The Applicant shall:	
36(a)	implement best management practice, including all reasonable and feasible dust and odour mitigation measures to prevent and minimise dust emissions from operations;	Refer to Section 4.1 and 4.2
36(b)	prevent and minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events;	Refer to Section 4
36(c)	regularly assess air quality monitoring data and relocate, modify, and/or stop operations to ensure compliance with the relevant conditions of this consent;	Refer to Section 5
36(d)	minimise any visible off-site air pollution; and	Noted
36(e)	minimise surface disturbance of the site, other than as permitted under this consent.	Refer to Section 4
37	During construction, the Applicant shall ensure that:	Not relevant to operations
37(a)	all vehicles on site do not exceed a speed limit of 30 kilometres per hour;	
37(b)	all loaded vehicles entering or leaving the site have their loads covered; and	
37(c)	all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads.	

1.3.2 Mitigation Measures

In addition, the operational mitigation measures appended to the Consent Conditions for air quality and greenhouse gas management are presented in Table 1.2 below.

Table 1.2 Operational Mitigation Measure Requirements

	Mitigation Requirement	AQMP Reference
Air Quality		
1	An air extraction system will service the putrescible waste area, within the northern end of the building, and will manage odour through a single exhaust point. The ventilation system for the putrescible waste area of the transfer terminal building will have a single vent stack that will extend to a height of 21 m with a diameter of 2.6 m and be designed to have an exit velocity from the stack of 20 m/s to ensure that the odour emissions from the facility are consistent with the odour criteria prescribed in the EPA Air Quality Guidelines.	Refer to Section 4
2	Plastic strips will be installed on the doorways to help contain odour and dust within the terminal building, which will cover the upper third of the opening.	Refer to Section 4
3	Containers used for the transport of putrescible waste will be specially constructed and have activated carbon filtration packs fitted to the air exhaust vent on the container.	Refer to Section Error! Reference source not found. and Section 4
4	An Odour Management Plan will be developed as part of the OEMP and will include a Procedure for Minimising Odour to ensure waste is managed to minimise the generation of odours. The odour management strategies that will be implemented through the Odour Management Plan will include:	Refer to Section 4
4(a)	<ul style="list-style-type: none"> A description of the odour control system and its components and an Odour Control System Operation Protocol, detailing the activities required to maintain and operate the odour control system. 	Refer to Section 4
4(b)	<ul style="list-style-type: none"> Routine maintenance and cleaning of containers will not be permitted on the Banksmeadow TT site. 	Refer to Section 4.2
4(c)	<ul style="list-style-type: none"> Waste delivery trucks entering the terminal will be required to be fully enclosed or covered. 	Refer to section 4.1
4(d)	<ul style="list-style-type: none"> Putrescible and non-putrescible waste stream will be kept separate. 	Current operations relate to putrescible waste

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4(e)	<ul style="list-style-type: none"> The floor area of the transfer terminal will be cleaned daily. 	Section 4.2.2
4(f)	<ul style="list-style-type: none"> The amount of putrescible waste left on-site within the terminal will be minimised. 	Section 4.2.2
4(g)	<ul style="list-style-type: none"> An odour complaint logbook will be maintained on-site. When odour complaints are received, a Site investigation will be conducted to identify any unusual odour sources within the Site boundary and appropriate action taken as required. 	Section 4.2
4(h)	<ul style="list-style-type: none"> Odour monitoring and reporting will be undertaken in accordance with the EPL requirements for the facility. 	Section 4.2
5	A Dust Management Plan will be developed as part of the OEMP will document strategies to minimise potential dust emissions from the Proposal's operations. Both preventative and responsive control measures will be identified in the plan, including:	
5(a)	<ul style="list-style-type: none"> All trucks entering and leaving the premises carrying loads must be covered at all times, except during loading and unloading. 	Section 4.1
5(b)	<ul style="list-style-type: none"> Good dust management procedures will be implemented within the terminal building including regular sweeping and washing down, as required 	Section 4.1
5(c)	<ul style="list-style-type: none"> Good dust management procedures outside of the terminal building, and the general Site including regular sweeping to remove dust and other debris. 	Section 4.1
5(d)	<ul style="list-style-type: none"> Training of all staff and personnel accessing the Site would be undertaken with a focus on the need to minimise dust generation. 	Section 4.1
5(e)	<ul style="list-style-type: none"> Use of a fine mist dust suppression system within the building, when there are particularly dust loads or noticeable dust levels, as required. 	Section 4.1
5(f)	<ul style="list-style-type: none"> Review of any complaints received relating to dust and reports from monitoring conducted as a result 	Section 4.1
5(g)	<ul style="list-style-type: none"> Monthly toolbox meetings to discuss any safety and compliance issues, including dust, that have arisen since the previous meeting. 	Section 4.1
5(h)	<ul style="list-style-type: none"> Air quality and dust monitoring procedures will be outlined in the plan and monitored with respect to the NSW Government Regional Ambient Air Quality and EPA criteria for allowable dust deposition. 	Section 4.1
5(i)	<ul style="list-style-type: none"> The components of the dust suppression system and the standard operational procedures for Site personnel to operate and maintain the system will be documented within the DMP. 	Section 4.1

1.3.3 Environment Protection Licence

EPL No. 20581 stipulates the environmental obligations for Veolia under s129 of the POEO Act to make all efforts to control the pollution of air from the BTT, stipulated as:

'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 a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour'.

Conditions E2, O3 and O6 set out requirements in relation to the management of air pollution, dust and odour on site as detailed in Table 1.3 below.

Table 1.3 Environment Protection Licence Requirements

Relevant Conditions	Requirement	AQMP Reference
E2.2	In the event of an earthquake, storm, fire, flood or any other event where it is reasonable to suspect that a pollution incident has occurred, is occurring or is likely to occur, the licensee (whether or not the premises continue to be used for the purposes to which the licence relates) must: (b) Make all efforts to control air pollution from the licensee's premises;	Noted, this AQMP
O3.1	A dust suppression system must be operated and maintained within the transfer building to effectively suppress all dust emissions.	Noted
O3.2	All operations and activities occurring at the premises must be carried out in a manner that will prevent the emission of dust from the premises.	Noted
O6.6	All waste containers shall be maintained so as to contain all waste, liquid and odour.	Noted

1.4 Stakeholder Consultation

As part of an ongoing commitment to stakeholder engagement, Veolia has implemented a program of communication and consultation during the preparation of this AQMP. Veolia has consulted with government bodies and other key stakeholders.

The key issues raised during consultation for air quality impacts included odour impacts on surrounding area and measures to mitigate, as well as emissions from waste vehicles

1.4.1 Government Bodies

The following government agencies have been consulted with in relation the requirements of this SWLMP:

- NSW Department of Planning and Environment;
- NSW Environment Protection Authority;
- City of Botany Council

1.4.2 Community

Veolia aim to ensure that the local community is kept informed of the progress of the project in a pro-active and responsive manner. Veolia's communication may include the following where applicable:

- public notices and announcements;
- meetings and correspondence with appropriate regulatory authorities; and
- discussions with adjoining land owners / neighbours who may be affected by the BTT.

The key objectives of the community focused communication and consultation program include:

- Educating stakeholders regarding key aspects of the BTT; and
- Informing community groups and neighbours to help Veolia understand concerns.

The following avenues provide availability of information about the BTT:

- Dedicated Veolia webpage:
<http://www.veolia.com.au/sustainable-solutions/community-development/banksmeadow-transfer-terminal>

- Community telephone line:

Location	Contact
BTT 24 hour feedback line	1800 298 981

- Dedicated email address:
banksmeadow@veolia.com.au
- Published monitoring data:
<http://www.veolia.com.au/sustainable-solutions/environmental-compliance/nsw-environmental-monitoring-data>

SECTION 2 GOALS OF AQMP

Potential air quality impacts associated with operations of the BTT include dust and odour generation. The specific goal of the AQMP is to document operational strategies for the BTT to minimise:

- air quality emissions from the site during the operational phase; and
- potential impact to the closest residential and other sensitive receivers.

Sensitive receivers identified in the EIS (Hyder, 2014) and their approximate distances from the BTT are provided in Table 2.1.

Table 2.1 Potentially Affected Air Quality Sensitive Receptors

Receiver	ID	Classification	Description	Distance from Site Boundary
Hillsdale Residential Area	R1 & R2	Residential	Residential suburb, to the east of the Proposal site, with closest receivers located on the eastern side of Denison Street.	250-500 m (Approx.)
Matraville Residential Area	R3	Residential	Residential suburb, to the east-south-east of the subject site, with the closest receivers located along Perry Street at setback distances of typically >350 m.	Mostly >350m
Perry Street Residences	R4	Residential	Three buildings on Perry Street (Nos 20, 22 and 24) on industrially zoned land, but with potential residential uses are located closer at 120-150m from the main Site entrance.	Three receivers within 120-150 m (Approx.)
Industrial Units Beauchamp Rd	C1	Commercial	Commercial units located to the east of the Beauchamp Road site entrance, on the eastern side of Beauchamp Road.	30 m (Approx.)
Goodman Botany Bay Industrial Park	C2	Commercial	Commercial receivers located to the south of the McPherson Street site entrance, on the southern side of McPherson Street.	30 m (Approx.)
Toll Container Depot	C3	Commercial	Commercial receivers located to the south-west of the Site, to the west of the existing freight rail line.	65 m (Approx.)
Orica Southland	C4	Industrial	Industrial receivers located to the west of the Site, to the west of the existing freight rail line.	35 m (Approx.)
Orica Botany Bay	C5	Industrial	Industrial receivers located to the east of the Site, beyond the Asciano Botany Site.	50 m (Approx.)
Hillsdale Residential Area	R1 & R2	Residential	Residential suburb, to the east of the Proposal site, with closest receivers located on the eastern side of Denison Street.	250-500 m (Approx.)

Matraville Residential Area	R3	Residential	Residential suburb, to the east-south-east of the subject site, with the closest receivers located along Perry Street at setback distances of typically >350 m.	Mostly >350m
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Figure 2.1 illustrates the location of identified sensitive receivers (as detailed in Table 2.1) within the proximity of the BTT.



Figure 2.1 Sensitive receivers within proximity to the BTT site

2.1 Dust Goals

For the BTT EIS (Hyder, 2014), dust impact modelling data was obtained from the an EPA monitoring site in Randwick. This site measures PM₁₀ concentrations using a Tapered Element Oscillating Microbalance (TEOM), to determine the likely impact on the identified sensitive receivers from the particulate matter emissions during the operational phase of the BTT.

The EIS assessment determined that, with the installation of a dust suppression system, dust generated as a result of operations was expected to be negligible during the operational stage of the BTT.

Based on the NSW EPA Air Quality Impact Assessment Criteria, the air quality goal for dust impacts from particulate matter for the BTT is as presented in Table 2.2.

Table 2.2 BTT Air Quality Impact Assessment Criteria

Pollutant	Averaging Period	Impact	Criterion
Particulate matter density less than or equal to 10 µg/m ³ (PM ₁₀)	Annual	Total	30 µg/m ³
	24-hour	Incremental	50 µg/m ³

Particulate matter with a diameter less than 10 micrometers (PM₁₀) is an air pollutant particle size for measuring dust, soot and other small solid particulate materials that are released, and become mobile, in the air. Potential sources of PM₁₀ particulates include transport, burning, construction, industrial sources and mining,

Sources of particulate matter emissions during operation at the BTT are identified in Section 3 of this AQMP. The control measures for these emissions are described in Section 4 of this AQMP.

2.2 Odour Goals

Odour modelling undertaken for the BTT EIS (Hyder, 2014) indicated that odour emissions from the BTT operational stage would be below the odour emission criteria presented in Table 2.3. Odour impacts are not predicted to exceed these levels at any residential receptor. This outcome will be achieved through the installation of a ventilation system within the BTT building that will replace the air within the building nine times per hour on a continuous basis.

Table 2.3 BTT Air Quality Impact Assessment Criteria

Pollutant	Criterion
Odour	2 OU

Further mitigation and management measures to assure the effective control of odour, during operation of the BTT are presented in Section 4 of this AQMP.

2.3 Roles and Responsibilities

Responsibilities for implementation of the AQMP are summarised in Table 2.4 below.

Table 2.4 Summary of Responsibilities – AQMP

Action	Responsibility	Timing
Overall implementation of the AQMP	Facility Manager and Operational Personnel	Ongoing
Implement methodology for avoiding excessive air quality emissions	Facility Manager and Operational Personnel	Ongoing as per AQMP
Coordinate monitoring and compile	NSW Technical and Engineering	As required

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Action	Responsibility	Timing
reports	Team	
Maintain internal records of monitoring	NSW Technical and Engineering Team	As required
Collate and maintain records of complaints, respond to complainant	Facility Manager and/or nominee	Upon receipt of complaint
Identify non-conformances and notify Facility Manager/ Safety Health Environment Quality (SHEQ) Representative	Operational Personnel	Ongoing
Authorise and confirm the implementation of mitigation measures	Facility Manager/SHEQ Representative	As required
Training and communication	Facility Manager/SHEQ Representative	<p>Training as required, 12 monthly corporate refreshers</p> <p>Monthly toolbox meetings to discuss any safety and compliance issues, including dust, that have arisen since the previous meeting.</p> <p>Review of any complaints received relating to dust and reports from monitoring conducted as a result</p>

SECTION 3 EXISTING ENVIRONMENT AND OPERATIONAL IMPACTS

3.1 Existing Environment

3.1.1 Climate

Long-term climatic data from the Bureau of Meteorology (BOM) weather station at Sydney Airport, located approximately 4.5 km west-northwest of the BTT indicates that January is the hottest month with a mean maximum temperature of 26.5 °C; July is the coldest month with mean minimum temperature of 7.2 °C.

Rainfall peaks during the first half of the year declines during latter half. The BOM data showed that June is the wettest month with an average rainfall of 122.9 mm over 8.8 days and September is the driest month with an average rainfall of 60.3 mm over 6.8 days.

Wind speeds during the warmer months have a greater spread between 9am and 3pm compared to the colder months. The mean 9AM wind speeds range from 12.6 km/h in May to 16.3 km/h in October. The mean 3PM wind speeds vary from 17.1 km/h in May to 25.3 km/h in November.

Modelling was undertaken in the BTT EIS (Hyder 2014) in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW DEC, 2005) (EPA Air Quality Guidelines). This simulated dispersion processes in the atmosphere and predicted local scale air pollution from sources such as sea breezes and terrain induced flows. This confirmed that, on an annual basis, winds from the west-southwest, west and north-northeast were most frequent. During summer and spring, winds from the north-northeast and northeast were most dominant. The seasons of autumn and winter had dominant wind from the west-southwest and west directions.

3.1.2 Ambient Air Quality

The BTT EIS (Hyder 2014) reported background ambient air quality data obtained from the NSW EPA Randwick monitoring site. This included particulate matter (PM₁₀) concentrations measurements taken using a Tapered Element Oscillating Microbalance (TEOM) method. The data from this monitoring was analysed to characterise the ambient air quality in the local area. The location of EPA Randwick monitoring site is approximately 3 km northeast of the BTT.

The monitoring data indicated that the annual average PM₁₀ concentrations at the Randwick monitoring site for all years reviewed are below the 30 µg/m³ recommended upper limit for air quality, established under the EPA Air Quality Guidelines.

The maximum 24-hour average PM₁₀ concentration at the monitoring station for all years reviewed was also below the 50 µg/m³ recommended upper limit for air quality. Concentrations of 24-hour PM₁₀ were highest in the spring and summer months. The warmer weather at this time raises the potential for drier ground and elevates the potential level of windblown dust, as well as the occurrence of bushfires and pollen levels.

3.2 Predicted Air Quality Impacts

The EIS identified potential air quality impacts and associated risks associated with the operation of the BTT. Table 3.1 lists these impacts and risks.

Table 3.1 Air Quality Impact Risk Rating

Issue	Potential Impact	Source	Risk Ranking	Control Implemented
Air Quality	Odour emissions from putrescible waste	The handling of large quantities of waste at the facility has potential to result in the emission of odour if not properly managed.	Moderate	Yes, refer Section 4
	Dust emissions from deposition from non-putrescible waste	The handling of large quantities of non-putrescible waste and deposition of dusty loads on the tipping floor has the potential to result in dust emissions beyond the Site boundary if not appropriately controlled.	Moderate	Yes, refer Section 4
	Air pollutants emitted from vehicles and trains accessing the Site and machinery operating on-site.	The operation of numerous vehicles on the Site, including trains, trucks, front-end loaders and container handlers, has the potential to result in dust and pollutants reducing ambient air quality if not properly managed.	Moderate	Yes, refer Section 4

Dust and odour were predicted to be the principal air quality impacts associated with operations of the BTT. These arise due to:

- dust emissions from the handling of waste within the transfer terminal building.
- odour impacts from waste received at the BTT on residential receivers.

The predicted dust and odour emissions during BTT operations, and the level of mitigation required for those impacts, are discussed in more detail below.

In general, dust and odour emissions will be controlled within the BTT transfer terminal building through the operation of an exhaust stack and ventilation system, together with a dust suppression system.

The detail of measures installed within the BTT to mitigate potential dust and odour emissions are discussed in Section 4.

3.2.1 Dust emissions

Dust impacts arising from the operation stage of the BTT were assessed against the NSW EPA air quality dust assessment criteria. These criteria were identified in the BTT EIS (Hyder, 2014).

The EIS concluded that the key potential impact from dust associated with the BTT operations were the emission of small diameter particulate matter (PM₁₀). Notwithstanding this, the assessment predicted that the scale of dust emissions during the operation of the BTT facility would be minor.

The EIS concluded that there would not be any discernible impact of PM₁₀ particles (ie dust) at any off-site sensitive receptor beyond existing levels, provided reasonable dust controls were implemented.

3.2.2 Odour emissions

Odour emissions and related impacts from the BTT were modelled in the BTT EIS (Hyder 2014) in accordance with the EPA's Air Quality Guidelines. Odour less than one odour unit (1 OU) is not detectable to most people. A criterion of 2 OU is applied as a maximum odour level to assess the significance of potential impacts on residential receptors in an urban environment.

The dispersion modelling results predicted that ground level odour concentrations at sensitive receptors would be below the benchmark 2 OU criteria, even during the 'worst case' scenario. All residential and commercial/ industrial sensitive receivers had predicted odour levels that fell at 0.3 OU within the 99th percentile level.

The main source of potential significant odour emissions during operation of the BTT has been identified as arising from the exhaust stack odour emissions generated from within the BTT facility. The stack is located on the northwest corner of the terminal building.

The air extraction system installed in the terminal building is designed both to ventilate the building, and, in the process, to capture and disperse odour emissions from within the building. This includes odours generated by waste transfer building and the compactor area.

The bulk air exchange rate within the terminal building is nine air changes per hour. This turnover of air within the terminal building will minimise the escape of fugitive odour emissions from other points in the building.

In addition, containers used for the transport of waste have been purpose built. They have activated carbon filtration packs fitted to the air exhaust vent on the container. The low flow and carbon filtered odour emission from the containers has a very small odour emission potential.

SECTION 4 AIR QUALITY MANAGEMENT MEASURES

Mitigation measures included in the BTT EIS (Hyder 2014) have been incorporated into the design of the BTT facility to minimise the risk and consequences associated with the key air quality management issues. All works shall be made to conform to relevant regulations and guidelines for the handling of dust and to ensure emissions are minimised. These are:

- **Dust emissions from handling of waste:** a dust suppression system that emits a fine mist during dust generating activities within the terminal building; and
- **Odour impacts from waste received:** a ventilation system with a single stack installed in the transfer terminal building to capture and disperse odour emissions from the waste handling area, including the compactors area.

Based on the adopted mitigation measures, the residual risk for air quality for operation of the BTT is low. Controls and mitigation measures have been adopted to minimise the production of fugitive emissions at the BTT and care will be taken to ensure that air quality is not evident outside site boundaries.

The following general operational measures have been implemented through to manage any potential source of air quality impacts associated with the operational phase of the BTT:

- The terminal building, including the compactor area is enclosed, with the exception of vehicle access openings and an air extraction system.
- The air extraction system services the waste handling area within the terminal building so as to manage odour through a single exhaust point.
- The ventilation system includes a single vent stack with a height of 21 metres and a diameter of 2.6 m. The exit velocity of air from the stack (20 metres per second) is designed to ensure the odour emission goals for the BTT are met.
- Dust generated from waste is to be managed by dust suppression systems located within the transfer building.
- Plastic strips installed on the doorways will help contain odour and dust within the terminal building.
- Containers used for the transport of waste have been purpose built for the BTT. They include activated carbon filtration packs fitted to the air exhaust vent on the container.

4.1 Dust Control Measures

This AQMP incorporates the Dust Management Plan for the BTT, providing strategies to minimise potential on-site dust emissions during operations. Control measures at the BTT will be both preventative and responsive

The dust mitigation strategies included in Table 4.1 below are measures that will be implemented through the operational phase and are based on controls that were found to be effective in managing dust emission during standard and adverse weather conditions, as included in the EIS. These controls may be used alone or in combination with other measures depending on the circumstances.

The controls summarised in Table 4.1 are considered to be sufficient to mitigate adverse effects of dust discharges from the operational stage of the BTT and have been developed based on the consideration of reasonable and feasible controls.

There is no exposure expected from emissions from contaminated soils during regular operation, however if future construction work is required, these will be managed as per the Construction Site Contamination Management Plan (CSCMP) and Construction Asbestos Management Plan (CAMP).

The design and control measures facilitate the avoidance and/or mitigation of any adverse effects from operational activities.

Table 4.1 Summary of Dust Control and Mitigation Measures

Source of Dust	Control Measures	Responsibility
Any dust generating activities	<ul style="list-style-type: none"> • Establish weather station on site to monitor meteorological conditions on site during operational; • Visual inspection of the site entry and exit points and use of sweeper on public roads if required; • Site induction to include details regarding measures to minimise dust impacts; • On-site vehicles and plant engines switched off when not in use; • On-site operational machinery and vehicles maintained and serviced according to the manufacturer's specifications undertake periodic visual checks of exhaust system emissions; • Visually monitor dust generation on site to ensure no excessive dust generation; • Undertake incident specific risk assessment if required to consider additional control measures; 	Facility Manager or nominee
Traffic movements	<ul style="list-style-type: none"> • During waste acceptance activities: <ul style="list-style-type: none"> ○ Watering and regular cleaning of sealed haul roads including removing litter/spilt material from access roads (sweeper/vacuum cleaner to be used) ○ Restricting traffic to designated routes; ○ Keeping vehicle loads covered when entering and leaving transporting the site except during loading and unloading 	Operators/Drivers
Manual handling	<ul style="list-style-type: none"> • Minimising drop heights of materials from loading/handling equipment; • Prohibiting burning of materials on-site. 	Facility Manager and/or nominee

<p>General</p>	<ul style="list-style-type: none"> • Regular sweeping and washing down, as required, as well as outside of the building, and the general site including regular sweeping to remove dust and other debris. • Training of all staff and personnel accessing the site in the need to minimise dust generation. • Use of a fine mist dust suppression system within the building, when there are particularly dust loads or noticeable dust levels, as required. • Review of any complaints received relating to dust and reports from monitoring conducted as a result. • Monthly toolbox meetings to discuss any safety and compliance issues, including dust, that have arisen since the previous meeting. 	<p>Facility Manager and/or nominee</p>
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The Facility Manager and/or nominee may devise additional mitigation measures if required based on an incident specific risk assessment. If alternate methods are to be employed, the effectiveness of those methods will be demonstrated and this AQMP updated accordingly.

In the event of any adverse meteorological conditions and extraordinary events during the operational stage likely to impact air quality, an incident specific risk assessment will be undertaken to devise suitable control measures. This process may also result in work ceasing on site until adverse weather conditions subside, if it is not practical to implement suitable control measures.

Additional dust control measures will be put in place as appropriate so that dust does not adversely impact neighbouring properties. Once the air emission source is removed or wind speeds reduce, standard construction dust control measures would be applied.

4.2 Odour Control Measures

4.2.1 Odour Control System

The odour control system comprises a plenum on the mezzanine level of the terminal building, a central vent stack and support structures, and two 45 kilowatt fans. Detailed components of the system are as follows:

4.2.1.1 Extraction Fans

The installation of two 45 kW extraction fans designed to allow 9 air exchanges. This includes fan controls wired into a new switchboard for the variable speed drives (VSDs) positioned plant room above the compactor pit of the terminal building. The VSDs are integrated into the electrical controls of the odour control system.

4.2.1.2 Plenum

An insulated Plant Room to house the extraction fans is installed along above the area designated for the leachate tanks in the compactor pit of the terminal building with the

following dimensions: Length 12 m x Width 8m x Height 2.5 m. Ducting with grilles & dampers are installed along the ceiling on western end of the shed, to enable controlled air floor through the each grille in the ducting.

4.2.1.3 Stack and Support Structure

A support platform has been built to bear the fans and comprises of horizontal and vertical steel sections attached to the building structure of the Terminal. The air discharge stack diameter equals 2.65 m and extends to 5.5 m about the peak of the roof, 20.5 m above ground level.

4.2.1.4 Door opening

The truck entrance to the building has roller doors and is installed with the plastic strips to ensure that the negative pressure is maintained within the building to control odour within the building. These strips cover the upper one-third of the opening area and provide a practical measure for controlling odour at the entrance to the building while still allowing the high rate of truck movements into and out of the tipping areas. This measure has been shown by smoke testing at the Clyde Transfer Terminal (similar designed facility to BTT) to decrease air movement through the door way. In the event that further contingency measures are to be investigated, consideration will be given to start using the roller doors.

4.2.1.5 Containers

Containers used for the transport of waste have been purpose built for the BTT. They include activated carbon filtration packs fitted to the air exhaust vent on the container as well as rubber seals to help manage potential odour.

4.2.1.6 Odour control and ventilation equipment

Maintenance schedule for odour control system and ventilation equipment is carried out typically in accordance with the manufacturer's specification and include monthly mechanical maintenance. Regular inspections are undertaken as per the BTT Environmental Inspection & Testing Schedule, included in section 5.1 of the OEMP.

4.2.2 Additional Information

The odour mitigation strategies included in Table 4.2 below have been adopted to ensure that generation of odours from waste accepted at the BTT facility are minimised. This includes a cleaning protocol to routinely manage, maintain and cleaning the internal surfaces of the transfer building and externally as well.

All Veolia sites are required to follow a Housekeeping and Inspection Procedure (PRO-COL-000-029-5) which requires that a standard checklist (FOR-COL-000-063-16) be followed to ensure site safety and hazard reduction is maintained. This checklist has been adapted for the BTT in order to manage odour through the implementation of housekeeping procedures (refer Appendix A) and compactor

cleaning procedures . An Odour Management Procedure (refer Appendix B) has been prepared to detail the strategies to be employed.

Table 4.2 Summary of Odour Control and Mitigation Measures

Source of Odour	Control Measures	Responsibility
Waste received at the facility	<ul style="list-style-type: none"> • Routine maintenance and cleaning of containers will NOT be undertaken at the site. • Waste delivery trucks entering the terminal will be required to be fully enclosed or covered. • The floor area of the transfer terminal will be cleaned daily. • The amount of waste left on-site within the terminal building will be minimised. • An odour complaint logbook will be maintained on-site. When odour complaints are received, a Site investigation will be conducted to identify any unusual odour sources within the Site boundary and appropriate action taken as required. • Site walk overs to undertake odour monitoring and any related reporting shall be undertaken routinely to ensure compliance. • An incident specific risk assessment if required will be undertaken to consider additional control measures; 	Facility Manager or nominee

SECTION 5 AIR QUALITY MONITORING AND REPORTING

5.1 Monitoring Program

Inspection and monitoring checklists for air quality management during the operational phase of the BTT are kept on Veolia's document management system. This ensures that all monitoring activities will assist to minimise the impact of any emissions and trigger protocols for managing any exceedances.

The frequency of the monitoring is defined but in the instance of adverse meteorological conditions and extraordinary events, such as strong winds, and a complaint, the monitoring will be undertaken more regularly. In such an event, a specific risk assessment will be undertaken to devise suitable control measures. This process may also result in specific activities ceasing on site until adverse weather conditions subside, if it is not practical to implement suitable control measures.

Table 5.1 Air quality monitoring requirements

Parameter	Monitoring Required	Frequency	Standard	Criteria/ Performance Measure/Trigger	Response
Meteorological monitoring - Wind	Airborne dust	As required or if offsite air pollution is visible	Beaufort Wind Scale (Appendix-C)	Average wind speeds exceeding 25 km/h over a 1 hour period Average wind speeds exceeding 50 km/h over a 30 minutes period	Inspect all active work areas including any exposed areas and stockpiles Utilise sweeper to manage dust levels if required
Visual Monitoring	Inspecting dust generating activities to ensure effective controls are in place.	Daily or as required	-	Adverse weather conditions	Address housekeeping
Odour	Site inspections	Daily or as required		Detection Complaints	Address housekeeping or refer Section 5.3
Odour Audits	Testing	Six monthly		Performance of the odour control and ventilation equipment	

5.2 Performance Reporting and Review

Annual management reviews of the environmental performance of the BTT will assess the continuing suitability, adequacy and effectiveness of the on-site environmental management measures implemented. This review will include environmental performance against the goals of the AQMP.

Where performance reporting is required under the Consent Conditions or EPL, all relevant information shall be recorded and maintained on site, including but not limited to

- Sampling dates, times and name of sampler;
- Chain of Custody, analysis and results;
- Complaints received and corrective actions taken; and
- Copy of the EPL, development consent and other relevant approvals.

Veolia will use monitoring data to review and identify any exceedances against the adapted goals with the appropriate corrective actions applied as discussed below.

Validation of the odour and system performance will be carried using the six monthly odour audits to be undertaken by external consultants

Details of compliance reporting are provided in Section 5.1.2 of the OEMP.

5.3 Exceedances and Corrective Actions

Handling of any operational air quality impacts complaints will be managed in accordance with the process outlined in Section 4.3.4 of the OEMP. The Facility Manager, or their site nominee, will record and manage all complaints in accordance with Veolia's complaints handling, notification and reporting procedures, outlined in the OEMP.

Any air quality related incidents will be managed in accordance with Veolia's Non Conformance Procedure (PRO-COL-000-137) and investigations undertaken in accordance with the NSW Incident Investigation Procedure (PRO-NSW-000-130) or on a case by case basis depending on the severity of the incident as described Section 5.1.1 of the OEMP.

Notification, emergency response and reporting requirements relating to incidents are detailed in Section 4.4 of the OEMP.

At completion of any investigation, any corrective actions required are to be recorded in the Vault and managed in accordance with the NSW Corrective Action procedure (PRO-NSW-000-132) in a timely manner as described in Section 5.1.1 of OEMP.

The process for incident response is summarised in the figure below.

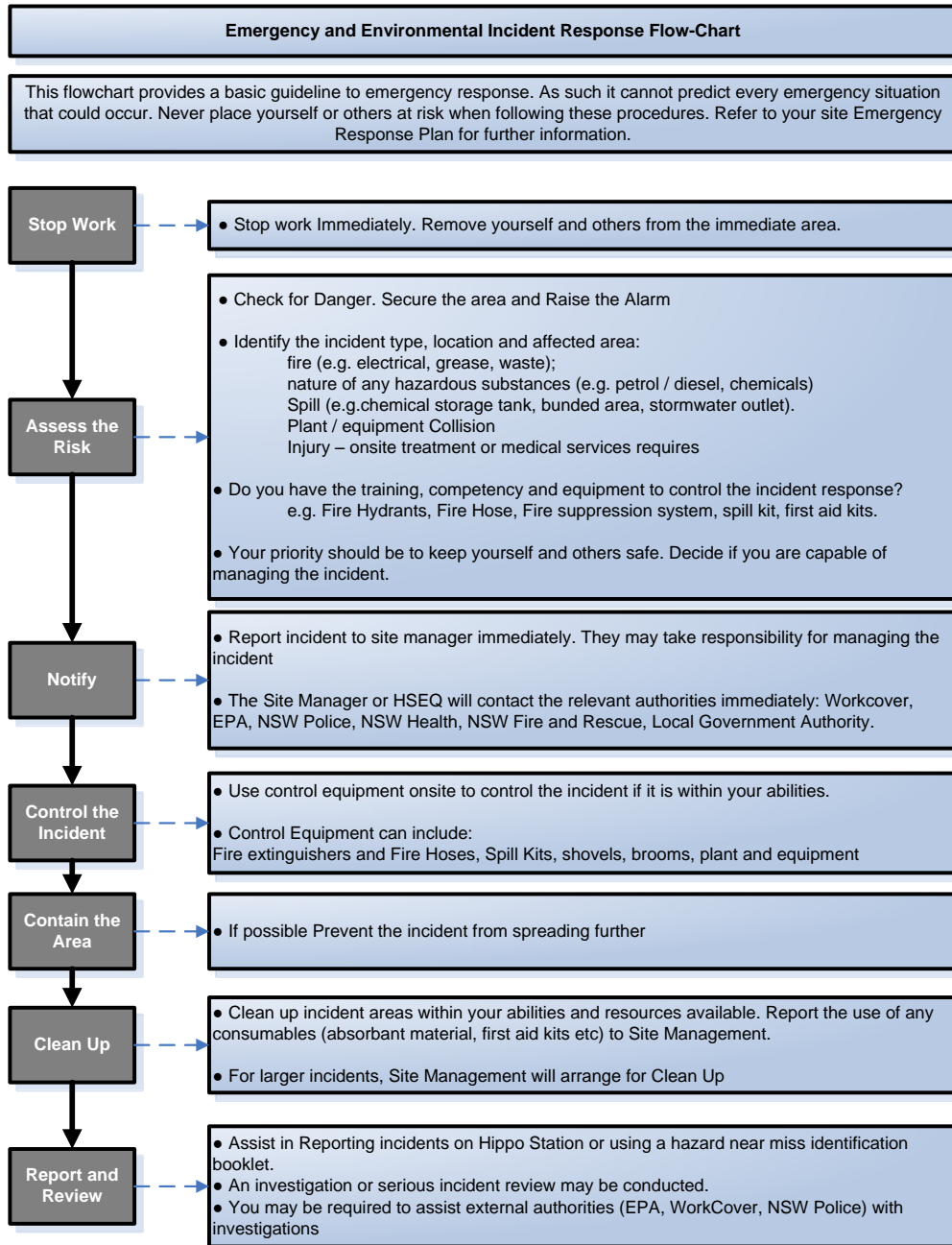


Figure 5.1 Emergency and Environmental Incident Response Flow-Chart

In addition, an Emergency Response Plan (ERP) has been developed for the BTT site and is appended to the OEMP. The ERP (refer Appendix D7 of the OEMP), identifies the procedures to be followed in the event of an emergency and is to be used as the protocol in the event of an exceedance.

5.4 Publishing of Monitoring Data

Where required, Veolia publishes the results of any environmental monitoring required under the EPL on the following website:

<http://www.veolia.com.au/sustainable-solutions/environmental-compliance/nsw-environmental-monitoring-data>

REFERENCES

1. Hyder, 2014a; Veolia Environmental Services Banksmeadow Transfer Terminal Environment Impact Statement, Hyder Consulting Pty Ltd, April 2014
2. Hyder, 2014b; Veolia Environmental Services Banksmeadow Transfer Terminal Response to Submissions, Hyder Consulting Pty Ltd, September 2014
3. EPA, 2005; Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, NSW Environment Protection Authority (formerly Department of Environment and Conservation), 2005

APPENDICES

Appendix A BTT Housekeeping Checklist

FORM

Housekeeping and Inspection Checklist

Instructions:

1. Use this checklist to carry out an inspection of the site or area.
2. All actions must define what is to be done, by when and be allocated to a person.
3. Hand the completed list to the Site Manager or Area/Divisional Manager and forward a copy to the organiser of the site safety committee or consultative group.

Site:		Date:		Frequency:	
Person/s Conducting Inspection:			Employees consulted during the inspection:		

Item	Yes	No	N/A	Comment/Action
Site Environment / Roadways				
Is signage appropriate, visible & clean?				
Is exit line of sight from the site clear of obstructions?				
Are spill kits in their correct location and fully stocked?				
Are PPE signs visible from all access points?				
Are depot speed limits being observed?				
Are all roadways clear and level without severe pot holes and water logging?				
Is there any building damage?				
Check bunds for cracks, advise if leaking?				
Are all bunds/walls (e.g. pond) & sumps clear of standing water and clean?				
Are railings (pits) and other barricades in good state of repair?				
Is there evidence that the storm water system is not being appropriately maintained?				
Is waste stored safely (are drums & IBCs max two pallets high?)				
Are all pallet stacks/combustibles away from buildings and DG stores?				
Are all work areas clear of waste paper, used gloves & rags?				
Are bins located at suitable points and emptied when ¾ full?				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
Is litter being effectively managed?				
Are all emergency doorways clear and signs clean and visible?				
Are EXIT signs lit?				
Is odour from the site being adequately controlled?				
Is dust adequately controlled?				
Pests				
Is there any sign of rodent activity?				
Are baits adequately serviced?				
Chemicals				
Are chemicals/ samples stored in container(s), and labelled?				
Are all DG gas bottles properly stored vertically & chained securely and mixed gases separated by an appropriate distance?				
Are all dangerous goods/hazardous materials properly labelled, stored, access controlled and/or separated? Is the storage area clean, dry and well ventilated?				
Are all storages placarded correctly for the class of good stored?				
Are storage areas orderly, with no items on the floor and the heaviest items stored on the lower shelves?				
Electrical				
Are there any broken plugs, sockets, switches, frayed/damaged leads?				
Are all electrical leads etc tagged and currently dated?				
Is an earth leakage (ELCB/RCD) device fitted to the switch board or portable device available for use with electrical leads & power tools?				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
All electrical equipment is turned off and unplugged when not in use.				
Are leads, properly coiled & stowed when not used? ie. not across walkways.				
Are all electrical boards and cabinets clear of obstructions and locked as per Veolia protocol?				
Is there adequate access to electrical boards and cabinets for maintenance access?				
Fire				
Is all first response emergency and fire equipment accessible and working?				
Is there firewater available at all hydrants & hose reels? (verify!)				
Are clear instructions displayed for action in event of fire?				
Are extinguishers/hoses clearly marked for type of fire and serviced? (serviced/stamped last 6 month)				
Has fire/emergency training been conducted within twelve months?				
Are non smoking zones being strictly observed?				
Are combustibles such as rags and paper disposed of safely?				
Emergency				
Are muster points clear of parked cars, overgrown bushes?				
Is the emergency plan current? (revised annually)				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
Are there trained wardens, first aiders in each work area?				
Has there been an evacuation exercise in the last 12 months?				
Do workers know where their muster point is?				
Are emergency evacuation signs clearly visible?				
First Aid				
Are first aid cabinets clearly labeled, adequately stocked and contents clean and orderly?				
Is trained first-aid officer name and emergency numbers clearly displayed?				
Walkways				
Is all oil/grease build-up & spills removed from floors?				
Are doors and access walkways etc kept clear & unobstructed?				
Are walkways adequately lit & clearly line marked?				
Machines / Equipment				
Are areas clean, machines adequately guarded & in safe condition?				
Are tank extractions/fans functional? Dampers & lids closed when not in use?				
Are instructions & labels visible & clean?				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
Are there any trip hazards such as leads, cables, hoses in the area?				
Confined Spaces				
Site confined space register is current.				
All confined spaces are appropriately signed and secured.				
Safety Equipment				
Is safety & personal protective equipment provided and worn, including Masks, Helmets, Safety glasses, Ear muffs/plugs, Shoes, Gloves?				
Are safety harnesses etc available and properly stored?				
Are protective equipment safety signs posted?				
Are all chains/slings etc correctly tagged & currently dated?				
Are eyewashes/showers within 10mtres/10 seconds of work areas?				
Are all Eyewashes/showers functional (test) and clean with caps in place & water valve secured in the ON position? Is access clear and unobstructed?				
Are safety documents [Confined Space, Jsea's etc] that are available to the work force valid and in date?				
Workshops / Yards				
Are pits, walkways, floors, stairs and steps clear of rubbish? Oils/greases spills cleaned up?				
Are all exits clear and unobstructed?				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
Are all access points to rooftops controlled? Doors and ladder access points locked.				
Is there an alternative and effective way of lifting other than manual handling?				
Are cars/trucks parked safely allowing for emergency access?				
Are there appropriate storage facilities onsite to ensure items are stored safely and properly?				
Office Hazards				
Are filing cabinets closed, store rooms orderly etc?				
Are filing cabinets and/or offices that store personnel files are locked and secured?				
Are all IT server rooms locked and secured?				
Is all office lighting working and adequate?				
Are office chairs two-way adjustable?				
Are all floor coverings stable and non trip or slip?				
Are floor coverings "industrially" clean?				
Are there appropriate office storage facilities to ensure items are stored safely and properly?				
Hygiene & Welfare				
Is appropriate heating & air conditioning available and maintained to working efficiently?				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
Are meal rooms clean and tidy and regularly cleaned?				
Are all chairs, all tables, furniture and appliances fit for use and free from damage?				
Is all room lighting working and adequate?				
Are all floor coverings stable and non trip or slip?				
Are floor coverings 'industrially' clean?				
Are air conditioning units free from damage and filters clean?				
Have microwaves been inspected? Note validation period – AS 4360. Are the exterior, seals and doors in good working order?				
Is a non slip mat positioned in front of the sink to reduce the likelihood of a slip hazard.				
Are adequate indoor washing/toilet facilities, showers etc provided with supplies and regularly cleaned? Are exhaust fans in working / clean order?				
Are lockers/locker rooms clean and tidy?				
Is there an adequate clean water drinking utensil or fountain provided?				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action
General Areas				
Is the site boundary in satisfactory condition?				
Is guarding fitted on all workshop equipment?				
Harnesses/Slings have valid inspection dates?				
Other				
Have any unsafe conditions or practices been observed during this audit?				
Is the SHEQ Notice Board accessible to personnel?				
Is the content of the SHEQ Notice Board complete and up to date?				
AQIS (Where applicable) Is the wash bay clean and free of debris? Is the compound locked when not in use? Are the grates clean? Has solid waste been placed in sealed AQIS containers? Has the bin been emptied regularly?				
Contractors Work				
Is the area clean & tidy?				
Are DG gas bottles on trolleys secured?				
Are contractors using Permits to Work consistently? Are OHS representatives advised when work is carried out in their designated area?				
Permits to Work				
Is any Hot Work, CS being conducted? If so, note permit numbers and verify controls are provided as required.				
General Comments				

FORM

Housekeeping and Inspection Checklist

Item	Yes	No	N/A	Comment/Action

Signoff on Completion of Inspection:				Date:	
Signoff on Completion of Actions: (NB. Only required if using checklist as action list)				Date	

Appendix B Odour Management Procedure

PROCEDURE

Draft Banksmeadow Transfer Terminal Odour Management

Objective

This procedure has been developed in an effort to reduce the likelihood of offensive odours leaving the Banksmeadow Transfer Terminal (BTT) boundary by providing Site Operators with clear regular tasks to eliminate the source of any potential odours.

This procedure is also aimed to effectively maintain and operate the BTT Odour Control System, in accordance with design specifications and approved Conditions of Development Consent, to ensure maximum efficiencies and minimise the risk of any adverse impact on surrounding commercial and residential areas.

Responsibility:

It is the responsibility of the BTT Facility Manager and Environmental Management Representative to ensure that this procedure is communicated to Site Operators and that the procedure is followed.

It is the responsibility of the Site Operators to ensure that actions mirror this procedure.

Procedure

Task	Reason for action
1. Only fully enclosed and appropriately sealed vehicles will be permitted to dispose of waste at the Terminal;	Remove a potential source of odour from site entry .
2. The Odour Control System is to be operated when waste is present on the Terminal building floor.	Remove a potential source of odour.
3. The Dust Suppression System (DSS) will be operated as required to minimise the potential for particulates to become airborne;	Remove a potential source of odour.

PROCEDURE

**Draft Banksmeadow Transfer Terminal
 Odour Management**

Task	Reason for action
4. Collect any solid waste from the floor of the compactor pit area. Shovel any waste matter into a container or into the mouth of the Compactor.	Remove a potential source of odour.
5. Waste is to be loaded into the compactors on a first-in/first-out basis. This is provided that where a load is identified as offensive (due to odours or dust), that load will be prioritised for compaction and loaded into sealed containers. For all waste, loading into the containers must be done in a timely fashion.	Remove a potential source of odour.
6. All waste received at the terminal will be compacted and containerised in a timely fashion to ensure the tipping floor is clear of waste where possible;	Remove a potential source of odour.
7. Following the compaction of waste, all containers are to be sealed immediately.	Remove a potential source of odour.
8. Misting sprays to be used as required	To minimise the potential for particulates to become airborne.
9. Hose down any liquid waste residue that falls onto pit floor area into the leachate drainage.	Remove a potential source of odour by storing leachate liquid in dedicated tank (not to be treated as stormwater).
10. The leachate retention tank ventilation system to be channelled back through the building's extraction system	Remove a potential source of odour
11. The compactor pit area will be inspected daily to ensure the area is free from residual waste and debris. Remove all waste from the rear and inside of the compactor.	Reduce likelihood of compactor failure and subsequent build-up of waste on site. Remove a potential source of odour.
12. Clean out all drains located in the compactor pit area weekly. Remove any solid matter and check the pollution socks for replacement.	Reduce likelihood of drainage blocking up. Remove a potential source of odour.
13. Collect any waste matter that may fall from Waste vehicles and dispose in the appropriate manner, such as waste bins.	Remove a potential source of odour.

PROCEDURE**Draft Banksmeadow Transfer Terminal
Odour Management**

Task	Reason for action
14. Ensure adequate maintenance schedules are in place to reduce the likelihood of system failures or breakdown. andMaintain records in accordance with manufacturer's recommendations;	To ensure that maintenance is recorded sufficiently inline with COC needs
15. Housekeeping, including street sweeping and high pressure water jetting is undertaken routinely to remove build up of any waste material on hard surfaces on the road and weighbridge.	Remove build up of any waste material which may cause an odour.
16. Ensure through Veolia's monitoring regimes occur by internal and external process	This is so odour control measures remain effective and capable of minimising offensive odours from the site;

NOTE: If these instructions are not followed the individual/s involved may be held personally responsible for any injuries, site damage or environmental harm that may occur as a result of their actions.

End of Procedure

Appendix C Beaufort Wind Scale

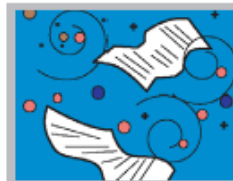
wind

We cannot see the wind, but we quite often see what it is doing or what it has done.

Wind in tropical cyclones and tornadoes can cause enormous damage, but most of the time the wind is gentle rather than destructive.

Knowing about the wind is important for many reasons:

- for the safety of passengers in aircraft, of building workers in high places, of fishermen at sea, and of residents in cyclone-prone areas.
- it helps to fly kites, fills the sails of yachts, and influences sports events.
- for forecasting the weather – to predict when a sea breeze will provide relief on a hot day, or how quickly pollution will be carried away from cities.



Beaufort wind scale

On the Beaufort scale, wind speeds are divided into 12 categories, each of which describes the physical effect of the wind.

0: calm (< 1 km/h , < 1 knot)

Smoke rises vertically.

1: light air (1-5 km/h , 1-3 knots)

Wind direction shown by smoke-drift, but not by wind vanes.

2: light breeze (6-11 km/h , 4-6 knots)

Wind felt on face; leaves rustle; ordinary vanes moved by wind.

3: gentle breeze (12-19 km/h , 7-10 knots)

Leaves, twigs in constant motion; wind extends light flag.

4: moderate breeze (20-28 km/h , 11-16 knots)

Raises dust and loose paper; small branches are moved.

5: fresh breeze (29-38 km/h , 17-21 knots)

Small trees in leaf begin to sway; crested wavelets form on inland waters.

6: strong breeze (39-49 km/h , 22-27 knots)

Large branches in motion; whistling heard in telephone wires; umbrellas hard to use.

7: near gale (50-61 km/h , 28-33 knots)

Whole trees in motion; inconvenience felt when walking against the wind.

8: gale (62-74 km/h , 34-40 knots)

Breaks twigs off trees; generally impedes progress.

9: strong gale (75-88 km/h , 41-47 knots)

Slight structural damage occurs (chimney pots and roof tiles removed).

10: storm (89-102 km/h , 48-55 knots)

Seldom experienced inland; trees uprooted; considerable structural damage occurs.

11: violent storm (103-117 km/h , 56-63 knots)

Very rarely experienced on land; accompanied by widespread damage.

12: cyclone/hurricane (118+km/h, 64+knots)

Source: Bureau of Meteorology website
<http://www.bom.gov.au/info/weatherkit/section2/pdf/beau.pdf>