





ResourceCo RRF Pty Ltd

Air Quality Management Plan Wetherill Park RRF

July 2017

Table of contents

1.	Intro	duction	1
	1.1	Overview	1
	1.2	Purpose	1
	1.3	Project description	
	1.4	Environmental management system	2
	1.5	Consultation and approval process	4
2.	Exist	ting air quality	5
	2.1	Odour	
	2.2	Dust and particulate matter	5
3.	Pote	ential air emissions	6
	3.1	Dust	
	3.2	Odour	
	3.3	Ranking of air emissions	7
4.	Man	agement measures and controls	8
5.	Mon	itoring and evaluation	9
	5.1	Dust	9
	5.2	Odour	10
6.	Reco	ords and reporting	11
7.	Revi	ew and improvement	12
	7.1	Review of the Air Quality Management Plan	12
	7.2	Non-conformance, corrective and preventative action	12
8.	Refe	erences	14
bl	e i	ndex	
Tabl	le 1	Conditions of Approval requirements	4
Tabl	le 2	PM10 Monitoring Results – Prospect	5
Tabl	le 3	PM2.5 Monitoring Results – Prospect	5
Tabl	le 4	Dust emissions estimates	6
Tabl	le 5	Dust particle size distribution	6
Tabl	le 6	Dust emissions estimates by particle size fraction (kg/year)	6
Table 7		Odour emissions estimate	7
Table 8		Ranking of potential air emissions	7
Tabl	le 9	Summary of air quality management measures and controls	8
Tabl	le 10	AQMP approval process	12

Figure index

Figure 1 Operational environmental management document structure3

Definitions

Term	Definition		
Accredited	a testing laboratory accredited by the National Association of Testing		
laboratory	Authorities, Australia (NATA) or a similar accreditation authority, or		
	otherwise granted recognition by NATA, either solely or in conjunction		
	with one or more other persons.		
Applicant	ResourceCo RRF Pty Ltd		
C&D	Construction and demolition		
Construction and	Waste arising from commercial or industrial premises, refurbishments		
Demolition Waste	and demolition and construction work		
EfWP	NSW Energy from Waste Policy		
EfWMP	Energy from Waste Management Plan		
EIS	Environmental Impact Statement titled <i>Waste and Resource Management Facility</i> SSD 15-7256, ResourceCo Pty Ltd, 35-37 Franck Street, Wetherill Park, prepared by Nexus Environmental Planning Pty Ltd dated 8 March 2016		
EMS	Environmental Management System		
EPA	Environment Protection Authority		
EPL	Environment Protection Licence issued by the EPA under the POEO Act		
Load	the quantity of waste material delivered to the stockpile by truck, bin or trailer		
Minister	Minister for Planning (or delegate)		
NATA	National Association of Testing Authorities		
OEMP	Operational Environmental Management Plan		
Operation	The receipt, removal or processing of waste		
Particulates; Particulate Matter (PM ₁₀)	A criteria air pollutant. Particulate matter includes dust, soot and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose and throat irritation and other health problems.		
PEF	Process Engineered Fuel		
Personal Protective Equipment (PPE)	equipment and clothing that is used or worn by an individual person to protect themselves against, or minimise their exposure to, workplace risks. It includes items such as facemasks and respirators, coveralls, goggles, helmets, gloves and footwear		
PM ₁₀ /PM _{2.5}	PM ₁₀ is measure of particles in the atmosphere with a diameter of less than 10 or equal to a nominal 10 micrometers. PM _{2.5} is a measure of smaller particles in the air.		
POEO Act	Protection of the Environment Operations Act 1997		
PROC	Procedure		
Processing	the complete recycling process, including inspection of incoming loads, removal of extraneous material, crushing and blending of different materials to create a recycled product.		
QC	Quality control		
RTS	Response to Submissions titled <i>Response to Submissions Waste and Resource Management Facility</i> SSD 15-7256, ResourceCo Pty Ltd, 35-37 Frank Street, Wetherill Park, prepared by Nexus Environmental Planning Pty Ltd, dated 28 November 2016		

SOP	Standard operating procedure
Waste	As defined in the POEO Act and includes any materials receive or processed on the site

1. Introduction

1.1 Overview

ResourceCo RRF Pty Ltd (ResourceCo) is the operator of the Wetherill Park Resource Recovery Facility (the facility) located at 35-37 Frank Street, Wetherill Park.

The facility comprises a waste and resource management operation which processes relevant waste materials to recover products including aggregates, metal, timber and to manufacture solid recovered fuel (Processed Engineered Fuel or PEF).

This Air Quality Management Plan (AQMP) is one of a suite of plans that governs the operation of the facility.

1.2 Purpose

This AQMP has been developed to:

- Detail the potential air quality emission sources from the facility
- Outline the monitoring program designed to evaluate performance and compliance with air quality key performance indicators
- Identify control measures that will be implemented

The AQMP provides an overall framework for air quality management during operation. It has been developed to satisfy the requirements of:

- Condition B34 of the Development Consent for SSD 7256 dated 10 April 2017
- the commitments made in the Environmental Impact Statement titled 'Waste and Resource Management Facility' SSD 15-7256, ResourceCo Pty Ltd, 35-37 Frank Street, Wetherill Park, prepared by Nexus Environmental Planning Pty Ltd dated 8 March 2016 (EIS)
- the commitments made in the Response to Submissions titled 'Response to Submissions
 Waste and Resource Management Facility' SSD 15-7256, ResourceCo Pty Ltd, 35-37
 Frank Street, Wetherill Park, prepared by Nexus Environmental Planning Pty Ltd, dated 28
 November 2016 (RTS)
- ResourceCo's Environmental Management System (EMS), including ISO14001
- applicable legislation and regulatory requirements
- requirements of relevant government agencies

In the event of any inconsistency in the above documents, the Development Consent prevails.

1.3 Project description

The Waste and Resource Management Facility Project, as defined in the EIS includes the following key built elements:

- Industrial sheds for housing the facility operations
- Processing equipment capable of converting up to 250,000 tonnes of relevant waste materials per year into approximately 150,000 tonnes of PEF and over 75,000 tonnes of reusable commodities such as metal, aggregates and timber.
- Workshop, office and staff amenities
- Vehicular access and internal roadways, weighbridge and 42 car parking spaces in two car parking areas

- Stormwater management system for collection of water for reuse in the processing system, and dust suppression or treatment and discharge from the site, including a 300 kL underground stormwater storage tank and two above ground tanks with combined capacity of 27 kL
- 30 kL diesel fuel tank

1.4 Environmental management system

1.4.1 ResourceCo corporate EMS

This AQMP has been developed and will be implemented in accordance with ResourceCo's corporate EMS. This EMS has been developed, implemented and certified in accordance with the International Standard for Environmental Management Systems AS/NZS ISO 14001 (Certification No. 2012017).

Throughout the operation of the facility, ResourceCo will undertake periodic reviews and audits of the works to ensure the corporate commitments are fulfilled. ResourceCo's EMS, as implemented at the facility, will be periodically audited as part of the corporate EMS recertification and ongoing validation process.

1.4.2 Wetherill Park Resource Recovery Facility OEMP

This AQMP is a sub-plan to the Wetherill Park Resource Recovery Facility Operational Environmental Management Plan (OEMP). The OEMP is based on the ISO14001 Environmental Management System, which provides for continual improvement in environmental performance.

The OEMP is intended as an over-arching environmental management document that forms the basis for development of detailed sub plans (such as this) and procedures for managing specific environmental aspects and impacts. It includes a number of subordinate environmental planning and management instruments (e.g. sub plans, procedures, instructions, forms etc.) that will be implemented during operation of the facility.

The scope and interaction of this document within the OEMP document framework is illustrated in Figure 1.

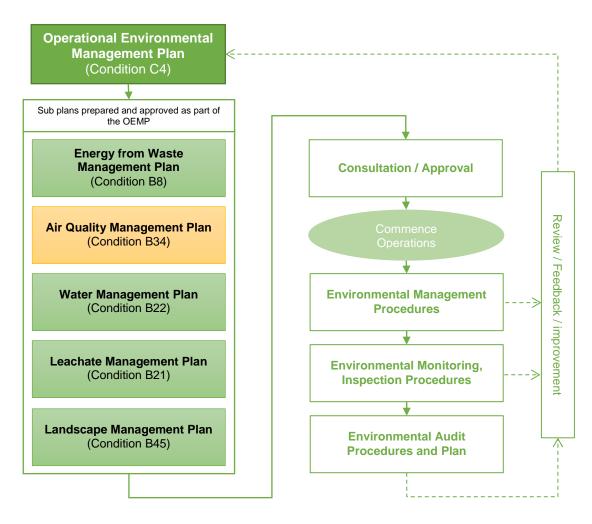


Figure 1 Operational environmental management document structure

1.4.3 Sub plans

In accordance with the Conditions of Approval, a number of sub plans are required to document ResourceCo's management approach to identified risks (e.g. air quality, water and leachate). These sub plans identify potential impacts as they relate to the operation of the facility (as defined in the EIS and RTS) and outline the physical and management safeguards, mitigation measures, responsibilities and monitoring requirements to be implemented to minimise potential impacts on the environment.

The sub plans (including this plan) required according to the Conditions of Approval are shown in Figure 1. Additionally this shows the sub plans that are to be approved as part of the OEMP and those that are to be approved and/or consulted upon separately.

1.4.4 Procedures and forms

In addition to the environmental management documents nominated above, ResourceCo uses a suite of additional processes and procedures for its EMS. These management tools (described below) are referred to in this AQMP and/or the individual sub plans:

 Procedures (PROC) and Safe Operating Procedures (SOP) – provide instructions to ResourceCo staff and subcontractors to guide the completion of tasks required during the operation of the facility. The implementation of these PROCs and SOPs will ensure consistency in approach and quality of results. Specific procedures are developed for management issues including Job Safety and Environmental Analysis (JSEA) for reviewing works to identify hazards and appropriate control measures, and environmental monitoring etc.

• Environment-related forms (FORM) are used to document environmental issues, actions and/or performance against requirements. Typical forms include incident reporting, inspection checklists, audit protocols, complaints/feedback reports etc.

1.5 Consultation and approval process

1.5.1 AQMP compliance with the Conditions of Approval

Table 1 lists the key requirements of Condition B34 and indicates where these requirements are addressed within this AQMP or other documents.

Table 1 Conditions of Approval requirements

Condition requirements	Response/reference
Condition B34	
Prior to the commencement of operations, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Secretary. The AQMP must form part of the OEMP required by Condition 4 and be prepared in accordance with Condition C6. The AQMP must:	Section 1.5.2
(a) detail and rank all emissions from all sources of the development, including particular emissions	Section 3
(b) describe a program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators	Section 5
(c) identify the control measures that will be implemented for each emission sources; and	Section 4
(d) nominate the following for each of the proposed controls:	Section 5
(i) key performance indicator;	
(ii) monitoring method;	
(iii) location, frequency and duration of monitoring	
(iv) record keeping;	
(v) complaints register;	
(vi) response procedures; and	
(vii) compliance reporting	

1.5.2 Consultation and approval

In accordance with Condition B34, this AQMP is required to be prepared to the satisfaction of the Secretary of the Department of Planning and Environment.

2. Existing air quality

2.1 Odour

No significant odour sources have been identified in the close proximity to the site.

2.2 Dust and particulate matter

Air quality monitoring data from the Office of Environment and Heritage (OEH) air quality monitoring site at Prospect was used by Wilkinson Murray (2016) to characterise the ambient air quality in the area surrounding the site. The OEH's Prospect site is located approximately 5 km north of the site.

A summary of the PM_{10} monitoring results from 2012 to 2014 collected at the Prospect monitoring site is presented in Table 2. This indicates that ambient PM_{10} concentrations in the area surrounding the site are generally below recommended limit of 50 μ g/m³.

Table 2 PM₁₀ Monitoring Results – Prospect

Year	Annual average	24 hour average (µg/m³)		
	(µg/m³ ₎	Maximum	90th percentile	
2012	17.2	38.7	26.4	
2013	19.2	81.8	29.9	
2014	17.6	44.3	25.6	

There is no readily available site-specific TSP and deposited dust monitoring data. However annual average background TSP concentrations can be estimated based on a relationship between measured PM₁₀ concentrations. Similarly, annual average dust deposition levels can be estimated based on a relationship between TSP and dust deposition.

Applying these relationships at the Prospect monitoring station, Wilkinson Murray (2016) estimated an annual average TSP concentration of 43.0 µg/m³ and a background annual average dust deposition of 1.4 g/m²/month for the area surrounding the site.

The OEH monitoring site in Prospect began to record ambient concentrations of PM2.5 in December 2014. Table 3 presents a summary of this data between December 2014 and 15 October 2015.

Table 3 PM_{2.5} Monitoring Results – Prospect

Year	Annual average	24 hour average (µg/m³)	
	(µg/m³)	Maximum	90th percentile
2014/15	8.4	29.6	13.8

It should be noted that the annual average and maximum 24 hour average PM_{2.5} concentrations measured at the Prospect OEH monitoring site exceed the NEPM advisory goals. There is one exceedance of the 24-hour average NEPM goal for PM_{2.5} during 2015. This occurred during June, and is most likely the result of wood heaters being used in nearby residential areas.

3. Potential air emissions

This section provides details and ranking of the expected emissions from all sources of the facility, including particulate emissions.

3.1 Dust

Dust is expected to be generated during site operations due to handling and processing of materials and from truck movements on paved roads. The estimated dust emissions from all significant sources of dust generating activities are shown in the Table 4.

Table 4 Dust emissions estimates

Source	TSP emissions (kg/year)
Truck movements on paved roads	2,480
Handling aggregate materials	21
Handling combustible/PEF materials	<1
Shredding PEF materials	135
Total	2,636

It is noted that dust deposition is strongly influenced by particle size. The total dust emissions from the site can be separated into three fractions, based on particle size as presented in Table 5. The ground level concentrations of PM_{2.5}, PM₁₀, TSP and dust deposition levels are a combination of the relevant fractions.

 Table 5
 Dust particle size distribution

Particle category	Size range	Distribution (% of TSP)
Fine Particles (FP)	<2.5 µg	4.68
Coarse Matter (CM)	2.5 – 10 μg	34.4
Rest	10 – 30 μg	60.92

Table 6 Dust emissions estimates by particle size fraction (kg/year)

Source	TSP	Fine Particles (FP) <2.5 µg	Coarse Matter (CM) 2.5 – 10 µg	Rest 10 – 30 μg
Truck movements on paved roads	2,480	116	853	1511
Handling aggregate materials	21	1	7	13
Handling combustible/PEF materials	<1	<1	<1	<1
Shredding PEF materials	135	6	46	82
Total	2,636	123	907	1,606

3.2 Odour

No significant odour sources are expected during normal operations.

ResourceCo will accept customers loads which contain up to 5% putrescible waste. However, there is a possibility that a customer may deliver a load which contains significantly more than 5% putrescible waste, and that load would spend a small amount of time on site before it is rejected and removed. It is anticipated that a partial load of putrescible waste would be on site for no more than 1 to 2 hours.

The estimated odour emissions from such a situation is presented in the following table (Wilkinson Murray 2016).

Table 7 Odour emissions estimate

Source	SOER (OU.m³/m²/s)		Odour flux rate		Peak odour flux rate
Putrescible containing load on tipping floor	3.65	100	365	2.3	840

3.3 Ranking of air emissions

The following table provides a ranking of air quality emissions. The priority air emission is dust from truck movements on paved roads. The emissions estimates for this source are conservative, as a number of mitigation measures are proposed to address dust generation outside of the buildings (refer Section 4).

Handling of aggregate materials, combustible/PEF materials and shredding of PEF materials would all be undertaken within the processing buildings and have less potential for total dust generation. The potential for odour emission is very low in terms of both rate of emission and frequency/duration and therefore has been ranked lowest.

Table 8 Ranking of potential air emissions

Rank (priority – highest to lowest)	Air emission	Quantity
1	Dust – truck movements on paved roads	2,480 kg/year
2	Dust – shredding PEF materials	135 kg/year
	Dust – handling aggregate materials	21 kg/year
	Dust – handling combustible/PEF materials	<1 kg/year
3	Odour – Putrescible containing load on tipping floor	365 OU/s

It is noted that the dispersion modelling by Wilkinson Murray (2016) demonstrates that dust and particulate matter emissions from the project would have negligible contribution to air quality at nearby sensitive residential receptors. While the existing ambient concentrations of PM_{2.5} are slightly above the NEPM advisory goals, the facility is predicted to have a negligible effect on these levels.

Furthermore, Wilkinson Murray (2016) demonstrated that the predicted peak odour concentrations at nearby receptors are well below the assessment criteria and are likely to be undetectable.

4. Management measures and controls

While the air quality impact assessment (Wilkinson Murray 2016) has demonstrated that the operation of the facility is expected to comply with all relevant air quality criteria, a number of management measures and controls are proposed to further minimise the potential for air quality impacts. Table 9 provides a summary of these management measures and controls.

 Table 9
 Summary of air quality management measures and controls

Source	Management measures and controls
Dust	
Truck movements on paved roads	An industrial sweeper will be used to clean roadways and operational areas on a regular basis A 20 km/h speed limit will be enforced on internal roads to minimise dust generation All loaded vehicles entering and leaving the site will be required to be covered
Handling aggregate materials	The main building will be fitted with dust suppression sprays at key locations, including conveyors of the processing plant and stockpile
Handling combustible/PEF materials	sprinklers Rapid roller doors will be installed in all locations where regular access is required
Shredding PEF materials	Conventional doors will be installed in other locations which will remain closed during normal operations except for access and egress Engines of trucks and mobile plant will be switched off when not is use Maintenance and servicing of plant will be carried out in accordance with manufacturer's specifications Drop heights will be reduced during loading and unloading of material
	Dust suppression and extraction equipment will be installed at major dust generation points in the process.
Odour	
Loads containing putrescible materials	Incoming loads containing odorous materials will be identified immediately and rejected from the site
materiais	Procedures for staff to report the presence of odours

5. Monitoring and evaluation

This section outlines the program that will be implemented to evaluate the air quality performance of the facility operation and determine compliance with key performance indicators.

5.1 Dust

5.1.1 Key performance indicators/targets

The key performance indicators/targets for the proposed dust controls are:

No dust complaints

5.1.2 Monitoring

- Record any dust complaints in the Complaints Register on occurrence
- Investigate and respond to any dust complaints in accordance with the Section 9.9 of the OEMP: Complaints handling, investigation and rectification and Section 5.2.3 below – on occurrence
- Dust observations at the property boundary weekly as part of regular inspections
- Check Complaints Register for dust issues monthly

5.1.3 Response

The Air Quality Assessment by Wilkinson Murray (2016) demonstrated that dust and particulate matter from the facility would have negligible contribution to air quality at all nearby sensitive residential receptors.

In the event that a dust complaint is received, ResourceCo will:

- Implement the complaints management strategies in accordance with the Section 9.9 of the OEMP
- Ensure that investigation of any dust complaint includes:
 - Recording details of the complaint in the Complaints Register (REG 10)
 - Recording meteorological conditions at the time of the complaint
 - Identifying any activities/incidents on site that may have contributed to offsite emission of dust
 - Reviewing if the facility operation (activities/incidents) were likely to have contributed to an offsite dust emission/dust complaint
 - Dust observations at the property boundary
- Identify and initiate appropriate action in response to the complaint and follow-up contact with the complainant

If visible dust is observed during dust observations at the property boundary:

Undertake dust monitoring. Dust monitoring will consist of targeted dust monitoring (PM₁₀)
using a Dusttrak or similar (light-scattering laser photometer) for a period of a week during
appropriate weather conditions.

If activities/incidents on site are deemed to have contributed to the dust incident, ResourceCo will review and identify site management practices to ascertain if amendments are required. Amendments may include additional controls and management measures and/or development of additional ongoing monitoring requirements.

5.2 Odour

5.2.1 Key performance indicators/targets

The key performance indicators/targets for the proposed odour controls are:

No odour complaints

5.2.2 Monitoring

- Record any odour complaints in the Complaints Register on occurrence
- Investigate and respond to any odour complaints in accordance with the Section 9.9 of the OEMP: Complaints handling, investigation and rectification and Section 5.2.3 below – on occurrence
- Check Complaints Register for odour issues monthly

5.2.3 Response

The Air Quality Assessment by Wilkinson Murray (2016) indicated that the facility would not have any significant odour issues including that the peak odour emissions from the site would not be detectable.

In the event that an odour complaint is received, ResourceCo will:

- Implement the complaints management strategies in accordance with the Section 9.9 of the OEMP
- Ensure that investigation of any odour complaint includes:
 - Recording details of the complaint in the Complaints Register (REG 10)
 - Recording meteorological conditions at the time of the complaint
 - Identifying any activities/incidents on site that may have contributed to generation/emission of odour
 - Reviewing if the facility operation (activities/incidents) were likely to have contributed to an odour issue/the odour complaint
- Identify and initiate appropriate action in response to the complaint and follow-up contact with the complainant
- If activities/incidents on site are deemed to have contributed to the odour incident, review and identify site management practices to ascertain if amendments are required. Amendments may include additional controls and management measures and/or development of additional monitoring requirements.

6. Records and reporting

Environmental management records generated will be identified, collected and stored in accordance with ResourceCo's quality management system. Reporting and review will include the following:

- Summary of odour complaints to the EPA as part of Annual Return for EPL
- Odour complaints will be reported at toolbox or site meetings

Monitoring results and records generated will be identified, collected and stored in accordance with ResourceCo's quality management system.

7. Review and improvement

7.1 Review of the Air Quality Management Plan

The AQMP will be reviewed on a regular basis to ensure that it accurately reflects the ResourceCo EMS and conforms to applicable legislative and other requirements. The frequency of review will be at least annually as part of the OEMP review, or more frequently, as a result of a significant non-conformance or as directed by the Secretary of the Department of Planning and Environment or other authority.

At the conclusion of the review process, any recommendations for change, or improvement, to EMS will be reflected through amendments to the relevant system element including the OEMP, other sub plans, procedures or forms.

An assessment will be undertaken of the proposed documentation change against the Conditions of Approval (including development consent, EIS and RTS).

Minor changes to the documentation will be approved by the appropriate manager. The revised documents will be managed in accordance with ResourceCo's quality management system – including document control and communication of changes to relevant staff.

Major documentation changes to the documentation will be reviewed by senior management and if deemed necessary, approval will be sought from the Department of Planning and Environment. Approved revised documents will be managed in accordance with ResourceCo's quality management system – including document control and communication of changes to relevant staff.

Table 10 lists the types of amendments that would be considered minor and major, and the approval process.

Table 10 AQMP approval process

Review trigger	Amendment type	DPE approval	Examples	
Minor amendments and corrections	-	No	Changes to system processes without change to environmental outcome Minor changes to operational processes without change to environmental outcomes	
In response to environmental incidents	Minor	No	Dust complaint	
	Major	Yes	Non-compliance with EPL	
Audit findings	Minor	No	Change to procedure to improve a process	
	Major	Yes	Non-compliance with a Condition of Approval	
Request by government agency	Minor or major	Yes	-	
Annual review findings	Minor	No	Non-compliance with a target	

7.2 Non-conformance, corrective and preventative action

Non-conformances, including those of an environmental nature, shall be identified through verification processes such as monitoring, inspections, audits and reviews as well as through the receipt of complaints and incidents and near misses. All ResourceCo personnel can raise a non-conformance. In summary the management process is:

- When a non-conformance issue is detected, the corrective and preventative actions are entered on a CAR (Corrective Action Request) form. In addition, the CAR assigns responsibilities for actions to a manager for close-out and the timing for completion.
- The CAR is entered into the CAR register for recording and tracking progress of follow-up and close-out.
- Upon satisfactory completion of all corrective actions and follow-on preventative actions (e.g. revision of documented procedures), the CAR is closed-out by the responsible staff member.
- The environmental CARs will be reviewed monthly and during the regular review meetings.
- During the annual environmental review, CAR statistics will be assessed and trends analysed.

8. References

Nexus Environmental Planning Pty Ltd (2016) Environmental Impact Statement titled 'Waste and Resource Management Facility' SSD 15-7256, ResourceCo Pty Ltd, 35-37 Frank Street, Wetherill Park

Nexus Environmental Planning Pty Ltd (2016) Response to Submissions titled 'Response to Submissions Waste and Resource Management Facility' SSD 15-7256, ResourceCo Pty Ltd, 35-37 Frank Street, Wetherill Park

NSW Department of Environment and Conservation (2005) "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW", August 2005.

Wilkinson Murray (2016) 'Waste and Resource Management Facility: Air Quality Impact Assessment', Report No. 14278-AQ Version A.

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	A Montgomery	D Gamble	Daid Gullo	D Gamble	Daid Gullo	4/7/17

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