ODOUR MANAGEMENT PLAN

Pilsworth South Landfill

Environmental Permit Ref: EPR/BS7951IB

Pilsworth Quarry, Pilsworth Road, Bury BL9 8QZ

22.06.2022

Valencia

Contents

Odour Management Plan Issue Log

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1. Introduction

1.1 Odour Management Plan – Objectives

This document outlines the methods by which Valencia will systematically assess, reduce and prevent potentially odorous emissions from Pilsworth South Landfill Site in accordance with Condition 3.3 of Environmental PPC Permit BS7951IB.

It provides the explicit list of 'appropriate measures' required for effective odour management and control, and serves to aid the decision-making process on the choice of controls, general site design, and operational practice in line with current industry best practice. The odour management plan (OMP) is a working document with the specific aim of ensuring that:

- Permit Condition 3.3.1 is complied with;
- potential odour sources are identified;
- odour impact is considered as part of routine inspections;
- odour is primarily controlled at source by good operational practices, the correct use and maintenance of plant, and operator training;
- appropriate measures are taken to prevent or, where that is not reasonably practicable, to minimise odorous emissions to air from the installation that may be considered offensive at locations outside of the installation boundary;
- people outside of the site are not exposed to levels of odour that would result in annoyance;
- the risk of unplanned odour-releasing incidents or accidents that would result in annoyance are minimised; and
- site developments take into account odour potential and potential impacts from work carried out.

1.2 Key Reference Documents

The methodologies presented take full account of Environment Agency (EA) and other guidance documentation, as detailed below:

- EA Technical Guidance Note H4 Odour Management, March 2011
- EA Internal Guidance for the Regulation of Odour at Waste Management Facilities (version 3.0)
- The Environmental Permitting (England and Wales) Regulations 2010
- LFTGN 07: Guidance for monitoring landfill gas surface emissions
- LFTGN 03: Guidance on the management of landfill gas
- LFTGN 04: Guidance for monitoring trace components in landfill gas
- Appendix 5, Application for an environmental permit Part B4 (April 2011)
- EA Regulating odour – a quick guide (163_12);
- EA Odour Regulation FAQ (Quick Guide 380_12)
- EA Guidance on How to comply with your environmental permit (v5, Document 433_11)
- EA Guidance on Non-hazardous and inert waste: appropriate measures for permitted facilities (12 July 2021)

In addition, this document should be read in conjunction with the following internal Valencia site management documents:

- Pilsworth South Landfill Gas Management Plan (GMP)

2. Site Environmental Setting

2.1 Installation Details

Pilsworth South Landfill Site comprises the following activities: active non-hazardous and hazardous landfill, non-hazardous materials recyling facility (MRF) and landfill gas power plant (based at Pilsworth North).

Pilsworth South is situated approximately 2 miles south east of Bury at National GridReference (NGR) SD826088. The site is located in a semi-urban setting with a mixture of residential and light industrial premises in the surrounding area. The site is bound to the north by Pilsworth North (Closed) Landfill Site, to the south by agricultural land and to the east and west by warehouses and light industrial units. The M66 is also adjacent to the site on the west boundary.

2.2 Pathway Assessment

Local meteorological data is routinely recorded at the calibrated on-site weather station located at the Pilsworth South Landfill Site Office. The predominant local wind direction is from the south-west. Wind directions from the north, north-north-west and east-south-east directions occur infrequently.

2.3 Potential Receptor Locations

Review of the site's environmental setting has highlighted potentially sensitive off-site receptors with regard to any odorous emissions from Pilsworth South Landfill, as follows:

Receptor	Description	Minimum Distance from Site Boundary	Direction from Site Boundary	Complaint History (H/M/L)	Sensitivity (H/M/L)[1]
A1 Limousine Hire/Jackson Farm	Business Premises	45m	N	Low	Medium
Asda Supermarket	Business/Leisure Premises	150m	W	Low	Medium
St. Peter's Road, Bury	Residential Properties	1250m	W	Medium	Medium
Route 66 Leisure Park	Business Premises	250m	W	Low	Low
Pilsworth Cottages	Residential Properties	15m	S	Low	Low
Garic Ltd. (Plant Hire)	Business Premises	95m	S	Low	Low
Industrial Units	Distribution Park	120m	NE	Low	Low
The Three Arrows	Pub/Restaurant	150m	E	Low	Low
Sewage Works	Sewage Works	130m	E	Low	Low

[1] Receptor potential sensitivity has been subjectively assessed based on proximity to site, prevailing local weather conditions, and associated complaint history.

3. Site/Process Description

3.1 Introduction

This plan sets out the appropriate measures for odour management at Pilsworth South Landfill Site.

3.2 Facility Layout Plan

A layout plan of the site is included in Appendix II.

3.3 Process Description

The site's planning permission details the extraction of sand and gravel followed by progressive back-filling with imported waste, and restoration to agriculture.

Pilsworth South Landfill is a fully engineered and contained landfill facility operating to the highest environmental standards. The site is classified as a non-hazardous and hazardous waste landfill and accepts a wide range of municipal and industrial and commercial wastes including Asbestos. The site also operates a MRF for non-hazardous waste in the north west extent of the site within a dedicated enclosed building. The facility recovers recyclable materials and prepares combustible wastes for energy recover.

All landfill cells benefit from an engineered containment system. Construction of each phase has been agreed with the Environment Agency through a Construction Quality Assurance (CQA) plan and a subsequent CQA validation report.

An active gas management system has been progressively installed within the landfill site comprising a network of vertical and horizontal gas extraction wells, connected to a carrier main. The gas collection system, which has expanded as the landfill has developed, carries gas to the landfill gas utilisation plant (GUP), located at the adjacent Pilsworth North (Closed) Landfill Site, for electricity generation. The electricity is then exported to the local high voltage electricity network. Any gas that is not utilised in the engine generator sets is combusted in a high temperature flare.

An engineered leachate management and extraction system has been progressively installed at the site comprising a network of vertical sumps and remote monitoring points in each phase. A dedicated leachate treatment plant (LTP) is located at the adjacent Pilsworth North (Closed) Landfill Site. Extracted leachate is transferred to the LTP for biological treatment prior to sewer discharge in accordance with the site's trade effluent discharge consent.

4. Site Odour Controls

In line with current industry best practice, the odour controls set out in the sections below will be used as the 'appropriate measures' to minimise and, wherever possible, prevent odour associated with site operations at Pilsworth South Landfill Site.

4.1 Overarching Management Responsibility

The General Manager has responsibility for ensuring that potentially odorous emissions arising from the installation are minimised. Adequate staffing levels will be maintained at all times to ensure the effective operation of the facility.

Site meetings will be held at minimum three times per year for site management to discuss current and planned site operations with respect to their potential for generating odorous site emissions. Identified actions arising from the meetings and responsibilities for their completion will be

reviewed by site management.

4.2 Identification of Potential Odour Sources

In constructing robust risk based management protocols for the site, it is recognised that there are [five] primary potential odour sources associated with operations at Pilsworth South Landfill Site:

i. those from active waste disposal operations and the deposition of freshly tipped waste (Sections 4.3 – 4.10);

ii. those from 'old' waste that may be released from drilling or over-tip operations (Section 4.11 – 4.13);

iii. landfill gas (LFG) arising from the decomposition of waste (Sections 4.14 – 4.16);

iv. leachate, if present on the surface of the site or where stored in structures (Sections 4.16 – 4.17); and

v. those released from the activities within the MRF (4.18).

These matters are addressed further in the relevant sections below together with a description of the site's active odour control measures and protocols (Sections 4.19 – 4.23).

4.3 Waste Feedstock Inventory

Having due regard to the potential for waste feedstock material to be inherently odorous, key waste streams received at the site are detailed below. The odour potential typically associated with individual waste streams as received on-site under 'normal' operational conditions is also provided below based on subjective odour assessment and operational knowledge of the waste material properties.

Table 1 – Waste Feedstock Inventory

	Waste Type	**Odour Potential (Low, Moderate, High, Very High)**
1.	Mixed industrial/commercial waste	Moderate
2.	Mixed industrial/commercial waste from otherlocal Transfer Stations	Moderate
3.	Civic amenity waste	Low
4.	Household waste	Moderate
5.	Soil material	Low
7.	Sewage screenings	High
8.	Food packaging waste	Moderate
9.	Industrial / commercial waste delivereddirectly	Assessed on arrival

The odour potentials set out in Table 1 will be routinely reviewed by the site management team in order to take account for possible seasonal variability.

4.4 Pre-Acceptance

Waste will be assessed at the pre-application stage to identify any wastes likely to cause significant odour. This will allow them to be managed appropriately on site, for example having cover or appropriate low odour waste on hand to allow immediate burial.

Wastes considered to have a high or very high potential for odour will not be accepted into the MRF.

4.5 Waste Storage and Transport

It is recognised that the waste feedstock odour potential set out in Table 1, above, may be significantly affected by the age of the waste when it is received at the site. The General Manager will liaise with the waste producers and transport contractors to minimise the storage and transport periods for waste prior to being delivered to the site where potential issues are identified. Waste will be accepted and dispatched in enclosed or sheeted vehicles.

4.6 Disposal of Potentially Higher Odour Risk Waste Streams

Site management will liaise with a customer prior to the arrival of a load containing high odour risk waste. Site management will then liaise with the weighbridge operator to relay any important information regarding the load. The weighbridge operator will advise the plant operatives of the arrival of such waste so that appropriate preparations can be made to receive it at the operational area. This process will be done in accordance with the site's 'non-compliant waste' UEP. The waste will be deposited on the top of the working face and pushed to be then tipped over by other non-malodourous waste materials. Where possible, this activity will occur during periods of favourable weather conditions. Malodourous material will not be treated through the MRF, but may be diverted to the landfill in line with the procedure above.

4.7 Particularly Odorous Waste

In the event an existing or new waste stream is identified as being of a highly odorous nature and likely to cause prolonged nuisance at locations beyond the site boundary, the waste will not be accepted at the site. This assessment will be made based on subjective review by the site management of any new waste stream's odour potential prior to receipt at the site in addition to the results of routine subjective odour surveys undertaken in and around the site boundary (see Section 5, below).

4.8 Plant and Equipment

The General Manager will ensure that sufficient plant and equipment is maintained on the operational area of the landfill to adequately place, compact, and cover all delivered waste in a progressive manner.

4.9 Compaction of Waste

The progressive compaction of the waste during the working day using mobile compaction equipment will be used to assist in the prevention of odours. The active area and tipping face size will reflect operational requirements and will be minimised to reduce the pathway for odorous emissions.

4.10 Application of Daily Cover

The General Manager will ensure that there are adequate supplies of daily cover material available at the installation. A layer of cover material (typically soils) will be applied to the deposited waste in a progressive manner throughout the day in order to ensure the waste is

adequately covered at the end of each working day. The integrity of daily cover will be routinely inspected by site management and maintained, where required.

4.11 Progressive Capping of Completed Areas

Completed areas of the installation will be capped with an engineered HDPE liner as soon as practicably possible upon the cessation of waste infilling. The HDPE capping may comprise either temporary or permanent low permeability capping systems as directed by the General Manager and Project Management Team. Attention will be paid to placement of capping/cover systems across finished profiles of waste and exposed internal flanks.

4.12 Minimising Disturbance to Previously Emplaced Waste

Measures will be taken to ensure that disturbance, exposure and movement of previously emplaced waste is avoided or minimised wherever possible.

In the event that placed waste must be disturbed, a mobile odour management system containing a neutralising agent will be utilised at this location in addition to any others ensitive areas of the installation.

Where practicable, consideration will be given to the prevailing weather conditions when undertaking such activities in order to minimise any potential off-site odour impact.

4.13 Planned Temporary Odorous Activities

If it is necessary to undertake planned temporary actions that are not associated with normal landfilling operations and have an associated high risk of significant off-site odour impact, the General Manager will contact the Environment Agency before such actions are taken to advise of:

- the operation being undertaken
- the reasons(s) for doing so
- planned additional odour mitigation measures
- timescales for completion

Where practicable, consideration will be given to the prevailing weather conditions when undertaking such activities in order to minimise any potential off-site odour impact.

‘Unplanned’ temporary odorous activities (e.g. in the event of a site emergency) will be addressed immediately in accordance with the Action Plan set out in Section 6.2 below.

4.14 Landfill Gas Infrastructure

As capping and restoration progresses across the site, the existing active gas abstraction network will be protected and maintained (GMP Section 5.4.1), and will continue to be operated in accordance with the site Gas Management Plan (GMP, Section 5.2) in order to maintain gas control.

Disruption to the normal operation of in-waste gas abstraction infrastructure associated with restoration activities will be limited wherever practicably possible. The frequency of routine gas field balancing and inspection will be increased as required, as directed by the Landfill Gas Control and Utilisation Manager.

The gas collection network will be connected to the gas compound located on the adjacent

Pilsworth North (Closed) Landfill Site for flaring and/or energy production. Additional gas abstraction infrastructure will be installed across completed areas of the site as soon as practicably possible following completion of the cap emplacement (GMP Section 4.2.2).

4.15 Landfill Gas Management

Landfill gas management will be undertaken in accordance with the current Gas Management Plan (version 4.2 dated May 2013).

To maintain control of in-waste gas, the gas treatment systems at work on a suction control basis, which ensures that the level of gas extraction from the site is not impacted by the engines coming on and off line and/or any alteration in the load. The flare automatically treats any gas that the engine(s) would have otherwise used thus ensuring that the maximum sustainable flow from the site is maintained at all times. See GMP Section 5.2.3.

4.16 Gas Field Maintenance

The gas field is maintained in accordance with the current Gas Management Plan (Section 5.3), with the infrastructure being assessed for defects visually whilst balancing the field and/or manifold.

Any works required to be undertaken on the gas field at the site will be undertaken in accordance with GMP Procedure 5.3 – Inspection, Maintenance and Servicing. Where such works are undertaken, a daily record will be made at the end of each working day to ensure that all elements of the gas system that have been worked on have been reconnected to the gas system or have been sealed to prevent the emission of gas odour until such time that reconnection can be made. The General Manager retains the responsibility to ensure that all potential sources of odour have been minimised.

4.17 In Waste Leachate Extraction Systems

All leachate abstraction and monitoring infrastructure will be adequately sealed and will be connected to a leachate main that runs directly to a holding tank at the site before it is pumped via a leachate main across to the Leachate Treatment Plant (LTP) located at the adjacent Pilsworth North (Closed) Landfill Site. This will prevent any potential for fugitive odour release. Routine checks will be undertaken by the site management team to ensure that the leachate wells remain sealed and under adequate extraction from the gas collection system.

4.18 Leachate Storage

Leachate that is extracted from the sites is transferred to a holding tank on site and then transferred directly to Pilsworth North LTP as detailed above. Within the LTP, the leachate undergoes biological treatment ensuring minimal diffusion of odorous air. It is noted that at the time of writing the LTP has not been identified as a source of problematic odour. The plant is designed and actively managed in order to maintain effective aerobic leachate treatment capabilities; where required, any excess sludge is removed from the plant for disposal in line with normal management practices. On occasions leachate will be transferred by road tanker from the holding tank on Pilsworth South. Should this activity be likely to generate odour then the odour suppression system present can be activated.

4.19 Materials Recycling Facility

Putrescible waste will not be suitable for treatment at the MRF. Household waste and similar materials, with a high proportion of food waste or other putrescible material, will be identified at the pre-acceptance stage and will be directed to the landfill. Only wastes with a low putrescible content, such as construction and demolition wastes and some commercial and industrial wastes, will be directed to the MRF.

Waste will be unloaded inside the MRF building. The building is fitted with fast acting roller shutter doors which will, as far as possible, be kept closed except for allowing vehicle access and egress. Waste will be dealt with on a first in first out basis and non inert waste will be turned round within 72 hours to minimise the risks of odour from aging waste and all bays will be emptied on a regular basis.

Should any stockpile within the MRF generate a strong odour it will be prioritised for removal from site with an aim for it to be moved before the end of the working day.

Cleaning will be undertaken as necessary to prevent the build up of any waste residues.

4.20 Odour Management Sprays

Odour management sprays containing masking and/or neutralising agents will be utilised around sensitive areas of the landfill, as required. A combination of temporary mobile bowser and fixed fence-line spray deodorising systems may be utilised at the site.

4.21 Plant Maintenance

Site infrastructure and plant will be inspected for damage and wear by all responsible personnel at a minimum weekly frequency. Records of these checks will be maintained in the site plant files.

All plant and equipment will be maintained in good working order and in accordance with the supplier or manufacturer's recommendations.

4.22 Training

All Valencia personnel working at the facility are subject to a formal documented training programme in accordance with Company procedures. Matters relating to environmental management and control form part of this core training programme for all individuals.

Additional training will also be provided for personnel required to complete subjective odour surveys in accordance with Section 5, below.

4.23 Community Liaison

Valencia operates an open-door policy and members of the public are welcome to visit the site to view operations and to discuss any issues with the site management team. Due to low historic participation, site management no longer hold community liaison meetings at Pilsworth South Landfill.

Site contact details and emergency (out-of-hours) numbers are shown on the site entrance gate and Company website. Newsletter drops may be used in order to inform the local community of any planned issues relating to site operations. Direct feedback to site is encouraged at all times in relation to any perceived issues associated with operational activities.

4.24 Unit Emergency

In the event of site emergency, the General Manager will be notified without delay. The relevant UEP (Unit Emergency Plan) will be implemented by the responsible person(s).

5. Odour Monitoring

5.1 Meteorological Conditions

An on-site meteorological station is correctly installed (i.e. at an appropriate location that is representative of air movements across the landfill area), calibrated and maintained in order to measure and record weather conditions (including atmospheric pressure, and wind speed and direction) at automated intervals. The data collected by the weather station will enable potential odour issues to be predicted and necessary actions such as modifications to site operations, the use of deodorising sprays, or additional monitoring resources to be implemented.

In promoting proactive management of the risks arising from the site, site management will review the weekly forecast of meteorological conditions for the site at the start of each working week. Details of the forecasted conditions will be assessed against proposed activities for the period. Key data to assist the General Manager will be the assessment for windspeed, wind direction and potential atmospheric pressure changes.

In the event of failure of the station, meteorological data will be obtained from Valencia's local and national network of monitoring stations and from other commercial organisations such as http://www.xcweather.co.uk while the site's unit is re-instated/repaired. The target time for repair of the station is within 5 working days of identification of a fault relating to wind speed, wind direction or atmospheric pressure.

5.2 Regular Inspection/Olfactory Monitoring

A plan displaying the site's on and off-site odour monitoring locations is included in Appendix I of this management plan.

i. Weekly Onsite Subjective Odour Survey

All installation personnel are responsible for reporting any odour problems immediately to site Management (or appropriate responsible person).

The responsible person will ensure that a weekly inspection is made of the site boundary during operational periods in order to establish whether any odours arediscernible (monitoring points PSOD01 – PSOD25). Observations including time, date, weather conditions, odour type, location, intensity and extent will be recorded in Monitor Pro compliance database. Odours of high intensity will be investigated further.

A daily check will be made around the perimeter of the MRF to ensure no odours are emanating from the building.

ii. Monthly Offsite Subjective Odour Survey

In addition to the weekly onsite odour surveys, offsite odour surveys will be also conducted by either a third party contractor or by a Valencia employee.The survey will be undertaken at designated offsite monitoring point locations (monitoring points PSOD26 – PSOD31) at minimum monthly intervals.

iii. Monthly Flame Ionisation Detector (FID) / Subjective Odour Survey

In addition to the above weekly site boundary and offsite odour surveys, routine monthly FID surveys will be undertaken at the site boundary (see Appendix II for the locations), weather permitting. These will be completed by a specialist independent monitoring consultant in accordance with Valencia's Environmental Monitoring Procedure No. 6.4.8 – Gas in Air: FID Monitoring.

The compliance level for methane in ambient air is 10 ppm at the site boundary. In the event that the 10 ppm FID level is exceeded at a particular boundary location, the monitoring technician will attempt, so far as is reasonably practicable, to trace the source of the emission. In the event that a source is identified, the General Manager will be notified by the monitoring technician and appropriate remedial actions will be implemented. In the event of such an exceedance, a Schedule Notification will be submitted to the Environment Agency setting out the above information.

It is noted that unfavourable meteorological conditions (as specified in Procedure No. 6.4.8 –Gas in Air: FID Monitoring) may limit Valencia's ability to complete FID (and other associated air quality) monitoring. Should it prove necessary to abort a scheduled monitoring event, Valencia will assess the weather forecast data for the remainder of the required period in addition to site performance data up to and during the required period of monitoring. Through liaison with our dedicated monitoring contractor, one further attempt will be made tocomplete the FID monitoring within the monthly period.

5.3 Monitoring of Landfill Gas and Leachate Infrastructure

Active management of the source term of odour at the site is essential to minimising the risks of odour being detected beyond the site boundary. Demonstrating the integrity and efficiency of the gas management and leachate collection system is essential and will be monitored in accordance with the site GMP (Section 5.2 and 5.3). As outlined in Sections 4.14 – 4.16 above, this will include checks on gas management parameters, integrity of pipe work, and other infrastructure. Records will be maintained of any required remedial works, timescales and responsibilities for their completion within the HolisTech computerised maintenance system.

Additional FID monitoring of key on-site landfill gas and leachate management infrastructure will be completed annually, weather permitting. In seeking to ensure all key elements of the site's infrastructure remain sealed, supplementary FID surveys may also be completed at the General Manager's discretion. Monitoring will be completed in accordance with Valencia Procedure No. 6.4.8 – Gas in Air: FID Monitoring.

5.4 Surface Methane Emission Surveys

In accordance with Permit Condition 3.5.1 and Table S3.8, surface methane emissions will be measured on an annual basis.

5.5 Perimeter Gas Monitoring

In accordance with Permit Condition 2.10 and Table S3.5, perimeter gas monitoring will be routinely undertaken at the site boundary network. Monitoring will be completed in accordance with Valencia Procedure No. 6.4.1 – Perimeter Gas Monitoring. Valencia's Gas Migration Action Plan (Ref: GMP Action Plan 7.4.2 - Perimeter Gas Exceedance) describes the explicit actions that will be undertaken in response to a breach of an 'action level' or 'compliance limit' in the site's perimeter gas monitoring network.

6. Odour Action Plan

6.1 Odour Complaint Investigation

The following actions will be taken on receipt of an external odour complaint:

1. The responsible person receiving the complaint at the site will initially record the key details using the Complaint Report Form, Appendix VI. The form sets out the key information that must be recorded at this time in order to facilitate further suitable investigation.

2. Site Management will be informed of the odour complaint as soon as possible, including the location, time and date of the complaint being lodged (where available).

In recognising that odour can be transient and short-lived, timely notification of odour complaints directly from the complainant and / or the Environment Agency is imperative to allow for appropriate investigation. If the odour complaint occurred more than 12 hours before notification is provided to Valencia, it may not be possible to fully investigate or substantiate the complaint. Valencia will, however, complete and record a complaint investigation, as set out below, as appropriate.

3. If the complaint is received within 12 hours of the incident, the General Manager (or appointed representative) will visit the complaint location as soon as practicable in order to subjectively determine odour presence or absence.

Opportunities to meet the complainant to discuss the matter directly will be pursued, wherever possible, provided the complainant is happy to do so.

4. If an odour is present at the complaint location, the key 'FIDOL' criteria will be assessed as follows:

Frequency – is the odour intermittent or persistent; is there a history of complaints at this location?
Intensity – is the odour faint, moderate, strong, or very strong?
Duration – how long is the odour present at this location?
Offensiveness – provide a description of the odour; is it high, moderate, or lowoffensiveness?
Location – is the odour present at a remote or highly sensitive location; is the odour plume localised or widespread?

[See also: 'Classification Systems', Appendix V]

5. The Site Management will subsequently undertake the following further assessment process:

- Review of site operations prior to and at the time of the complaint;
- Review of the environmental control systems operative prior to and at the time of the complaint;
- Review of the meteorological conditions (wind speed/wind direction/rainfall/atmospheric pressure) prior to and at the time of the complaint – to establish whether a pathway can be established between the site and the complainant;
- Review of the previous complaint history at the location identified.

6. Odour complaint details will be transferred to Valencia's internal Incident Database in accordance with Procedure 6.4.32: Environmental Complaints Assessment and Management.

7. The odour complaint will be substantiated (or otherwise) by the General Manager (or appointed representative) in accordance with the following (in order of priority):

   - The Environment Agency has visited the complaint location and has provided confirmation that the odour exists, is significant and is attributable to Pilsworth South Landfill Facility or MRF;

   - The General Manager (or appointed representative) has visited the complaint location and has provided confirmation that the odour exists, is significant (based on the FIDOL assessment, above) and is attributable to Pilsworth South Facility.

   Valencia will contact the Environment Agency to discuss any substantiated complaint incident as soon as possible following receipt of the details, allowing sufficient time for the above investigation to be completed. The target response period during normal working week is 24 hours from complaint receipt. If the necessary contact details are available and direct feedback has been requested, Valencia will also contact the complainant directly to discussthe issue, the findings of the subsequent investigation and any actions arising.

6.2 Action Plan

In the event that an odour 'non-conformance' is identified on site, the following actions shall be taken:

6.3 Responsible Person(s):

Valencia's primary point of contact will be the General Manager for the facility on all matters associated with site operations and environmental performance. In the event that the General Manager is unavailable or non-contactable, the contingency management staff to be contacted will be as follows:

First call to: Area Landfill Energy Manager
Thereafter: Compliance Manager

Actions:

1. The General Manager will be informed.
2. Thereafter the General Manager will co-ordinate with (where appropriate):

   Externally: EA Officer (central Agency call centre if outside working hours)
   Environmental Health Officer

   Internally: Operations Manager
   Landfill Gas Control and Utilisation Manager
   Technical Compliance Manager
   Site Staff (Supervisor/Foreman)

3. If the incident relates to receipt of an external complaint, an investigation will be completed in accordance with Section 6.1, above.

4. If not previously undertaken, the General Manager (or appropriate responsible person) will undertake an investigation in order to determine the likely cause(s) of the off-site odour.

The site investigation will incorporate detailed and methodical assessment of the site infrastructure and operational conditions against the specific requirements of the odour controls set out in Section 4, above, to determine any diversion away from 'normal' site operating conditions.

5. Upon identification of the likely odour source(s), the appropriate corrective and preventative measures will be identified and implemented under the direction of the General Manager. Additional support and technical expertise will be provided by internal and/or external technical specialists, as required. Where necessary, the OMP requirements will be reviewed in line with Section 7, below, in order to ensure they continue to represent 'all appropriate measures'.

Key items for routine consideration and assessment will be as follows:

7. Disturbed Waste

Where odorous emissions arise specifically from the exposure of previously emplaced waste, the exposed area will be covered and release minimised as soon as practicably possible.

8. Inadequate Cover or Capping

If the area is awaiting the installation of the engineered capping layer, the programme for capping works will be reviewed by the site management in order to identify any requirement and potential for bringing the planned works forward or an increase in capping area.

9. Inadequate Gas Control

Remedial action will involve one or more of the following, as required:

- Installation of additional gas wells;
- Increase suction on wells and operate outside of the normal balancing philosophy;
- Use of a temporary mobile flare (if full suction is not available from the gas plant);
- A comprehensive audit on the gas system to ensure its integrity and effectiveness;
- Repairs to or replacement of any malfunctioning infrastructure, *e.g.* pipelines, wellheads, KOPs

10. Damage to the Gas Collection System

In the event that damage to the gas collection system is identified, GMP Procedure 7.4.4 will be followed.

11. Generator Trip

A generator trip will be indicated by an automated telemetry call to the on call member ofthe Powergen Team. GMP Procedure 7.4.5 will be followed.

12. Gas Plant Trip

A gas plant trip will be indicated by an automated telemetry call to the on call member of the Powergen Team. GMP Procedure 7.4.6 will be followed.

13. Leachate Wells/Monitoring Points

The following actions will be undertaken, as required:

- Additional seals will be applied to problematic wells and monitoring points;
- Additional suction will be applied to leachate wells and monitoring points where safe to do so (due to the increased risk of fire)

14. Timescales

In the event that it proves impracticable to carry out adequate remedial measures within 5 working days, the site Management will agree with the Environment Agency the proposed actions and the timescales for their completion.

15. Records

Details of odour 'non-conformances' including subsequent investigations, timescales and remedial measures taken, and notifications of the relevant internal and external bodies will be recorded in accordance with the Company's policies and procedures.

Analysis of the weather data recorded at the on-site meteorological station will also be notedin addition to the site operations at the time of the complaint, proximity and location of the complainant, assessment of other third party odour sources in the area, date and time, etc.

16. Additional Supportive Odour Monitoring

The requirement for (and frequency of) additional supportive odour monitoring will be agreed between the Site Management and the Compliance Team. This may include, but not be limited to:

- Additional on-site FID/subjective odour inspections;
- Additional site perimeter FID/subjective odour inspections;
- Additional off-site FID/subjective odour inspections;
- Speciated trace volatile organic compound (VOC) sampling and analysis.

17. Document Audit and Review

17.1 Review Requirement and Timescale

The OMP will be formally reviewed in line with the EMS review to ensure it continues to reflect the on-going site status and associated sensitivity/risk. Any required changes to the conditions set out within this document will be formally agreed with the Environment Agency prior to their implementation.

17.2 Audit

The processes described in this document will be audited by Valencia's Compliance Department in accordance with the Company's auditing procedures.

17.3 Review and Plan Update

This management plan sets out the appropriate measures Valencia will undertake in controlling any odorous or potentially odorous activities from the facility. If, on review of the performance of the facility, Valencia and/or the Environment Agency propose to seek revision of this plan, then the following course of action will be undertaken by both parties:

1. In potentially critical circumstances where Valencia recognises the requirement for the immediate implementation of changes to the management plan to prevent or reduce significant odorous emissions, these changes will be discussed with the Environment Agency without delay but may be actioned by Valencia ahead of formal agreement with the Environment Agency.

2. Where Valencia proposes changes to the management plan that involve a more strategic and/or phased approach rather than a need for immediate implementation, a formal proposal will be submitted by Valencia to the Environment Agency setting out the specific issues arising from document review, and the options/issues requiring Valencia's further attention following Agency approval. The Environment Agency will review Valencia's submission/updated management plan and confirm they are satisfied with the proposed changes. Where possible, the response should be within 28 days of receipt of Valencia's submission. The agreed required changes will then form the future 'appropriate measures' for the site with regard to odour management and control.

3. Where changes to the management plan are proposed by the Environment Agency, these will be discussed with Valencia setting out the Environment Agency's clear expectation from the changes in addition to timescales for their implementation. It is recognised that these changes may range from matters that require immediate implementation to those that may be implemented over an extended timeframe. In each case, the required changes will be discussed with Valencia and an appropriate action plan agreed. Valencia will (wherever possible) undertake the identified changes in accordance with the timescales proposed for the work, at which point the updated 'appropriate measures' will take effect.

18. APPENDIX A – Odour Classification and Meteorological Data Referencing

18.1 Odour

1. Character **Examples**: acidic, acrid, agricultural, ammoniacal, cabbage, dustbin, eggy/sulphurous, fruity, landfill gas, mains gas, oily, putrid, pungent, rotten, sickly, sour, sweet, compost, fresh waste,rotting waste, IVC compost, leachate, pet food factory, stables, burning plastic.	**2. Intensity** 0 - No detectable odour 1 - Very faint odour (need to stand still face wind and inhale to detect) 2 - Faint odour 3 - Distinct odour - detectable when walking and breathing normally 4 - Strong odour 5 - Very strong odour 6 - Extremely strong odour	**3. Extent** 1 - Local and transient - only detected for brief periods at site boundary when the wind drops or blows 2 - Transient as 1 above, but detected away from site boundary 3 - Persistent but fairly localised 4 - Persistent and pervasive up to 50m away from site boundary 5 - Persistent and widespread - detected >50m away from site
4. Sensitivity Low – footpath/road Medium – industrial/commercial workplaces High - housing, pub/hotel	**5. Offensiveness** 1 - Less / potentially offensive 2 - Moderately offensive 3 - Most / highly offensive	**6. Suspected Sources** **Examples**: Agricultural, Gas Plant, Leachate Treatment, Active Tipping Face, Green waste compost, In-vessel Compost facility.
7. Source Valencia Controlled? **YES** or **NO**		

18.2 Meteorological Data

Beaufort Wind Scale

Force	Description	Specification	mph
0	Calm	Smoke rises vertically	0
1	Light air	Smoke drifts in wind direction; wind vanes not moved	1-3
2	Light Breeze	Wind felt on face, leaves rustle; windvanes moved	4-7
3	Gentle breeze	Leaves and small twigs in constant motion	8-12
4	Moderate breeze	Raises dust and paper; smallbranches are moved	13-18
5	Fresh breeze	Small leafy trees swayed; mediumbranches moved	19-24
6	Strong breeze	Large branches moved; umbrellasused with difficulty	25-31
7	Near gale	Whole trees moving; walking againstwind inconvenient	32-38
8	Gale	Twigs break off trees; walkinggenerally impeded	39-46
9	Strong Gale	Slight structural damage occurs	47-54

Pasquill Atmospheric Stability Classes

Class	Definition
A	Very Unstable
B	Unstable
C	Slightly Unstable
D	Neutral
E	Slightly Stable
F	Stable
G	Very Stable

Meteorological conditions that define the Pasquill stability classes

Surface Wind Speed	Sunshine			Night-time Cloud Cover	
mph	Strong	Moderate	Slight	>50%	<3/8 cover
<4.5	A	A - B	B	-	G
4.5 – 6.7	A - B	B	C	E	F
6.7 – 11.2	B	B – C	C	D	E
11.2 – 13.4	C	C – D	D	D	D
>13.4	C	D	D	D	D

Note: Class D applies to heavily overcast skies, at any windspeed day or night