Odour Management Plan

SAWT Kemps Creek SAWT

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Objectives

The objective of this Odour Management Plan is to ensure that SUEZ is operating the SAWT Kemps Creek Advanced Resource Recovery Facility (ARRT) in a manner that minimises the potential impacts of odour within the site vicinity and neighbouring communities.

The requirements for the Odour Management Plan is to include a description of all potential odour sources and identify how odour control measures will be adopted to limit odour release.

Activities to manage potential odours from the operations will include identification of odour sources, odour monitoring, odour controls, complaint procedures, contingency planning and consultation.

The requirement is to 'implement the plan', which means that all operations must use the odour control facilities provided in design and document the procedures to be followed in operations and maintenance to keep odour emissions within the levels necessary to meet the objective.

Continual Improvement

A goal of continuous improvement in regards to odour emission management is adopted at the facility. Regular review of odour management controls, through review of the risk register will occur with feedback to the relevant parities.

Approval
As part of the continuous improvement in regard to odour emission management, Kemps Creek SUEZ must submit a report annually to the Department and the EPA (Approval Schedule 4 Condition 6), refer to Environmental Management Plan, "Environmental Auditing and Review".

Potential Odour Sources

Following a detailed review of site operations SUEZ has identified potential odour sources that could occur and has quantified the potential impact of these odour sources using the SUEZ internal risk management procedure. The potential odour sources have been ranked according to their inherent risk rating and is reflected in the list below.

1. Maturation Pad – Maturation of FGO material
2. Bio-Filters – Composting Tunnels and Drying Tunnel
3. Waste Receival and Storage in the Facility
4. Top Pad – Processing of FGO material
5. Leachate and Stormwater Dam
6. Pre-refining – Processing, Residual waste, MSW derived material
7. Final Product Pad – Storage of Final Product
8. Drying Tunnels – Air Extraction
9. Refining – Storage of MSW material in the bunker

Odour Monitoring (Detection)

The following odour monitoring will occur to ensure that all controls are effective

- Daily and weekly checklist of controls on potential odour sources
- Daily odour tours of surrounding areas conducted to determine if potential odour sources are leaving the site (*Daily Odour Checklist*)

Controls of Potential Odour Sources / Detection / Controls

As part of the risk management procedure controls have been identified and implemented to ensure that all potential odour sources are controlled and do not impact on neighbouring properties. The controls have been broken down into areas of potential odour sources which are listed below.

Maturation Pad – Maturation of FGO material

- Regular windrow turning in accordance with weekly processing schedule, early identification and prioritisation of windrows with high moisture and/or odour for windrow turning
- Covering of windrows in accordance with *Kemps Creek SAWT ARRT Environment Protection Licence (EPL12889)*
- Operation of the odour fence

Bio-Filters – Composting Tunnels and Drying Tunnel

- Maintenance and replacement of bio-filters material must be done in accordance with the *Bio-filter manual*

Waste Receival and storage in the facility

- All waste received are to be delivered within the confines on the waste receivables hall in order to control the potential for odour release.
- All exhaust air from the Receival Hall, Composting Tunnels and Drying Tunnels (also known as the Biocell Building) must pass through biofilters
- All Waste Receival Hall doors must be closed except when a vehicle or person is passing through the doorway in accordance with *Kemps Creek SAWT ARRT Environment Protection Licence (EPL12889)*.

Upper Pad - Processing of FGO material

- Material is not to be transferred for processing if odorous (continue windrow turning). Employees onsite trained in the use of the nasal ranger for off/on-site monitoring.
- Operation of the odour fence

Leachate and Stormwater Dams

- During site walk arounds observation of aerator operation, prompt follow-up with any issues as per the *Contingency Plan*
- Manage leachate dams as specified in *Environmental Management Plan*

Desludging dams

  - Material from the de-sludging of onsite dams to be de-watered and composted within internal composting tunnels
  - This material is to be transferred to the drying tunnel if required

Pre-refining – Processing, Residual waste, MSW derived material

- The pre-refining trommel must be covered and all emissions generated by the pre-refinery trommel be diverted back into the SAWT Receival Hall and pass through the bio-filters as per *Kemps Creek SAWT ARRT Environment Protection Licence (EPL12889)*
- Pre-refining MSW derived material must be transferred to the drying tunnel during that operational day
- Residual waste to be transferred directly to landfill

Storage of final product

- Covering of windrows in accordance with *Kemps Creek SAWT ARRT Environment Protection Licence (EPL12889)*
- Odour fence operation

Drying Tunnels

- Drying tunnel doors must be closed except during loading and unloading as per *Kemps Creek SAWT ARRT Environment Protection Licence (EPL12889)*

Refining – Storage of MSW material in the bunker

- Material in the refining bunker must be refined during that operational day. If the refining bunker cannot be emptied during the operational day the bunker must be covered with an impervious sheeting by the end of the day.

Moisture and Temperature monitoring requirement in different stages

PROCESS STAGE	TYPE OF WASTE	FREQUENCY	TEST	INTERNAL/ EXTERNAL	NOTES
Raw / Incoming Waste	MSW	3 Monthly	Moisture Content	Internal	
	FGO	3 Monthly	Moisture Content	Internal	
Tunnel	MSW	Daily	Temperature	Internal	
	MSW	If Required	Moisture Content	Internal	
	FGO	Daily	Temperature	Internal	
	FGO	If Required	Moisture Content	Internal	
Pre-Refining	MSW	Daily	Moisture Content	Internal	If production is operating
	FGO	Daily	Moisture Content	Internal	If production is operating
Maturation	MSW	Weekly	Temperature	Internal	
	MSW	In & out	Moisture Content	Internal	
	FGO	If required	Temperature	Internal	If pasteurization process hasn't completed
	FGO	When a batch forms	Moisture Content	Internal	Refer to related pre-refining batch
Refining	MSW	Daily	Moisture Content	Internal	
	FGO	Daily	Moisture Content	Internal	

Complaint Handling

A free call telephone line through SUEZ's Customer Service department operates 24 hours a day 7 days per week (Suez Hotline 13 13 35). The details of all complaints received and actions taken in response to the complaints are kept on the SUEZ database through the SIMS system. Complaints received via the hotline are investigated and responded to within the allocated time frame.

The information to be recorded as part of the investigation includes;

- Name of complainant;
- Contact details of complainant (e.g. telephone, email, postal address);
- Location, date and time at which alleged environmental impact occurred (street address);
- A general description of the nature of the environmental impact, including the following where applicable:
    - Duration and any pattern;
    - Character of odour;
- Whether there were any adverse health effects related to the environmental impact;
- What response has been requested or expected by complainant from SUEZ (e.g. a return phone call);
- The likely source(s) of the cause of the complaint; and
- What the weather conditions (e.g. wind speed, wind direction, temperature) were like at the time of the alleged environmental impact.

All records of complaints are kept for a minimum of 4 years after the complaint is made, and can be produced upon request.

Contingency Plan

Ref No.	Description	Risk Rating	Operational Control (s)	Asset Mgmt Control (s)	Responsibility	Measure of Success	Photo (ie of Good Practice)
1.	Significant Rain Event – Storm or Severe Forecast	19	Upon alert from Bureau of Meteorology, review the site to ensure it is prepared for the rain event. This includes amongst other actions: Ensure all leachate and storm water dam aerators are operating correctly; cover windrows and stockpile with an impermeable sheeting, to minimise rainwater ingress;		Operations Supervisors & operators/maintenance personnel	Operational readiness plans in place according to BOM forecast Operational Aerators. Covered windrows and stockpiles during wet weather.	
2.	Odour from Material on the Lower Pad	19	The compost may not have been turned frequently enough to incorporate fresh air and reduce anaerobic conditions in the windrow or pile. Ensure that the compost is turned to prevent anaerobic conditions developing in the windrow. Cover the windrow at the end of daily operations (4.30 pm and do not remove the cover until the agreed time 8am). If there is an odour fence available ensure that it is working correctly to minimise offsite odours.		Operations Supervisors & operators.	Windrow turns completed as per schedule. Minimal odour detection from windrows on pads. No detectable odour at site boundaries.	
3.	Biofilter Fan failure – Failure of fan or motor	14	Replace or repair fan/motor using site spares	Ensure spares are in stock and labelled as per Mainpac stocking levels.	Maintenance	Fan replacement work planned and completed within 24 – 72 hours.	
4.	Biofilter Media Moisture level too low (i.e. too dry)	13	Repair the faulty water sprays and wet the biofilter media using a hose to reinstate the correct moisture level. Check the surface of the media after several days of operation to ensure that the moisture across the biofilter is being maintained and that preferential air channelling is not occurring as evidenced by dry areas.	The biofilter requires regular testing to ensure odour levels at the surface are uniform and at the expected low level so that channelling of air is not occurring.	Process Engineer & Compliance Officer	Earthy, woody, natural smell detected around bio-filters. Uniformly wet bio-filter media.	

5.	Odour Fence not operating correctly	12	Repair odour fence pump and any blocked spray nozzles. Check supply of deodorant product and order more if required.	Keep spare nozzles and deodorant product on site.	Supervisors & Operators	Prompt repair of odour fence. Spare nozzles on site. Maintenance of 1 month's stock level of de-odouriser product on site.	
6.	Leachate Dam sludge build-up	12	Particulate matter in leachate precipitates over time to form sludge at the bottom of the dam. This sludge can be very odorous when removed.	Monitor sludge levels every 6mths and schedule desludging works during warmer months, but not during peak season. All sludge material must be dewatered within the internal or drying tunnels.	Process Engineer & Compliance Officer	Dam level maintained below 80% mark. Odorous desludging material transferred directly to internal tunnels. No odours identified during this process.	
7.	Waste Receival doors damaged and cannot close	12	Ensure that the main waste receival doors are always operational and closed except when a person or vehicle is passing through. Damaged doors are repaired within 72 hours. Door opening to be closed off using tarpaulin or similar until door repaired.	Spare door parts (eg panels, actuator motors, controls) to be held on site or by supplier to ensure quick supply and repair.	Supervisors, Operators, Maintenance & Compliance Officer	Doors are closed unless a vehicle is passing through. Door repair completed within 72 hours, otherwise temporary covering installed.	
8.	Odour from the Compost Material on the Final product pad. Cancellation of contracts, inhibiting exportation of final product material.	12	If the finished product is to remain on site for a significant period of time for whatever reason, it may need to be turned. Covering of the finished compost product is required when not filling or loading out. A minimum of two potential outlets for export must be available at all times. If cancellation of the main contract occurs, the Resource Processing Business Manager must be notified immediately to expediate the commencement of an alternative outlet. Monthly reporting during Resource Processing Business meetings must occur, on the amount of final product onsite and the amount exported to ensure stockpile levels are minimised.		Site Manager, Supervisors & Process Engineer	Early identification of odorous material, & frequent windrow turning (according to temperature). Covered windrows within licence conditions.	
9.	Odour Complaint received	12	If an odour complaint is received from the community, EPA or Council, follow the Suez Complaints procedure.		Compliance Officer	Compliance with complaints procedure.	

10.	Dam Aerator failure (stormwater and leachate)	11	Remove faulty aerator and repair or replace with spare parts	Ensure spares are in stock and labelled as per Mainpac stocking levels.	Supervisors & Maintenance	Immediate identification of failed aerators, repair undertaken with onsite stock (no downtime).	
11.	Excess waste received at the facility and processing capacity is exceeded and storage is not available	11	Divert waste loads to an alternate facility or send to suitably licensed landfill.	Review process performance and planned production weekly	Facility Manager & Process Engineer	Monthly processing capacity matches or exceeds incoming.	
12.	Facility Negative pressure level reduces. This can be caused by problems with biofilter fans biofilters or other fans within the facility	11	Check that the biofilter fans are operating correctly by measuring the flow rate or pressure rise across the fan. If the biofilter fans are operating correctly then check other fans within the facility in the area where the negative pressure is not at the correct level and repair the fans and/or ductwork.		Supervisors, Maintenance & Process Engineer	Prompt identification of reduced pressure and root cause(s).	
13.	Other doors in the SAWT Facility	11	Doors to remain closed unless person or equipment transiting	Ensure all pedestrian doors have self-closing mechanisms which are operating correctly. Inspect and service on a regular basis.	Supervisors & Operators	Facility doors are closed unless a person or equipment is passing through.	
14.	Pre refining line Trommel Failure	5	Repair trommel and hire a replacement mobile trommel if required.	Routine inspection, cleaning and maintenance should reduce failure to a low level of occurrence	Supervisors & Maintenance	Immediate repair of trommel or procurement of mobile trommel where required.	
15.	Windrow Turner Failure	5	Turn maturation pads using front end loader until windrow turner repaired	The windrow turner requires regular inspection and maintenance as it operates in a harsh environment	Supervisors & Maintenance	Windrow turns completed as per schedule allowing sufficient time to effect repair.	
16.	Refining Line Failure	5	Hire Mobile Trommel with 6mm or 8mm screen.	The refining area requires regular inspection and maintenance, including cleaning of hard to access areas.	Supervisors & Maintenance	Procurement of Mobile Trommel.	

17.	Facility Odour Tour	5	Every day the Compliance Officer or nominated person should walk around the site to check for any unusual level of odour around the site. If such an odour is detected the Facility Manager should be notified so that the source can be determined and repaired.	This odour survey procedure should be undertaken when the Compliance Officer first arrives on site while their sense of smell is most sensitive.	Compliance Officer & Facility Manager.	Odour tour completed and recorded daily.	
18.	Electrical Power Supply Failure	4	Contain all odours within the facility. Upon power supply restoration check that all odour control plant is operating. Some may need to be reset.			Facility doors closed during power failure	
19.	Front End Loader Failure can limit compost tunnel operations	3	All Front End Loaders are on a lease arrangement. If downtime is longer than 24 hours, the supplier is required to provide a replacement.		Supervisors & Maintenance	Front End Loader replacement within 48 hours, if required.	
20.	Pre-treatment processing Line equipment failure	2	Repair faulty equipment. Critical spares to be kept on site. Capable of storing 2 days of general waste supply. Divert to other facility or Landfill if storage volume exceeded.	Routine inspection, cleaning and maintenance should reduce failure to a low level of occurrence	Supervisors & Maintenance	Repair of processing line equipment failure with 72 hours.	
21.	Truck Failure, unable to transport material	2	Hire a replacement truck, or schedule additional walking floor loads. With remaining truck prioritise the transportation of material outside to reduce odour profile. Material must be covered as per licence conditions.		Supervisors & Maintenance	Timely replacement of truck. No material stored in internal bunkers.	

Consultation Plan

The need to consult.

The consultation plan addresses the following criteria:

1. The future operation of the SAWT facility and the need for the facility to meet community environmental expectations.
2. The facility preparedness for any operational or environmental issue that could result in a potential odour emission.
3. Suez's desire to be a good corporate citizen and have good community and regulatory authority relationships.

Aim of consultation

- To provide the community, Council and EPA with information to assist them in understanding the nature of the operations, the potential impacts from specific works proposed or in progress and the proposed odour management measures.
- To provide an opportunity for the public to be informed of potential site developments and any operational issues on a regular basis.

It would be desirable to focus on the proposed improvements at the SAWT facility for this consultation, to ensure that this purpose is not obscured by previous incidents.

Goal

- Provide the community, EPA and Council with information on the proposed facility and developments to improve odour issues.
- Obtain community feedback on any possible concerns in relation to the proposed improvements.
- To gain wide community understanding and acceptance and support for the facility.

Consultation/communication messages

- Suez aims to achieve best practice in facility odour management and the best outcome for the community.
- Suez wants to share information of its plans with the community.
- Suez values feedback from the community to ensure that all matters are considered and addressed in the operation of the facility.

Target audience (Stakeholders)

- Landholders and residents in the vicinity of the SAWT site
- Penrith City Council and community in general
- NSW Environment Protection Authority (EPA)

Objectives and performance indicators

- To ensure that the stakeholders are informed of the proposed plans and strategies to improve odour outcomes for the facility.
- To ensure that the target audience feel their views have been considered.

Activities

- Advise the EPA, Council and neighbours of any activity that has the potential to cause higher than normal odour as the issue arises.

- Suez Management to organise meet with Penrith City Council on need basis to discuss SAWT related issues. Keep minutes of meeting.
- Suez Management to meet with the EPA on need basis to discuss issues around all Suez Sydney facilities. Keep minutes of meeting.
- Make relevant information available on Suez's website.
- Community tours are available through our Stakeholder Engagement department - website

Feedback and evaluation of process

- Each contributor will receive acknowledgement of his/her comments in the meeting minutes.
- Internal review, audit of processes and practices.
- Review by consultants appointed for task as required.
- Outcomes communicated to the contributors at the next meeting of any actions from previous meetings.

Responsibilities

Site Manager

The site manager has responsibility for:

- Implementation of this plan
- Conforming with plan
- Training of staff in the plan
- Communication of the plan
- Reporting of incidents
- Ensuring corrective actions are taken

Site Supervisor

The site supervisor has the responsibility for:

- Ensuring adherence to this plan
- Conforming with site plan
- Reporting of incidents
- Implementing corrective actions

Site office staff

Site office staff has the responsibility for:

- Informing site manager/supervisor of non-conformity to the plan
- Reporting of incidents

Site staff

All site staff have the responsibility for:

- Ensuring adherence to this plan
- Conforming with site rules
- Reporting of maintenance defects
- Reporting of incidents

Related Documents

DOCUMENT NAME	REFERENCE NUMBER
Risk Management Procedure	PROC006
SAWT Risk Register	REG011
Site Maintenance – Infrastructure Facilities	SOP041
Kemps Creek SAWT ARRT Environment Protection Licence	EPL12889
Kemps Creek SAWT ARRT Environment Management Plan	PLANS004
Kemps Creek SAWT ARRT Pollution Incident Response Management Plan	PLAN003.1.3.1

Review and Document Control

VERSION	CHANGE	REVIEWED	AUTHORISED	DATE ISSUED
1	Initial Issue	Nicholas Bhugon, Laura Rossi, Brian Konkoly	Brian Konkoly	30 July 2016
2	Minor Adjustments including, Approval condition, EPA reference receival doors and nasal ranger training.	Laura Rossi, Louise Saunders		30 May 2018
3	Moisture and temperature monitoring requirements at different stages, Licence variation to remove reference to receival door numbers, addition of odour fence as a control measure for odour from maturation pad and minor updates	Khushboo Singh	Louise Saunders	08 July 2019