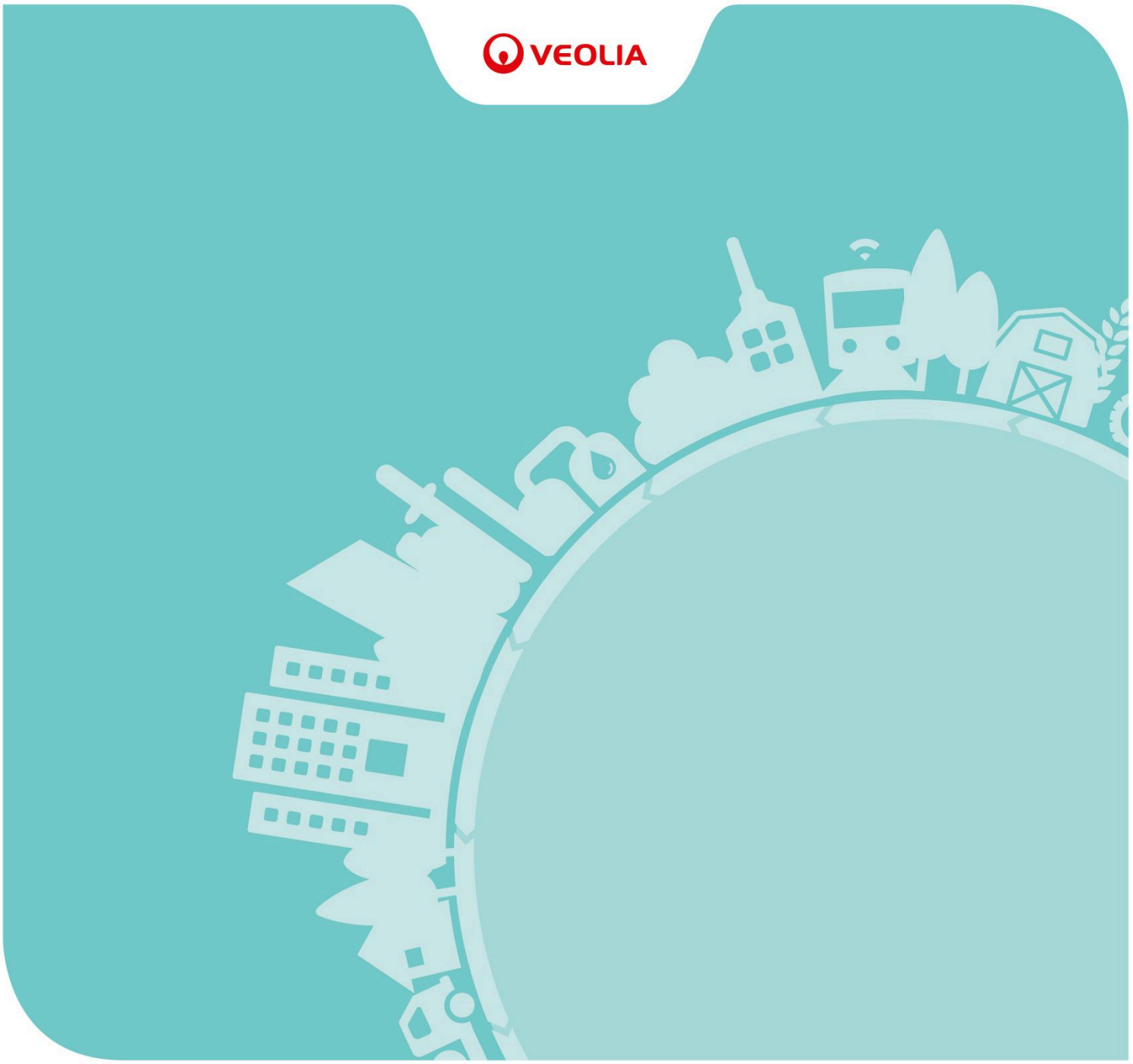

Odour Management Plan

Norwich RDF & Transfer Facility

Date: January 2024

Version: 1.0

Version History

Revision Number	Date of Issue	Status	Reason for revision
V1.0	January 2023	Draft	Bespoke Permit application

Contents

1 Introduction

1.1 Purpose and scope

This OMP provides information on the measures to be implemented to control odour emissions from the Norwich RDF & Transfer Facility. The OMP addresses the Environment Agency's general requirements for OMPs as part of the permitting process (as required by the environmental permit in agreement with the EA H4 guidance[1]).

The H4 guidance recommends a simple document along the following lines:

> Environment Agency H4 guidance on the content of an OMP
>
> - A process description, particularly describing odorous, or potentially odorous, activities or materials used;
> - identification of all the release points for each of the activities;
> - identification of possible failures or abnormal situations – for the main process or for odour abatement equipment;
> - a listing of the consequences for odours of the failures or abnormal situations;
> - a description of the measures put in place to deal with these risks; and
> - a list of the actions in detail and who is responsible for carrying them out.

To meet these requirements, this OMP is structured as follows:

- Section 2 – a description of the site and process;
- Section 3 – measures that are used to control odour during normal operations;
- Section 4 – routine maintenance and inspection;
- Section 5 – routine monitoring, recording and reporting;
- Section 6 – management measures taken to control odours

[1] Environment Agency Horizontal Guidance: H4 *Odour Management – How to comply with your environmental permit*, April 2011

2 Description of Site and Process

2.1 Site Overview

2.1.1 Site Details

The site will operate in accordance with the Environmental Permitting (England & Wales) Regulations (as amended) under Environmental Permit Reference: EPR/KB3105FM

The facility is located within Longwater Industrial Estate, Costessey, Norwich. The site consists of a Transfer/Treatment building along with 1 external bay for the storage of baled and wrapped RDF.

Norwich Waste Transfer & Treatment Facility
Longwater Industrial Estate
Costessey
Norwich
NR5 0TL

2.1.2 Overview of Process

It is envisaged that in normal operating circumstances, mainly commercial waste will be brought to site. These wastes will be processed (shredded with metals extracted) and then either; loaded into bulk haulage vehicles for onward transport to an available ERF or baled and wrapped and stored on site ready for onward transport for recovery. There will also be an option for transfer loading without shredding as a contingency. Recyclates including wood, paper/card and glass will also be transferred.

In normal circumstances, all input and output material will be stored inside the main processing building in six distinct bays - five for inputs and one for outputs of baled RDF. Drawing ref VES_TD_NORW_400_016 indicates the intended layout of the building. It is not anticipated that processed waste stored inside the building will normally be held on site for more than 10 working days. Each bale will be approximately 850 kg in weight and will be wrapped using a heavy duty plastic film. The baler automatically turns and wraps each bale 7-8 times completely which ensures no waste escapes and that the bales are fully weatherproof and leakproof. The density of the plastic, amount of times wrapped and the minimal presence of putrescible wastes reduces any risk of potential odour sources.

Due to the nature of waste handled coupled with the design of the site, it is not considered that there will be a significant risk of odour emissions from the site. The infrastructure has been designed to reduce emissions and abatement controls are in place.

2.1.3 Delivery

The incoming loads of wastes are weighed at the weighbridge situated at the entrance of the site. The incoming waste is delivered, tipped and stored in the input bays of the RDF/transfer building.
The building is fitted with fast acting doors that will only be opened to allow entrance and egress, under normal circumstances the doors will remain closed.
The frequency of deliveries can vary between a few per minute to a few per hour depending on the time of day, day of week and whether there is an ERF shutdown.
Deliveries of waste will primarily be in fully enclosed RCV (refuse collection vehicle) type of vehicle but may also arrive in all other types of waste collection vehicle such as rollonoff, skip, cage van etc. Where the waste is arriving in open topped containers such as skips or rollonoff bins these will be sheeted or netted depending on the type of waste in the container.

2.1.4 Processing

A visual inspection of input loads is carried out. The residual waste is then fed into the inlet hopper of the conveyor system by loading shovel. This is done at a rate in order to match the shredding machine nominal capacity, the waste passes under an over-band magnet to remove any metals, the waste is then baled and wrapped 7-8 times before being moved into an output bay for export from site.
The transfer activity of the waste will be loaded directly from the input bays into the vehicles for onward transport.

Appendix A Drawing VES_TD_NORW_400_016 shows the waste storage areas. During normal operations two of the internal bays will be utilised for residual waste inputs and three for storing recyclates. During operations the fast acting doors of the building will remain closed apart from access/egress to the building. The facility does not accept inherently odorous wastes and the potential for odour emission from the storage and processing activity is therefore low. While the site is not operational the doors remain closed.

The material is loaded on a ‘first in first out’ principle with the input bay being filled from right corner to left corner and subsequently emptied to the shredder from right to left. The input bays are capable of storing up to 450m^3 each. Under normal operating procedures the waste for processing into RDF is expected to spend no more than 24 hours in the input bay before being processed. Under normal operations the maximum amount of time material will be stored in the input bay prior to being processed into RDF will be 72 hours,

other wastes with less odour potential could be stored for up to 2 weeks, and baled RDF for up to 2 weeks, see Table 2.4.

All processing of the RDF material is undertaken within the confines of the building.

2.1.5 Storage and Loading

The material is loaded on a 'first in first out' principle with the input bay being filled from right corner to left corner and subsequently emptied to the shredder from right to left. The input bays are capable of storing up to 450m^{3}each. Under normal operating procedures the waste is expected to spend no more than 24 hours in the input bay before being processed. Under normal operations the maximum amount of time material will be stored in the input bay will be 72 hours.

All processing of the RDF material is undertaken within the confines of the building. Fast acting doors are in place and will be closed at the end of each working day to prevent windblown material escape.

2.1.7 Neighbouring Communities, other Odour Sources and Sensitive Receptors

The facility is located in a predominantly industrial/commercial area with the closest residential property located approximately 393m south of the facility at Colosus Way. There are also residential areas 750m northeast of the site at Tower Close and 968m northwest of the site at Magnolia. Should any fire create large amounts of smoke to be blown off site, the Manager/Supervisor will contact any nearby neighbours downwind of the site as a courtesy.

Key receptors within 1km of the site have been identified and are shown on the 1km receptor drawing no. VES_TD_NORW_400_016 which can be seen in Appendix A.

Potential odour sources in the area are listed in the table below:

Table 2.1 Other odour sources

Site	Activity	Distance from Site	Direction from site
News	Waste transfer station	150m	SE
Biffa	Waste depot	200m	S
FCC	Waste transfer station	200m	N

The area immediately surrounding the site is largely industrial/commercial with some retail and recreation, potential receptors have been identified and listed in table 2.2.

Table 2.2 Location of potentially sensitive odour receptors

Receptor		Receptor sensitivity	Receptor Type	Approximate distance to the site (m)
R1	Magnolia	High	Residential	968m NW
R2	Tower Close	High	Residential	750m NE
R3	Colosus Way	High	Residential	393m S
R4	Norfolk Cement	Low	Industrial	Adjacent
R5	U Store	Medium	Commercial	100m W
R6	Aldi	Medium	Retail	150m SW
R7	Norfolk Canoes	Medium	Industrial	150m NW
R8	Morelli Group	Medium	Industrial	100m NW
R9	NEWS	Very Low	Waste Transfer Station	150m SE
R10	Biffa	Low	Waste depot	200m S
R11	Scott Timber	Low	Commercial	200m W
R12	Bannatynes Health Club	Medium	Recreational	250m W
R13	Cemex	Low	Industrial	200m N

In addition, consideration has been given to the other general surrounding commercial and industrial uses on the Industrial Estate (which are conservatively considered to be of medium sensitivity) and the likely public exposure on local footpaths and roads (which are of low sensitivity, as exposure in this area is expected to be transient).

2.2 Odour Sources

2.2.1 Generation of Odours at RDF Facility

There is the potential for odours to arise during the early stages of the process, throughout the waste reception, storage handling and shredding processes. However, once the waste has been wrapped in several layers of plastic, odours are unlikely to be produced.

2.2.2 Odour Source Inventory

The facility will accept and process or transfer up to 150,000t per year of waste. Mixed commercial wastes (mixed paper, cardboard and plastics) may contain a small amount of putrescible material.

Waste deliveries will occur between the hours of 06:00 and 22:00 Monday to Friday, and 07:00 and 19:00 Saturdays, Sundays, Bank and Public Holidays.

Table 2.3 on the following pages contains the odour source emissions inventory for the Norwich RDF/transfer facility. It provides a summary of the main sources of odour, their locations and the materials/activities involved, and the characteristics of the odour sources (e.g. fugitive or controlled, point, area or volume, release height, likely odorous compounds, quantities likely to be released, pattern of release and method of control).

The site will produce Refuse Derived Fuel (RDF) material from residual commercial waste . The RDF material produced will be exported from site and commercial, industrial and municipal waste diverted away from landfill disposal as a result. The residual commercial waste is deemed by the customer to be unsuitable for recycling but is typically dominated by discarded packaging and other office wastes, the presence of putrescible waste within this material is typically less than 5% and therefore the odour generation potential is minimal. There are no proposals to accept separately collected loads of food waste from commercial premises onto the site. Table 2.3 contains the odour source emissions inventory for the Norwich Waste Treatment & Transfer Facility. It provides a summary of the main sources of odour, their locations and the materials/activities involved, and the characteristics of the odour sources (e.g. fugitive or controlled, point, area or volume, release height, likely odorous compounds, quantities likely to be released, pattern of release and method of control). An assessment of the odour potential of the different waste categories as they progress through the process is included in table 2.4 below.

Table 2.3 Odour source emissions inventory

Source	Location	Activity & materials involved	Type of emissions	Release to atmosphere		Odour risk under normal operation (with controls in section 3.1)
				Description	Characteristics	
Waste delivery & reception	Site access road and weighbridge	Incoming loads of commercial waste	Fugitive	Vehicle paths along the access road and at weighbridge	Close to ground level, intermittent release dependent on number of loads	Low
	Waste reception area inside facility	Tipping of waste into input bay	Fugitive	Odour release into facility	Close to ground level, intermittent release	Low
Waste processing phase	Processing area inside facility	Loading onto conveyor belt & metal removal	Fugitive	Odour release into facility	Close to ground level, continuous release	Low
		Shredding of waste	Fugitive	Odour release into facility	Close to ground level, continuous release	Low
		Baling and wrapping	Fugitive	Odour release into facility	Close to ground level, continuous release	Low
Output bay storage (internal)	RDF output bay	Storage of baled RDF waste inside facility	None	None	None	None
Output bay storage (external)	RDF output bay	Storage of baled RDF waste in outside covered bays	None	None	None	None
Loading of baled RDF	RDF output bay or at external bay	Loading of baled RDF waste by clamp truck into articulated vehicles	None	None	None	None

Table 2.4 - Odourous Materials

Odourous and potentially odourous material	Odour potentia High/Medium/low	Maximum quantity on site at any given day (m^3)	Maximum time held on site	Location of material on site	Additional comments
Residual Commercial waste & separately collected fractions prior to transfer or processing	Medium or low	1,420	2 weeks	Bays 1, 3, 4 & 5	Recyclates will generally be paper/card and dry mixed recyclates with negligible odour potential
Glass	Medium or low	120	2 weeks	Bays 2	
Baled RDF	Low or none	850	2 weeks	Bays 6 & 7	Bay 6 indoors, Bay 7 outdoors

3 Odour Control During Normal Operation

This section of the OMP describes the means by which VES will control odour impacts from normal operations. A full description of the odour controls has been given for each stage of the process.

A great deal can be done to minimise the quantities of odourous chemicals formed on site or to minimise their release by good working practices and process control; whereas it is much more difficult to improve atmospheric dispersion.
Therefore, the Norwich RDF/Transfer facility works in accordance with the accepted hierarchy of preferred controls, that is:

1. prevent formation/release of odour in the first place;
2. where this is not practicable, minimise the release of odour;
3. abate excessive emissions; then
4. dilute any residual odour by effective dispersion in the atmosphere.

The primary source of potential odours will be from the residual municipal waste (EWC code 200301) for production of RDF or transfer.

Other wastes that could be accepted in small quantities and would only be transferred that could be malodourous include:

EWC 020203, 020304, 020501, 020601 - material unsuitable for consumption

EWC 020103 - plant tissue waste

EWC 200108 - biodegradable kitchen and canteen waste

EWC 200302 - wastes from markets

3.1 Good Working Practices to Minimise Odour Releases

3.1.1 Waste Delivery and Reception

Waste Acceptance Procedure

A waste acceptance procedure is followed to ensure that only suitable waste is accepted into the facility in accordance with the Environmental Permit. Incoming waste considered to be malodourous will either be processed immediately or rejected from the site. If

deemed necessary, inputs can be refused or diverted to alternative treatment facilities if odour pollution is considered likely.

Vehicles will be directed to tip within a specific waste bay, as directed by the site staff. Once tipped, if the load is found to be malodorous and / or not conforming to pre acceptance criteria the site supervisor will make the decision to either process the load immediately or reject the waste from site.

Any rejected inputs will be re-loaded on the delivery vehicle immediately and the manager will contact the site of origin / council to inform them of the rejection from the site and to remind them of the quality of input material deemed acceptable.

Partnerships and agreements with waste suppliers

A major factor affecting the potential for odour emissions at the waste delivery and reception stage is the content and nature of the material. VES policy with its waste suppliers - specifying the inputs that are unacceptable and the frequency of deliveries - is the main control measure. VES will exercise rigorous control of delivered waste. In any contractual agreement there will be a clause which covers the delivery of malodorous content material to the Norwich facility. It will be within the site supervisor's power to reject any material (e.g. contaminated or odorous wastes that have been stored too long) that will jeopardise the ability to manage the site and prevent the emission of unacceptable odours.

For waste acceptance in general all business contracts establish collection schedules and storage arrangements that are suitable for the waste types and business size i.e. sealed bins that are emptied on an agreed frequency.

Excessive Influx of Waste

If there is an excessive influx of waste into the facility further loads will be diverted to one of our other waste facilities. Veolia has a network of waste facilities across the country including transfer stations, MRFS RDF facilities and ERF's all capable of accepting this material.

On-site operatives will be trained as to the acceptability criteria for incoming loads. Waste will only be accepted if:

- It conforms to the type and maximum quantity that is specified in the Environmental Permit; and
- It conforms to the description in the documentation supplied by the producer and holder.

Records will be maintained of all waste accepted onto the site.

Unloading of wastes in reception area

The waste is tipped and stored in the input area as instructed by the site operatives. Vehicles will reverse into the dedicated marked bay within the facility. This area shall be kept clean at all times as far as practically possible thus preventing the vehicles from reversing into the previously tipped waste, thus keeping the vehicles clean. Once the vehicle has tipped the waste the shovel driver pushes it into the pile to ensure a clear area remains for other vehicles to tip.

All wastes will be visually inspected and contaminants and oversized materials are removed. The newly deposited waste is visually inspected by the shovel driver once the waste is tipped on the floor. Any contaminants are removed and disposed of to landfill or another facility.

If a whole load is deemed to be unacceptable due to contamination, the operator will inform the site supervisor. If the site supervisor agrees with the operative's assessment then the load may be manually picked to reduce the contamination. If this is not possible, then the contaminated load will be quarantined and removed from the site.

Temporary storage in reception area

The holding times of the waste delivered to the Norwich RDF/Transfer facility are carefully controlled to minimise the potential for anaerobic decomposition prior to processing. In the commercial wastes received, there is expected to be minimal amounts of material at risk of decomposing.

The holding time for residual waste prior to processing will be limited to 72 hours in order to minimise the potential for odour generation and, in practice, the waste will usually spend less than 24 hours in the storage area prior to processing. Any waste identified by trained site staff as having the potential to become malodorous resulting in unacceptable off site emissions will be either rejected or processed immediately depending on a dynamic assessment of the risk. The main preventative control is therefore the contractual agreements with the waste suppliers, placing limits on maximum allowable volumes to reduce the risk of overload occurring.

Waste will be processed in the order delivered, unless wastes have been identified as having a higher odour potential which will be prioritised for processing The shovel operator will manage this space so that waste can be treated on a first in first out basis. The input area for wastes is identical in capacity to that of the output bay. Coupled with management of the input / output rate and processing this ensures a very short residence time and limits the likelihood of a bottleneck causing volume buildup. Where wastes have been received that have been assessed as containing higher levels of potentially odorous materials, consideration will be given to prioritising the processing of these wastes where necessary.

3.1.2 Processing of waste

The main control measure is ensuring that material due to be processed is of sufficient stability to ensure that odorous emissions are minimal. Good housekeeping measures consist of keeping all areas clean and tidy.

Handling, shredding and baling the waste

The received waste is fed onto the conveyor belt by loading shovel and an overband magnet will remove metals from the waste prior to shredding. Shredding can give rise to malodours, especially if the waste to be shredded has stood for some time. This is minimised by managing the holding times.

To reduce the release of odours, the material is transferred directly from the shredder into the baler, to be baled and wrapped in several layers of plastic. Once wrapped, the waste no longer represents an odour source.

Cleaning

Regular cleaning of the shredder, loader and operational areas such as reception area will minimise odour generation from unprocessed entrained residues. Any areas that have contained particularly odorous material will be washed down using a jet wash or high pressure hose as required and inspected on a daily basis.

3.1.3 Storage and Transfer of Baled Waste

Once baled and wrapped the waste no longer releases emissions to the atmosphere as it is contained within the plastic wrap. The main control measure in ensuring that there are no potential releases of odour is ensuring that the bales are sufficiently wrapped. Any bales with a breach in the wrap will be reprocessed.

The bale storage areas will be kept clean to ensure that vehicles and waste leaving the site do not transfer odorous material offsite.

3.2 Containment of Residual Odours

Fugitive releases are contained within the main building. Transfer of internal air outside the building is further minimised by fast-action doors that automatically open and close for vehicle entry and exit.

The entry and exit system is designed to minimise fugitive releases of odour through the building doors, and operates as follows:

- There is a traffic light system to notify vehicles leaving the weighbridge to enter the transfer station building.
- Operatives are alerted to an incoming vehicle by radio contact with the weighbridge
- The doors remain open only while the vehicle is passing.

Once the waste has been baled and wrapped in plastic, emissions of odour into the atmosphere no longer occur.

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4 Routine Maintenance and Inspection

This section of the OMP describes how VES will address the following issues to help maintain the effectiveness of odour controls:

- Plant performance
- reagents and consumables; and
- planned inspection and maintenance

4.1. General

Planned maintenance and inspection is crucial to maintaining the effectiveness of odour control measures. An effective, planned maintenance regime is in place on all plant and equipment.

4.2 Building Containment

It is essential that the integrity of the facility building fabric is maintained continuously, other than during periods of essential maintenance. The effective operation of opening/closing of doors will be checked routinely.

The main processing building will be a traditional steel framed building, with precast concrete pushwalls around the perimeter, with steel profiled wall and roof cladding above.

A smoke test will be carried out annually to check the integrity of the main building with any remedial actions needed carried out.

The external bale storage area has precast concrete perimeter walls.

4.3 Shredders, Loaders and Shovels

Adhering to the routine, planned maintenance schedule will minimise the risk of breakdown. Furthermore, critical plant such as shredders is covered by a breakdown contract by the supplier / contractor. Spare mobile plant can be delivered to the site with short notice should any plant be unable to be fixed and return to operation within the same day.

4.5 Odour Control during Maintenance and Abnormal Events

This section of the OMP deals with the management and control of odours during maintenance and emergency periods and is crucial to the Odour Management Plan. This section describes how VES will operate an action plan for abnormal event scenarios (including emergencies, maintenance, breakdowns, weather anomalies, etc). This is a summary of the foreseeable situations that may compromise the operator's ability to prevent and / or minimise the impact. Such actions may be as simple as temporarily preventing the receipt of waste to the more drastic shutting down of the plant. The action plan is intended to be used by operational staff on a day-to-day basis.

In the following pages, a tabular risk assessment has been compiled.

This table:

- identifies the conditions under which abnormal operational conditions or failures might arise;
- describes what these are;
- summarises the potential impacts from the identified abnormal/failure situations and assesses the degree of those impacts; and
- describes how these conditions could be prevented and/or mitigated and controlled.

Solutions to mechanical problems will necessitate the replacement or repair of the broken down machines. With regards to essential items of equipment, a list of spares required and the procedure for re-ordering will be developed as part of Veolia`s Management System and will be based on the manufacturers recommendations together with standby equipment for some critical items. Breakdowns should be minimal with the OMP implemented, as maintenance of odour critical plant will minimise these occurrences.
Where routine, planned and emergency maintenance of plant items has to be carried out and there is a likelihood of odour being released to atmosphere in quantities sufficient to result in pollution, a risk assessment of the activity will be conducted, as part of which issues of odour generation, release and control are considered. The risk assessment methodology and accompanying forms for carrying out unplanned works are described in a separate documented Work Procedure kept on site under Veolia`s Management System.

Where the risk of an off-site odour event occurring is judged to be medium or high, the Environment Agency will be notified immediately and the Veolia helpline will be briefed to advise of a potential problem leading to possible customer complaints.

Any incident likely to increase the risk of odorous emissions off site will be escalated to the competent person responsible for the facility immediately. That person will take appropriate action and also notify Senior Management and the internal Technical Services Team so that mitigating actions can be put into place as soon as possible.

The Environment Agency will be informed by telephone without delay and a schedule 5 notification form submitted within 24 hours of detection of the incident in line with the conditions of the site environmental permit.

The incident will also be reported on our AVA system (Electronic Environment, Health & Safety system) within 24 hours.

Mitigating actions may include engineer call out, replacement of equipment using critical spares or diverting waste to another facility as required.

Table 5.1 Odour source emissions inventory

Identify the release point(s) and areas	Identify possible abnormal operation or failure that would lead to an odour event	What are the consequences of such an abnormal situation or failure	What measures should be in place to prevent or reduce the abnormal situation or failure	What actions should be taken and who will be responsible
Access route and outside facility	Delivery of a large volume of waste over a short period of time	Fugitive release of odours from delivery vehicles unable to drop off their loads	VES will apply the following policy with waste suppliers: Define maximum tonnages that can be accepted on a day-to-day basis. Agreed delivery schedules, paying particular attention to public holidays. Entitlement that wastes can be rejected if the facility is over supplied. Recording of the amount of waste accepted onto the facility on a daily basis. Contingency plan to manage over supply of feedstock, including possible diversion to other facilities to accept rejected loads and options to return to supplier.	Management team responsible for negotiating VES supplier policy and a contingency plan. Weighbridge operator to record feedstock weights and call Competent Person if the maximum acceptance criteria is exceeded. Competent Person to decide if waste should be rejected and if so whether it should be returned to the supplier or sent to another licensed facility or disposed of.
	Gradual accumulation of spilt feedstock and leachate from delivery vehicles.	Uncontrolled release of odours from open area source.	Cleaning procedure and schedule for site entrance, weighbridge, and outside reception areas.	Competent Person to carry out regular inspections of all areas to detect spills. If spills detected required, spilt materials and debris will be transferred to the reception area and hardstanding hosed down.

	Accident involving delivery vehicle causing major spillage of waste	Uncontrolled release of odours from open area source – potential to lead to odour annoyance at the sensitive receptor	Response plan to deal with accidents.	Competent Person to initiate accident response plan – delivery vehicle made safe. If drivable, remaining material discharged into reception hall or vehicle removed off site. Spilt materials and debris immediately collected and transferred into reception area. Spill area then cleaned and hosed down.
Reception area inside facility	Delivery of particularly malodorous waste or putracides	Fugitive releases of highly odorous emissions – potential to lead to odour annoyance at the sensitive receptor.	Waste supplier will be aware of the type of waste suitable for delivery in contract Training covering the acceptability/rejection criteria for incoming waste – formal procedure implemented The Weighbridge Operator or other trained site operative will identify malodorous feedstock at site entrance / weighbridge and call the Competent Person. The Competent Person shall either: (1) Reject the load (return to the supplier sent to another licensed facility or licensed landfill). (2) Accept the load.	Management team responsible for negotiating VES supplier policy Veolia operatives will receive hands-on training on managing malodorous wastes from the process supplier and through Veolia's web-based training package. If malodorous waste is discharged in the reception hall not having been identified at the weighbridge, the Shovel Driver will immediately inform the Competent Person. The Competent Person shall either; 1) Reject the waste and inform the shovel driver to reload it into the delivery vehicle (return to the supplier or sent to another licensed facility or licensed landfill). 2) Inform the Shovel Loader to accept the load. The waste would then be prioritised for shredding and baling. If required water misting spray and odour neutralising agent operation can be increased. If an extended shutdown is anticipated and sniff testing identifies pollution is occuring or could occur odour sources

				(waste) may be removed from site to an alternative facility.
Processing area (conveyor belt / shredder)	Mechanical / electrical breakdown of equipment leading to build up of waste at input and processing area	Potential for fugitive odorous emissions – may cause odour to be detected at nearby sensitive receptors.	The equipment will be covered by a maintenance plan from the supplier or other contractor. A routine maintenance plan and schedule will be incorporated into any existing maintenance programme.	Competent Person will call supplier/contractor of the breakdown cover at the earliest opportunity. The process downstream of the processing equipment will continue to operate normally. Depending on how quickly the equipment can be repaired, the Competent Person will decide if it is necessary to redirect delivery vehicles already on the facility (not having discharged their loads) and incoming vehicles to other licensed facilities. If required waste suppliers will be contacted at the earliest opportunity and the situation explained – temporary redirection of delivery vehicles to other facilities might be required. Reason for failure will be investigated (in association with supplier/contractor) and maintenance plan revised if necessary. If an extended shutdown is anticipated and sniff testing identifies pollution is occuring or could occur odour sources (waste) may be removed from site to an alternative facility.

Input and output doors	Rapid roller doors malfunction and doors remain open	Potential for fugitive odorous emissions from open doors – may cause odour to be detected at nearby sensitive receptors.	Doors will be able to be operated by remote control or manually. A routine maintenance plan and schedule will be incorporated into any existing maintenance programme.	Competent Person to ensure doors are repaired as quickly as possible. Until repairs are completed, Competent Person to ensure doors remain open for the shortest time possible. Reason for failure will be investigated (in association with supplier/contractor if required) and maintenance plan revised if required.
Output area inside facility	Breakdown of loading shovel/crane grab	Potential for fugitive odorous emissions – may cause odour to be detected at nearby sensitive receptors.	The equipment will be covered by a maintenance plan from the supplier or other contractor. A routine maintenance plan and schedule will be incorporated into any existing maintenance programme.	Competent Person will call supplier/contractor of the breakdown cover at the earliest opportunity. The process downstream of the processing equipment will continue to operate normally. Depending on how quickly the equipment can be repaired, the Competent Person will decide if it is necessary to redirect delivery vehicles already on the facility (not having discharged their loads) and incoming vehicles to other licensed facilities. If required waste suppliers will be contacted at the earliest opportunity and the situation explained – temporary redirection of delivery vehicles to other facilities might be required. Reason for failure will be

				investigated (in association with supplier/contractor) and maintenance plan revised if necessary. If an extended shutdown is anticipated and sniff testing identifies pollution is occuring or could occur odour sources (waste) may be removed from site to an alternative facility.
Output areas inside building	Breach in bale plastic wrap	Bale not properly wrapped or plastic is punctured	The equipment will be covered by a maintenance plan from the supplier or other contractor. A routine maintenance plan and schedule will be incorporated into any existing maintenance programme. Bales will be moved with caution to ensure plastic is not punctured	Competent Person will call supplier/contractor of the breakdown cover at the earliest opportunity. The process downstream of the processing equipment will continue to operate normally. Depending on how quickly the equipment can be repaired, the Competent Person will decide if it is necessary to redirect delivery vehicles already on the facility (not having discharged their loads) and incoming vehicles to other licensed facilities. If required waste suppliers will be contacted at the earliest opportunity and the situation explained – temporary redirection of delivery vehicles to other facilities might be required. Reason for failure will be investigated (in association with supplier/contractor) and maintenance plan revised if necessary. Punctured / in properly wrapped bales will be reprocessed.

Storage area outside facility	Breach in bale plastic wrap	Plastic is punctured	Bales will be moved and loaded with caution to ensure the plastic wrap is not punctured. Rotary atomiser system installed for use with odour neutralising agent.	Punctured bales will be reprocessed.

5 Routine Monitoring, Recording and Reporting

Monitoring has an important role to play in assessing the effectiveness of operational practices to prevent and contain odours; and in assessing the nature and extent of an odour problem should it arise.

This section of the OMP describes how the effectiveness of operational practices and controls will be checked by:

- monitoring of changes on site; and
- monitoring of effects off site (at the site boundary and beyond)

5.1 General Approach to Monitoring

VES will dynamically monitor emissions at their source (i.e. on site) to minimise the likelihood of odour nuisance at sensitive receptors. In the widest sense this monitoring will consist of inspection of feedstock, process, buildings and equipment to check that emissions are being contained and controlled.

5.2 Monitoring and Odour Limits at the Site Boundary

Monitoring of controlled source emissions will be carried out in accordance with the requirements of the environmental permit.

The routine monitoring techniques to be employed at Norwich RDF/Transfer Facility - sniff tests and complaints monitoring - are recognised as appropriate tools in current best-practice for odour assessments by the Environment Agency and AfOR.

It is not appropriate to set boundary limit values for sniff tests and complaints monitoring. These routine monitoring techniques do not generate absolute, quantitative results that can be compared to a limit value, but are subjective and subject to validation by checking activities on site and complaints. The monitoring is designed to act as a trigger for management actions and investigations if they indicate a problem.

Details of how the results will be recorded and submitted, and action plans for investigation, remedial measures and procedural changes in the event of detected abnormal emissions, are given in Section 6.

5.1.1 Sensory Field Odour Assessment by the `Sniff Test`

Monitoring of odour exposure by sensory field odour assessment ("sniff testing") uses odour assessors to record the attributes of the odour. The assessment is "sensory" in that the human nose is used as the detector as no analytical instrument can give a unified measure of a complex mixture of compounds. This technique is recommended by the Environment Agency and AfOR guidance as being suitable for routine daily monitoring of odours at the boundary of the site.

Given the pre-acceptance controls in place and the short residence time the potential for unacceptable odour emissions off site is considered to be low. VES will therefore undertake sniff testing dynamically based on the following criteria:

- Observation by trained staff that odour pollution is or may be occurring
- Receipt of waste which is deemed to be borderline malodorous and has triggered a decision to reject the vehicle / load
- Receipt of waste which is deemed to be malodorous but a decision is made that offsite impact could be avoided or minimised by prioritising this material for processing
- Any abnormal operation where there is considered to be a risk of odour pollution
- If notified a complaint is received externally
- If instructed to undertake an off site check by the Environment Agency

Ensuring staff are trained to undertake sniff testing in this manner ensures that the reasons for making a decision to carry out monitoring are well understood and it minimises the exercise becoming purely administrative and therefore of little value / devalued over time.

Should the site be subject to regular complaints or as deemed appropriate by site management, routine periodic monitoring may be instigated.

5.1.2 On site and off site monitoring

Trained staff will determine what combination of on and off site odour monitoring is appropriate based on the following principles.

- Where on site checks identify pollution is or may be occuring off site checks should be carried out.

- Where an external complaint has been received both on and off site checks should be carried out, in this case off site checks should ideally be carried out first to prevent desensitisation due to higher intensity odours closer to the source.

The sensory field odour ("sniff test") assessments will be carried out based on the Environment Agency Sniff Test protocol in H4 guidance using the 'odour report form' (see below). Site personnel will use Veolia`s Management Procedure for sniff tests. The person carrying out the sniff test will be rotated on a regular basis to ensure reliability; anyone who has been working within the RDF facility for an extended period will not conduct that day's test. Where possible testing will be undertaken by non-operational staff and management. Sniff testing is designed to detect any abnormal plant odour emissions. In the event that odour is detected, an investigation will be carried out to determine the root cause (further details of investigation methodology and remediation are contained in section 6)

Odour report form			**Date:**	
IMPORTANT: START ALL ODOUR ASSESSMENTS UPWIND OF THE SOURCE (WHERE ACCESS IS POSSIBLE). RECORD ALL ODOURS INCLUDING OFF SITE SOURCES.				
Reason for test (see criteria in section 6.2.1)				
Time of test				
Location of test Use ref in tab 6.1				
Weather conditions (dry, rain, fog, snow, etc				
Temperature (very warm, warm, mild, cold, or degrees if known)				
Wind strength (none, light, steady, strong, gusting)				
Wind direction (e.g. from NE)				
Intensity (see below)				
Duration (of test)				
Constant or				

intermittent in this period or persistence				
What does it smell like?				
Receptor sensitivity (see below)				
Is the source evident?				
Any other comments or observations				

Intensity: 0 No odour 1 Very faint odour 2 Faint odour 3 Distinct odour	4 Strong odour 5 Very strong odour 6 Extremely strong odour *Ref: German Standard VDI 3882, Part 14*
Receptor sensitivity Low (e.g footpath, road) Medium (e.g. industrial or commercial workplaces) High (e.g. housing, pub/hotel etc)	

5.1.3 Complaints Monitoring

Quite separate from the procedural reaction to a received complaint, is the monitoring of complaints levels. This technique – complaints monitoring - is an important tool for assessing the level of odour impact.

Complaints will be collected, registered and validated as described in Section 6 of this OMP. VES will record all validated complaints on AVA which is the company's reporting system.

Complaints are a very important indicator of community dissatisfaction (although not the only one) and the technique of complaints monitoring is a powerful tool. However, it is important to bear in mind that complaints are only a symptom of annoyance or nuisance; there are various reasons why complaint level is not an exact indicator of odour annoyance or nuisance itself. Whilst complaints are not a perfect indicator of nuisance, a change in the number of complaints is a reasonable indicator of improving or worsening impact due to odour. It is certainly true that the level of annoyance due to odour is extremely difficult to distinguish from factors such as traffic, noise, dust or just a perception of general unpleasantness on a personal level. It is also quite common for a large proportion of complaints to be received from a very limited number of people in the community. Therefore, odour complaints are most useful when used as a prompt for further investigations.

5.2 Recording of Results, Reporting and Actions

5.2.1 Recording of Results and Reporting

Recording of results

VES will maintain records of all monitoring carried out under this OMP, including records of the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
In addition to monitoring results the following records will be maintained in a combination of the computerised waste reception system, duty of care transfer notes and daily diary records:

- quantity limits onsite (waste reception, in treatment and product if applicable);
- waste types & quantities, including description and EWC;
- source/s of waste/s;
- maximum age of waste accepted;
- storage / treatment method and location;
- storage time limits.

Reporting

Any records required to be made by the Environmental Permit will be supplied to the Environment Agency within the timescales specified in the Environmental Permit.

6 Management Issues

This section of the OMP provides information on:

- staffing responsibilities
- staff training
- compliant management, investigation and resolution procedures
- provision of a complaints telephone line
- communication with external stakeholders

6.1 Roles and Responsibilities

VES is committed to effectively managing the impacts of odour from the Norwich RDF/Transfer Facility. This commitment extends from policies produced at director level, to the resources available to the competent personnel, to the abilities of the personnel managing odour-critical work tasks. This section describes the responsibility for the management and operation of the facility.

VES conducts its operations under its Business Management System, which has been developed to meet the requirements of BS EN ISO 14001, BS EN 9001 and OHSAS 18001.

- The Norwich RDF/Transfer Facility is managed by a Site Supervisor under the direction of a local manager
- During night hours and weekends a number of staff on-call are available.
- Process operational staff are also responsible for making observations of general process performance during their daily attendance on the site. During carrying out their daily routine duties staff are instructed to note and observe any unusual odour occurrences and to report these to the Supervisor or Manager.
- Maintenance is provided by specialist contractors who carry out routine preventative maintenance and reactive breakdown maintenance.
- The establishment of specialised support for maintenance/inspection/monitoring of complex equipment/tasks is provided through framework contracts. These contracts have terms and conditions, which include response times and requirements for routine inspection and servicing.

The Environment Agency will be notified within 7 days of any changes in technically competent management and the name of the incoming person together with evidence that that person has the required technical competence.

6.2 Training and Competence

6.2.2 General Procedures for Training and Competency of Staff

Training and competency of staff is controlled by the VES Management System and includes induction training for new employees, awareness training for all and specific training as required. Contractors and all persons performing tasks on behalf of the Company will be made aware of the policies and relevant Management System requirements and will be competent in the roles undertaken.

6.2.3 Training and Competency of Operational Staff at the Norwich RDF/Transfer Facility

All staff at the Norwich RDF/Transfer Facility are made fully aware of the need to be constantly vigilant with regard to site odour control and management procedures.

Staff responsible for the operation, maintenance or repair of odour-critical plant will be trained and competent. Records will be maintained (documented training records) demonstrating compliance with this. In order to minimise risk of emissions, particular emphasis will be given during training to:

- awareness of their responsibilities for avoiding odour nuisance;
- minimising emissions on start-up and shut-down;
- actions to minimise emissions during abnormal conditions

Management will maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment.

6.3 Complaints Handling and Communications

VES has in place a comprehensive system of monitoring and inspection to check odour control measures are functioning effectively at the Norwich RDF/Transfer Facility. However, in the event that an odour complaint is received, it is important that complaints are properly and systematically dealt with, and acted upon.

The management of complaints is controlled by the VES Management System, which states that the Company will maintain a register of all complaints and in all cases managers shall ensure that all complaints have been adequately handled and that any measures necessary to prevent a recurrence have been put in place.

This section of the OMP describes:

- How VES will respond to any odour complaint;
- How VES will investigate any odour complaints, take the appropriate steps and actions, and keep stakeholders informed; and
- How VES will communicate to appropriate bodies routinely and in response to any incidents or planned maintenance.

6.3.1 Complaints Management and Registration

The following procedure for dealing with odour complaints is based on guidance from Defra in the Code of Practice on Odour Nuisance from Sewage Treatment Works. It describes who is responsible for dealing with the different aspects of the complaint.

Publicising contact details for odour complaints

Members of the public are able to contact VES with any odour complaints about the Norwich RDF Facility. Methods of contacting VES will be displayed at the site, shown on the company website and communicated through meetings, press releases, bulletins and other forms of advertisement in connection with the operation of the facility.
Once a complaint has been received and the details collected, the complaint must be processed. This involves the following actions.
Complaint registration

VES will maintain a record of all complaints received. In the event that VES receives a complaint alleging potential odour nuisance from the facility:

- the complaint will be fed into the registration system;
- complaints data will be recorded in a systematic way, enabling comparison with standard odour descriptors, with wind direction and with site work activities.

The complaints register will be inspected monthly by the General Manager to obtain the data necessary for complaints monitoring and analysis. The results of this complaints monitoring and analysis will be reported as described in Section 6.

Collecting the relevant complaint details
The recommended minimum information that needs to be collected for each complaint is:

- the time and date when the offensive odour was observed;
- the location (within approx. 100 m) where the offensive odour was observed, e.g. postal address, grid reference) and its sensitivity;
- the Complainant`s description of odour. This should include a subjective description of all the factors necessary to make an assessment of the impact of the odour, including intensity, character (preferably on the basis of a choice from standardised descriptors given in Environment Agency Technical Guidance Note H4), relative unpleasantness (either pleasant, unpleasant or neutral), frequency and duration;
- the identity of the complainant, if possible, to assess the repeated nature of complaints;
- the residential address of the complainant; and
- any other information the complainant can offer on activities at the alleged odour source.

It is also necessary to collect (by observation or further investigation) the following additional information to allow subsequent analysis and collation of complaints:

- wind direction and speed, and atmospheric stability class at the time of complaint; and
- any process incidents at the time of complaint.

Complaints are recorded on the standard AVA complaint form. This should then be recorded on AVA as an attachment to the AVA complaint entry.

Table 7.2 - Form for the recording of an odour-related complaint

Odour Complaint Report Form			Sheet No
Date:	Installation to which complaint relates:	Grid Reference:	
Name and address of complainant:			
Tel no. of complainant:			
Time and date of complaint:			
Date, time and duration of offending odour:			
Location of odour, if not at above address:			
Weather conditions (ie, dry, rain, fog, snow):			
Cloud cover (0-8):			
Cloud height (low, high, very high):			
Wind strength - (light, steady, strong, gusting)			
Wind direction:			
Complainant's description of odour (i.e. comparison with other odours, strong/weak, continuous, fluctuating):			
Has the complainant any other comments about the odour?			
Are there any other complaints relating to the installation, or to that location? (either previously or relating to the same exposure)			
Any other relevant information:			
On-site activities at time the odour occurred:			
Operating condition at time offensive odour occurred (e.g. flow rate, pressure at inlet and pressure at outlet)			
Actions taken:			
Form completed by		Signed	

6.3.2 Investigation of Odour Complaints

This escalating response procedure shows what investigative actions will be taken in response to a complaint. The aim of the investigative actions will be to establish:

- the source of the odour complaint; and
- the impact of the odour.

A series of investigative tools, of increasing sophistication, will be used until these two questions can be satisfactorily answered. This then enables the appropriate odour controls to be applied if the impact is significant and the source is confirmed as the facility.

Complaint screening

Investigation will start with an initial screening of the complaint. If the screening process "fails to confirm" the odour incident the odour investigation will stop at that point. If the screening process confirms the odour incident, then a more detailed investigation is carried out.

The object of the initial screening is to quickly identify those odour complaints that are unlikely to be due to the facility, perhaps because they result from some other activities in the area.

Initial screening should consider the following:

- knowledge of potential sources on the facility (tie-up with work activities in progress, any plant problems, etc);
- knowledge of potential sources in the locality other than the facility;
- wind direction at the time of the alleged odour episode of the locations of the facility and the complainant;
- distance of the complainant from site; and
- concurrent odour monitoring data

If a trained odour assessor is able to attend rapidly after a complaint it may be possible to carry out effective appraisal of the complaints independently by a sniff test.

VES will liaise with local stakeholders (including the complainant) and inform them on the outcome of the screening assessment of the complaint and whether or not any action is to be taken.

Further investigation of the complaint

If the initial screening is unable to discount the facility as the source of the odour complaint, then further investigation will be carried out, which will either 'confirm' and 'further characterise' the odour incident as due to the facility, or it will 'fail to confirm' the incident.

Further investigation will be by means of a graded response, designed to answer the questions:

- Is the episode due to the facility? (i.e. source verification); and
- How bad is the episode? (i.e. assessment of impact).

VES may use odour monitoring (including, but not necessarily restricted to sniff testing) to provide data to answer these questions, or provide additional confirmation. The monitoring effort is increased in a graduated way until the data generated is sufficient to answer the relevant questions being asked. If the level of monitoring being carried out at a particular stage in the graded response cannot answer the question (either at all, or with sufficient confidence to satisfy stakeholders) then monitoring should move to the next level.

As well as monitoring, VES may be able to obtain more detailed information from operator records about process conditions, observations or inspections at the time of complaint – this would allow odour trends to be identified and possibly reconciled with particular process operations or maintenance.

6.3.3 Communications with External Stakeholders

Communicating with the Environment Agency

In the event a complaint is received from a member of the public the local Environment Agency officer will be informed by telephone followed up as necessary following investigation.

Communicating with complainants

In the case of answerphone messages a return call will be made as soon as possible and within 48 hours. In the case of complaints submitted by email or by letter, a written response will be made within 15 working days of submission of the complaint for complaints made by members of the public, or 5 working days for complaints made by an MP or Councillor.

The primary reasons for further investigation of complaints are to assess potential nuisance and identify the likely cause and source of the odour so that nuisance can be reduced or stopped. In the case of further investigations, VES will communicate to the

complainant the course of actions likely to be taken so as to ensure that there is transparency and also to establish at the outset clear targets and goals for determining the success of any control measures.

The level of annoyance associated with odours can often be reduced if affected individuals are provided with credible information about what they are smelling, the process that generates the odours, any factors affecting dispersion, what health impacts might be associated with the odour, what efforts are being undertaken to control odours and what is being done in response to their complaint. These actions can help affected individuals to moderate their own emotions of powerlessness and fear which may be exacerbated by odour. Liaison with the local community, offering credible reassurance and taking complaints seriously are often effective means of mitigating odour nuisance. To put this into practice, VES will aim to communicate the following message:

- The reason for the odour;
- The likely duration of the odour
- What plan is in place to end the odour episode
- What preventative plan will be implemented to prevent a re-occurrence
- What grievance procedure the aggrieved party can take
- Who is the responsible person on site to contact

6.4 OMP Updating and Review

VES is committed to an internal auditing process and to developing documented auditing procedures (forms) to record the process. The updating and review of controlled documents is controlled by the AVA System.

The Waste Planning Authority and Environment Agency will be provided reasonable access to audit the implementation of the OMP, including inspection of the sniff test results, complaints records and records of VES` compliance with the OMP.
It is VES' intent that the change mechanism should provide for improvements in management practice and organisation, to allow the OMP to be a living document, whereby changes to plant, equipment and practices that improve the operation of the facility and do not detract from overall environmental performance, are not unduly delayed or hindered.

The OMP will be reviewed updated as appropriate based on the following criteria:

- Annually

- Following an incident which resulted in actual or potential odour pollution.
- Following instruction by the Environment Agency under condition 3.3 of the environmental permit

Appendix A - Drawings

- VES_TD_NORW_400_016
- VES_TD_NORW_400_018

Revision C

Drawing No. VES_TD_NORW_400_016

Eastern Court

ERNEST GAGE AVE

FIRE HYDRANT LOCATED IN THE FOOTPATH, FED FROM 180MM DIA MAIN, MAINTAINED BY ANGLIAN WATER AND THE FRS

PENSTOCK VALVE CLOSED IN THE EVENT OF A FIRE TO ENABLE THE CAPTURE OF FIRE WATER WITHIN THE SEALED DRAINAGE NETWORK

PROPOSED WEIGHBRIDGE

SEALED BELOW GROUND DRAINAGE ATTENUATION TANK AND NETWORK, PROVIDING IN EXCESS OF 540M3 OF FIRE WATER STORAGE

EXISTING WEIGHBRIDGE

BIN STORAGE AREA

OFFICE/WELFARE BUILDING

OUT OF HOURS MOBILE PLANT PARKING

225m3 QUARANTINE BAY

40M

HGV IN/OUT

Car IN/OUT

Weighbridges IN/OUT

44 Car Parking Spaces

BALE STORAGE 315m3

WATER TANK & PUMP HOUSE

BICYCLE RACKS

TANKS

SMOKING SHELTER

25 RCV Parking Spaces

BALE STORAGE

BALER

SHREDDER

45m3 RESIDUAL

45m3 RESIDUAL

Card 20m3

Glass 12m3

Card 30m3

FUEL TANKS

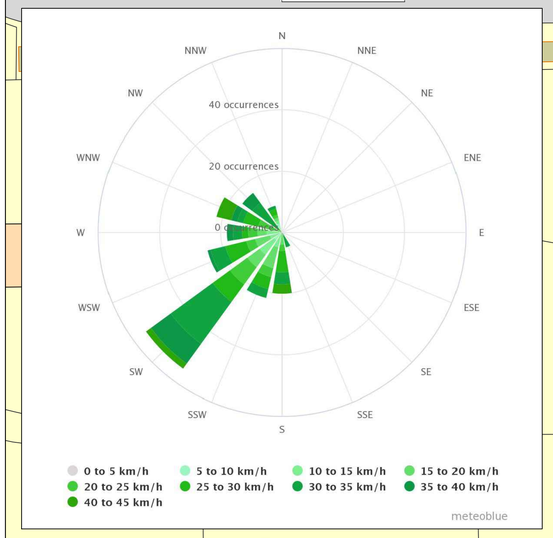
Mast

WORKSHOP BUILDING

VEHICLE WASH BAY

WASTE TRANSFER BUILDING

WB



1:500

0 10 20 50 100

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- PERMIT BOUNDARY
- SAFE PEDESTRIAN ROUTE
- EMERGENCY VEHICLE ROUTES
- EVACUATION ASSEMBLY POINT
- HYDRANT/PUMP LOCATIONS
- CONCRETE PUSHWALLS (MODULAR) (2HR FIRE RATING)
- CONCRETE PUSHWALLS (2 HR FIRE RATED)
- SPILL KITS
- IMPERMEABLE SURFACES
- PERMEABLE SURFACES
- 2.4M WELDMESH FENCING

Rev	Description of revision	Drawn	Chkd	App	Date

VEOLIA

Technical Direction,
8th Floor, 210 Pentonville Road, London. N1 9JY
Tel: 0207 812 5185

Project: NORWICH WTS/DEPOT

Title: PROPOSED FIRE PROTECTION PLAN

	Initials	Date	Scale	Sheet size
Drawn	RB	04.10.21	1:500@A1 (1:1000@A3)	A1
Checked				
Approved				

Job No. NORW

Drawing No. VES_TD_NORW_400_016

Revision C

Revision -

Drawing No. VES_TD_NORW_400_018

COSTESSEY COUNTY PARK

AMBULANCE STATION

SUPERMARKET

NORFOLK SHOWGROUND

RIVER TUD

COSTESSEY GOLF CLUB

OUR LADY & SAINT WALSTAN CHURCH

PARK & RIDE

A1074

A47

Beehive Lodge
Cobb's Hill
CP Bdy
Rough Ground
Easton Reeds
Queen's Hills
Brickfield Farm
Transport Plantation
Lord's Hills
Holly Wood
Snakes' Hills
Tower Hill
River Tud
Bog Wood
Weir
Long Dale
Costessey Park
Long Dell
Longdell Hills
Pit (dis)
Reservoir Hill
The Wilderness
Works
Gravel Pit
Dereham Road
Superstore
Round Clump
Turnpike Belts
Hall Drive
Stafford's Plantation
Royal Norfolk Showground
Motel
Dunham's
A 1074
MS
CH
P&R
Long Lane
Bawburgh Golf Club
The Hangings
Beech Plantation
Recn Gd
Sch
Daynes' Plantation
Pol Sta
Academy
Wks

N
NNW NNE
NW NE
WNW ENE
W E
WSW ESE
SW SE
SSW SSE
S
40 occurrences
20 occurrences
0 to 5 km/h
5 to 10 km/h
10 to 15 km/h
15 to 20 km/h
20 to 25 km/h
25 to 30 km/h
30 to 35 km/h
35 to 40 km/h
40 to 45 km/h
meteoblue

1:5000
0 50 100 200 400 800

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PERMIT BOUNDARY

1KM RADIUS FROM SITE

RESIDENTIAL AREA

Rev	Description of revision	Drawn	Chkd	App	Date

VEOLIA

Technical Direction,
8th Floor, 210 Pentonville Road, London. N1 9JY
Tel: 0207 812 5185

Project: NORWICH WTS/DEPOT

Title: KEY RECEPTOR PLAN

	Initials	Date	Scale	Sheet size
Drawn	RB	07.10.21	1:5000@A1	A1
Checked				
Approved				

Job No. NORW

Drawing No. VES_TD_NORW_400_018

Revision -