

Notice of request for more information

The Environmental Permitting (England & Wales) Regulations 2016

The Company Director /Company Secretary

Biowise Limited
Albion Lane
Willerby
HU10 6TS

Application number: EPR/PP3096ZA/V012

The Environment Agency, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a permit duly made on 23 April 2021.

Send the information to either the email or postal address below by **30 September 2021**.

Email address: psc@environment-agency.gov.uk

Postal address:
Permitting and Support Centre
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Name	Date
Abraham Ejim	13/08/2021

Authorised on behalf of the Environment Agency

Schedule

Question 1 – Purpose of variation

Provide a detailed explanation for the variation to increase the annual throughput of the site from 75,000 tonnes to 90,000 tonnes. Explain how an increase in feedstock during the lockdown of 2020 translates into an ongoing increase in tonnage availability given that the winter months are considered a less busy time for composting.

We are not clear on whether the reason for the increase is to utilise the off season more to promote a more consistent level of processing throughout the year, or to allow for unforeseen increases in waste acceptance at any point in the year. Both points have been used in relation to the variation application. Increases to storage and processing during peak periods may result in greater odour emissions, an increase in odour complaints from the local community and considerable logistical challenges for the site which is already using its full available site area for permitted operations.

Question 2 – Leachate storage tanks

Confirm that all leachate storage tanks will be covered to prevent and/or minimise the release of odour emissions from compost leachate storage tanks located at the open composting yard area.

Question 3 – Temperature monitoring of processed compost (IVC)

Provide further evidence which shows that the core temperature has met the required level and is stable or reducing, before the material is transported from the in-vessel composting tunnel.

The operator states that material coming out of the IVC tunnel has undergone a cooling phase before the doors are opened. We have observed from site compliance inspections that the automated monitoring system has recorded that material has met the required temperature for transport (35°C). However, we have observed manual probes recorded higher temperatures.

Question 4 – Characterisation of waste gas emissions from ASP piles

Provide information which includes the detailed characterisation of waste gas stream released from the surface of the Aerated Static Pile (ASP) composting heaps. The information should include collection of representative samples from the ASP piles at different stages of the process and a range of times of the year. This will enable the operator to understand the pattern of emissions during the peak summer months and winter months.

The characterisation of waste gas emission should take into account the following parameters:

- average values and variability of flow and temperature;
- average concentration and load values of relevant substances and their variability (odour concentration, ammonia, hydrogen sulphide, total volatile organic compounds)
- flammability, lower and higher explosive limits, reactivity;
- presence of other substances that may affect the waste gas treatment system or plant safety (e.g. oxygen, nitrogen, water vapour, dust).

Question 5 – Quantitative impact assessment of waste gas emissions from ASP piles

This information is required to demonstrate that the site has implemented Best Available Techniques (BAT) and minimised odour emissions in light of the potential for increased waste acceptance. This will assist in confirming that the specification of the site infrastructure system is appropriate and continues to meet the requirements of BAT.

Following the collection and characterisation of the waste gas streams, provide a quantitative dispersion modelling to assess the level of dispersion of odorous emissions from the surface of the ASP piles in comparison with the human receptor locations that could be impacted. In your response, include the model input files used in the quantitative dispersion modelling assessment.

Question 6 – Transfer of leachate from storage tank to tankers

Describe the site appropriate measures including but not limited to odour abatement, to prevent /or minimise odour emissions during the transfer of compost leachate from the leachate tanks to tankers for despatch off-site.

A recent site compliance inspection identified some odour release during the emptying of a leachate tank by road tanker. This process should be reviewed to prevent release of odorous air to the environment.

Question 7 – Section 2.2 Proposed Operations

Clarify what is meant by “winter months”. Explain which months the operator seeks the increase in throughput for, given that once the materials are accepted on site, the material is kept there for up to 2 months (based on Table 2).

Question 8 – Section 2.2 Table 1 – Composting Process Type and Throughput

Table 1 appears to show that the operator is requesting to be allowed to accept additional tonnage at both the In-vessel Composting (IVC) tunnels and the Open Windrow Composting (OWC) / Aerated Static Pile (ASP) pad. It is understood that part of the feedstock that is received for treatment in the IVCs is then transferred to the OWC /ASP pad, therefore the tonnage for receipt on the OWC/ASP pads should be less by that amount.

- A. Clarify how this has been taken into account in Table 1.
- B. Clarify the annual receipt tonnage split in both the OWC and ASP areas between food /green waste maturation and green waste only sanitisation /maturation. In your response, state the proportion of the proposed additional tonnage that will be food waste and what proportion will be green waste.

Question 9 – Section 4.1 Odour

The operator states that the plant will not process any of the proposed additional tonnage during the peak summer months and once capacity has been reached, material will be brokered to other local compost facilities”.

- A. Clarify the “peak summer months” referred to.
- B. Clarify whether this means that the tonnage received on site during these “peak summer months” will be no different from now, or whether the total material held on site during these peak months will be no different from now.
- C. Explain how the limiting of inputs during peak periods will be assessed i.e. describe the process trigger that begins the transfer of material to other facilities.
- D. Provide a list of facilities that will be used and the arrangements the operator has made (e.g. Heads of Terms etc.) to ensure that these sites will be both compliant and willing to accept the excess wastes from the operator at a time of year that will be busy in the biowaste treatment industry.
- E. Explain where the records demonstrating these points are held.

Question 10 – Annex A Technical Standards Summary

Provide the version or issue number and date of publication for each of the Technical Guidance documents referred to in Annex A.

Question 11 – Section 2 Feedstock Inventory

- A. Clarify why the totals refer to a maximum tonnage of 75,000 tpa if this permit variation is for a maximum throughput of 90,000 tpa.
- B. If the answer to 11A is due to an error, provide a revised table showing the maximum scenarios with an annual throughput of 90,000 tpa.

Question 12 – Section 2.1 C:N Ratios

Clarify:

- A. Where the records of the C:N ratio validation testing are held.
- B. How long this validation testing is carried out for.
- C. The measures that are in place to ensure the validation test sampling is representative and the level of competency required for the staff undertaking this exercise.

Question 13 – Section 2.2 Feedstock management Table 3

Explain why the tonnages in Table 3 add up to 75,000 tpa and not 90,000 tpa. Assuming this is an error, correct this, and other instances in the OMP where the tonnages have not been updated to reflect the increase in tonnage of 90,000 tpa.

Question 14 – Section 2.3 Contractual Arrangements (para 2)

Define what is meant by “expected quality” and “appropriate limits”. State what the quality requirement is, the specific “limits” and the specific action that is triggered if the limit is exceeded.

Question 15 – Section 3.3 OWC Reception Bays & 3.4 OWC Pad

Clarify where the shredding operation takes place – the OWC reception area, the OWC pad or both.

Question 16 – Section 4.3 Shredding (Pre-sanitisation) para 2

*The operator states that the odour potential of the material is elevated at this stage as material is agitated and the surface area is increased. In both systems, material is **continually moved** from the shredding area into the active composting area to limit incidental storage. For the IVC, material is moved into tunnels to form a new batch and on the OW pad shredded material is formed into windrows or ASP batches.*

- A. Confirm whether or not this paragraph means that no material is stockpiled post shredding, prior to either entering the OWC/ASP active composting phase of the IVC sanitisation phase.

It seems that the table in section 5.3 (at the bottom of page 14) contradicts this statement by suggesting that post shredding the green waste could wait for up to a further 5 days and the comingled food and green material could wait for up to a further 48 hours post shredding (72 hours on Friday).

- B. Confirm if the above comment is correct or if the apparent contradiction is a misunderstanding.

This indicates that with waste that is already up to 14 days old on collection at the kerbside and which waits a further 72 hours at the transfer station (= 17 days old), if it is food-containing it could wait another 48 hours (= 19 days) before shredding and another 48 hours after shredding (= 21 days) before entering the IVC tunnels (= up to 23 days if Friday processing is involved).

If it is green waste only, the (up to) 17 day old material arriving on site could wait up to 5 more days (= 22 days) prior to shredding and up to 5 days post shredding (= 27 days) prior to incorporation into the ASP or OWC piles.

- C. Please confirm if the suggested maximum ages of the two types of waste (co-mingled food and garden waste and green waste only) held on site prior to active composting is correct.

Question 17 – Section 4.6 Shredding and Screening (Post-stabilisation) paragraph 3

- A. Reference is made to the mass loss due to the biological stabilization but no mention is given to oversize or contamination separated out during screening. State the mass loss via these routes, where they are kept on site and how the odour from these oversize/reject materials are managed.
- B. It is noted that in section 4.8 there is reference to an amendment materials storage area but this is not marked on the Odour Release Points site plan. Clarify where this is located and how it is managed.

Question 18 – Section 4.9 Leachate Table on page 17

The storage limit for both the IVC leachate storage tank and the OWC external leachate storage tank is listed as 90% capacity.

- A. State the capacity of each tank in litres or cubic metres.
- B. For each tank, explain how the fill level is assessed and maintained within the limit.
- C. Describe the bunding provided for these tanks and the capacity of the bunding.

Question 19 – Section 5.1 Pre-acceptance

- A. Clarify which staff member (job title) is referred to when the term “personnel” is used (this clarification applies to the whole document not just this section).
- B. Specify how many staff is “the required number”.
- C. Specify what is meant by “qualified” in this instance.

Question 20 – Section 5.2 Waste Rejection

- A. Clarify how visual inspection in line with the ORG 2014 guidance (footnote 12) will be used to assess the presence of 7% by weight of highly decomposed wastes or highly odorous wastes.
- B. Clarify which member of staff (job title) has the responsibility for agreeing that a load will be rejected.

Question 21 – Section 5.3.1 In-Vessel Composting Waste Reception Para 1

Explain how the IVC reception building is maintained under negative pressure. Explain the details of the monitoring done to ensure negative pressure is maintained on an ongoing basis (e.g. when one or more doors are open at the same time and under all climatic conditions).

Question 22 – Section 5.3.1 In-Vessel Composting Waste Reception Table page 21

Under the process control column in this table, the control for delivery of odorous waste that cannot be recovered through mitigation measures is to reject the load and inform the waste supplier within 24 hours. In the Table in section 4.2, it states that the total storage time limit for rejected loads is 24 hours.

State which statement is correct – notification of supplier or total storage time.

Question 23 – Section 5.3.5 Tunnel Unloading

To minimise impact from any potential odour release towards the local sensitive receptor, where operationally practicable, tunnel unloading will not take place when the wind is blowing in a northerly direction. This is discussed further in Section 9.1

Explain what “operationally practicable” means. Explain under what conditions unloading will be undertaken when the wind is blowing to the North.

Question 24 – Section 5.3.6 Material Transportation

Clarify whether the material discharged from the IVCs is transported under covers in the trailers and dump trucks or is open to the air. If transported in open trailers, clarify how odour emissions are controlled during transportation and justify why vehicle speed (max 10mph) has been chosen as a critical limit.

Question 25 – Section 5.4.1 OWC Waste Reception

Sufficient stocks of oversize and woody materials will be kept onsite to adjust the feedstock.

Given that access to oversize and woody material for blending with nitrogenous feedstocks to prevent odour is a key process control measure:

- A. Define the term ‘sufficient stocks’ in terms of volume and tonnage.
- B. State where this material is stockpiled on site.

- C. State the timescales for halting the nitrogenous waste inputs to site after the materials run out.
- D. The table in section 5.4.1 does not include the halting of nitrogenous inputs as a process control measure. Explain this omission.

Question 26 – Section 5.4.2 Shredding

Following waste acceptance, a loading shovel or 3600 excavator is used to deposit the raw material into the hopper of the shredder. The operator can select different loads to achieve the required mix; additionally the moisture content of the shredded material can be increased. The shredder is located on the OWC processing pad as part of the existing activities, material is shredded into holding batches prior to windrows being formed, where it is mixed to achieve the appropriate feedstock blend

Clarify how moisture content of the shredded material is increased, the source of moisture used and how it is applied.

Question 27 – Section 5.4.2 Shredding – Table on Page 27; Process Control Column, Third Row

Section 10.5 states that waste inputs will be halted if site capacity is exceeded.

This statement suggests that waste inputs to the whole facility will cease only if the storage limit of material awaiting shredding is exceeded. Confirm whether or not this statement is correct.

Question 28 – Section 5.4.3 Windrow Formation

Green waste is formed into windrows on the OWC concrete pad with dimensions of each windrow approximately 4 metres high, 8 metres wide and 40 metres long (in a trapezoidal shape) to a maximum of 400t/850 m³ per batch. Gaps of suitable width to enable turning/monitoring and litter picking will be left between the windrows.

Clarify:

- A. How the operator ensures that access for monitoring between windrows can be done safely (without risk of windrow collapse). The dimensions given suggest a trapezoid stacking angle of between 55 and 60 degrees from the horizontal and that is based on a uniform trapezoid shape which does not occur in practice. Monitoring is essential for good odour control but safe access along the length of the windrows is required for this.
- B. The minimum width in metres that will be left between windrows.
- C. Why the maximum windrow height (4m) and width between windrows are not included as critical limits in the table in section 5.4.3 on page 27.

Question 29 – Section 5.4.4 OWC Sanitisation Table on Page 28

- A. It appears from the table on page 28 that during OWC sanitization, turning of each windrow is done once/week by default and then as many more times as necessary over a 7-14 day period as dictated by monitoring.

Clarify how an individual windrow will be turned if required, and where the adjacent windrows do not need turning.

It seems that the windrows are assumed to be laid out in parallel lines and that, at full capacity, there will be 11 windrows (based on the Site Capacity Assessment; Issue 1 03/11/20). The Capacity Assessment also suggests the aisle width is approximately 0.9m (10 aisles between 11 windrows with a total aisle width across the pad of 9m = 9 divided by 10). This in turn suggests there is insufficient space to get a loading shovel down between the windrows to turn them from the side.

If the above is correct, clarify:

1. How an individual windrow will be turned.
2. How long it will take.
3. Where the turned material will be stacked during the process if the site is at full capacity.

- B. It is noted that consideration will be given to delaying windrow turning if the wind is blowing to the SW-SE and if that is not possible, then sniff testing will be done.

Clarify what happens once sniff testing has been completed if odour is detected beyond the boundary.

Question 30 – Section 5.5 Aerated Static Pile Composting Pile Formation

It is stated in the odour management plan that “should the optimal airflow not be achieved, the structure of the batch will be investigated and amended as appropriate. This can include the addition of oversize material to increase the pore space within the media, or the reduction in batch dimension. The dimension limits will be maintained throughout the composting period, although there will be mass loss during the process so the overall height of the pile in each bay will reduce during the composting process.

It is considered that remixing will not be required. The ASP bay design has been specified against the target material arising from the IVC tunnels. The system is therefore specifically designed with the anticipated structure of the target material. In addition, the ASP bays are provided by Gicom who also provide the IVC technology which both work on the same principle design.

These two paragraphs appear contradictory. The first suggests that the process controls for sub-optimal airflow through the ASPs are addition of oversize material or reduction in batch dimension. The second paragraph indicates that remixing will not be required.

Clarify:

- A. Whether or not remixing is being presented as a measure to correct inadequate air flow in the ASP or not.
- B. Where reduction in batch dimension is referred to, whether or not this means reduction in batch height or reduction in batch length /width. It is not clear how a reduction in length or width of the ASP batch would improve aeration.

Question 31 – Section 5.5 Aerated Static Pile Composting Pile Formation Table Pages 30-31

- A. With reference to backpressure monitoring, clarify how adding base layers of oversize to the base of new batches will manage the odour being emitted from the base of an existing batch.
- B. If this can be shown to be an effective odour control measure, clarify why this is not used routinely for all batches.
- C. Provide evidence that demonstrates that the addition of a 300 mm layer of biofilter media will provide an effective odour control measure. Support this with data showing the residence time of the exhaust gas within this ‘biofilter layer’ (based on average and peak air flow rates) is adequate to bring about the required level of odour control.
- D. If this can be shown to be an effective odour control measure, clarify why this is not used routinely for all batches.

Question 32 – Section 5.5.2 ASP Sanitisation

The sanitisation phase is a minimum 48hr period in which critical limits are constantly met, but will typically last a period of 1-2 weeks from batch formation to completion of the sanitisation phase.

Confirm that the ASP sanitisation critical limits will be met not just for the minimum 48 hours required for sanitisation, but for the whole time period (1-2 weeks) that the material remains in the bays.

Question 33 – Section 5.5.2 ASP Sanitisation Table on pages 31 and 32

- A. Clarify what is meant by the phrase “bays will be flushed with fresh air immediately to fully aerate”. State how long this takes place for, what triggers the ‘flushing’ to cease and how the original problem that caused the low oxygen levels will be stopped from repeating itself.
- B. Explain how process water will be introduced to the ASP batch evenly and across its whole length, depth and width in the event that moisture levels are found to be sub-optimal.

- C. Confirm whether the base of the ASP bays have a fall that causes excess leachate to be collected from the front or the back of the bays. If the fall is towards the back of the bays, explain how blockages are avoided or dealt with during the 2-6 week ASP process given that wet anaerobic conditions at the base of composting piles can be a significant cause of anaerobic conditions which may lead to odour release.
- D. Clarify why the optimal composting temperature critical limit in the ASP bays is set at 75°C whereas the optimal temperature critical limit in the OWC windrows is 65°C in the table on page 29, given that the optimal temperature for composting should be the same regardless of the process used.
- E. Provide justification as to why the operator considers that an exceedance of the 4.5kPa critical limit for backpressure should be allowed to continue for 3 days prior to remixing. If there is an upward trend in backpressure and no other means (such as increased fan speed) can mitigate it, explain why it is considered necessary to delay for three days once the limit has been reached. This same question relates to backpressures which are too low as well.
- F. Clarify what is meant by “All remedial actions” in the sentence “*All remedial actions will be implemented until monitored levels are within the critical limits*”. Clarify whether this relates to remixing and covering with 300 mm of biofilter material.

Question 34 – Section 5.5.4 ASP Bay Unloading

It is stated in the odour management plan that “following completion of the stabilisation phase, material is unloaded from the ASP bays. Prior to bay unloading, the material is taken through a cool down phase in the process control system. During this period, the batches in the bay are actively cooled by introducing more air into the ASP bay to ensure prior to unloading, that the material is cooled to below 35°C and fully aerated.

Material is unloaded by loading shovel to reduce fall heights during transfer and storage prior to grading at the adjacent pad. Only one bay is unloaded at any one time to minimise exposure to the atmosphere of finished material”.

Clarify:

- A. How the operator ensures that the whole bay contents (across the length, width and depth) have been reduced to less than 35°C prior to emptying.
- B. The meaning of “fall heights” being reduced by emptying using a loading shovel.

Question 35 – Section 5.6 Compost Grading

It is stated in the odour management plan that “processing of matured material can result in increased emissions due to agitation. However, shredding and screening is typically not a significant odour source unless the material has become anaerobic or is still actively composting. The latter is prevented through robust monitoring and management as identified in the table below”.

Provide site specific evidence which shows that the compost grading operation (including prior stockpiling) does not result in odour pollution beyond the site boundary.

Question 36 – Section 5.6 Compost Grading Table Page 36

The operator states that during routine odour sniff checks, should the odour intensity be scored at a level 2 or above, then shredding/screening will be stopped where reasonably practicable and there would be no knock-on effect to the management of odours on site.

Define the operational conditions under which compost grading would continue, despite an odour intensity of level 2 or above being detected at the site boundary. In situations such as those defined, describe the appropriate measures that would be employed to mitigate the odour being produced.

Question 37 – Section 5.7 Product Storage

The odour management plan states that “during product storage, there is not a significant source of odour generation given the age of material at this point following a typical 6-8-week minimum composting process. However, if oxygen, moisture and temperature are not controlled, the biological processes can re-accelerate and result in the onset of anaerobic conditions. The process control is outlined below.

Products will be stored no higher than 5m to ensure that the centre of the pile does not become too high in temperature with minimal levels of oxygen.

Clarify:

- A. Why routine temperature monitoring of the product bays is not considered necessary, given the extended (up to 12 month) period that the material may remain on site and the opportunity for rain ingress over that period and the potential for reacceleration of biological activity.
- B. How representative monitoring of heaps up to 5 metres high can be achieved. State the length of the temperature probes being used.

Question 38 – Section 5.8.1 Odour Treatment Units Table on Page 28

Clarify:

- A. How water is applied to the biofilters in the event that plenum air humidity is too low. Explain how the operator ensures that the added moisture is evenly and comprehensively distributed across the whole biofilter.
- B. Where the temperature sensors are located for monitoring biofilter performance and how many temperature sensors there are.
- C. What method is used to sample and analyse the ammonia at the scrubber outlet.

Question 39 – Section 5.8.2 ASP Forced Aeration System Table on Page 39

Explain why the critical upper limit for ASP backpressure in this table is set at >5kPa but the critical limit for backpressure in the tables on page 32 and page 33 are both set at >4.5kPa. Explain your reasons.

Question 40 – Section 5.8.3 Drainage System

The whole system is constantly circulated back through the process, i.e. leachate water is constantly pumped through the piping system and mixed with treatment water (see technical drawing PFD3-02).

- A. Clarify if the technical drawing PFD3-02 cross referenced on page 39 has been appended to the OMP. If not, include it as an appendix in a legible format.

The open windrow composting pad is laid to a 1 in 50 fall to a central drainage channel that directs leachate to a sump pit (8 m³ capacity). The ASP bays are situated on top of a concrete pad which is laid to a 1 in 50 fall to a central drainage channel that directs leachate to a sump pit (24 m³ capacity). Both sumps are fitted with pumps that direct leachate via sealed pipework to a large Boythorpe storage tank (398 m³ capacity).

- B. Provide a plan of the OWC and ASP pads showing the drainage falls and drainage channels described in section 5.8.3. (NB this cross references with Question 33C).

Question 41 – Section 5.8.3 Drainage System Table on Page 40

The BioCrust system is self-sustaining providing an adequate thickness is maintained. Losses due to wind blow should be minimised in a tank where capacity is kept <90%. However, monthly monitoring of depth of BioCrust is undertaken to ensure adequate material is maintained.

- A. Provide evidence (e.g. technical guidance from the manufacturer) that a 50 mm depth of BioCrust granules is sufficient depth to provide effective odour emission reduction.
- B. Explain how you determine the depth of the granules at the centre of the tank.
- C. Explain how you maintain the depth at the centre of the tank if the wind moves the granules.
- D. The odour management plan indicates that the BioCrust is only monitored for depth once per month. Explain the appropriate measures in place to control odour emissions from the surface of the lagoon for the period between the monthly inspections should the granules get disturbed by wind or other factors, immediately after the monthly check.

Question 42 – Section 5.9 Housekeeping

The Management System includes details of maintenance and housekeeping schedules. Housekeeping and cleaning schedules ensure organic material does not adhere or aggregate in any areas of the site to produce an odour.

- A. Provide full cross references (document name, issue date, version no. section and page) for the parts of the management system that describe the maintenance and housekeeping details referred to and append them to the OMP.
- B. Repeat this action for all other template documents mentioned in the OMP but not currently fully referenced or appended. This includes but is not limited to the Action Required Report (F05a-01); The Safe System of Work for Odour Monitoring (SSOW031-02); the Daily Checklist (F03i-02) and the Odour Complaint Form (F05a-03).

Question 43 – Section 5.10 Process Monitoring Table 5 Page 41

- A. Clarify the depth and locations at which the temperature readings are taken in the ASP bays.
- B. Clarify how oxygen sensors at the bay inlet determine that adequate oxygen is consistently provided across the depth, length and width of each ASP bay. State how this is verified.

Question 44 – Section 5.16.1 ASP System Maintenance

The OMP states that “ASP infrastructure (i.e. concrete pads, wall systems, fans, pipework, leachate collection chamber etc.) will be added to the Site Inspection Schedule and checked on a daily basis. Any maintenance or cleaning works will be carried out as required”.

The leachate collection chamber will be given a formal visual inspection on a regular basis when it is empty. The time between inspections will not exceed 6 months. Any defects will be marked on a drawing of the chamber and a decision taken on the need for remedial works and an appropriate timescale.

The following maintenance activities will take place following the emptying of each bay:

- *The airflow system is flushed out for a period of 5 minutes following emptying of the bays to remove any particulates within the pipework.*
- *Pipes are inspected to identify any cracking or otherwise damage to the pipe work delivering the airflow.*
- *Each fan is inspected during the flush sequence to ensure backpressure is within normal working parameters and the fans are operational.*
- *Leachate channels are inspected to ensure there is no blockage of flow to the collection chamber.*

Clarify:

- A. When the ASP infrastructure will be added to the site inspection schedule and why it has not already been included.
- B. The maximum time period that will be allowed to elapse before defects with leachate collection chamber will be remedied after identification.
- C. How the airflow pipework will be checked after flushing through to ensure all blockages have been removed.
- D. What action will be taken should damage or cracking be observed to the pipework.
- E. How leachate channels are maintained free of blockages during the periods when material is being composted.
- F. Where the actions taken to maintain and repair the ASP system are logged to provide an audit trail.

Question 45 – Section 6.1 Leachate Tanks

The OMP states that “the leachate tank at the IVC is fully covered to prevent evaporation from the surface of the tank. Levels within tanks are automatically monitored to ensure they are <90% of full capacity. The tank integrity is regularly investigated to ensure no leaks are present which could lead to evaporation. The level of leachate within the tank is regulated by the computer controlled automated system to ensure enough freshwater is drawn in to replenish the supply of water for the composting process”.

“The leachate tank at the open composting area is covered with expanding clay granules to mitigate evaporation from the surface of the tank. Levels within tanks are automatically monitored to ensure they are <90% of full capacity. The tank integrity is regularly investigated to ensure no leaks are present which could lead to evaporation. The level of leachate within the tank is regulated by the computer controlled automated system to ensure that there is no over spilling of the tank”.

Clarify the frequency at which all tanks on site are inspected for integrity. Currently the OMP refers to regular integrity investigations – Explain what “regular” means and to what standards they are inspected.

Question 46 – Section 7.1.3 Air Treatment

The OMP states that “fresh air stream to the tunnels is drawn from the reception hall and the tunnels via an overhead ductwork system with managed controls. The process air exhausted from the tunnels, directly links into the above described odour control system. Additional ventilation air can by-pass the tunnels. This means the air going into the scrubber and biofilter system is a mixture of process air and additional ventilation air. The total maximum air flow is designed at 99,000 m³/h. Under normal operational conditions, the total process airflow will be 68,640 m³/h and is treated by the scrubbers and biofilters.

Clarify how the efficacy of the combined IVC wet scrubbers and biofilters can be assessed if the air entering the odour control system is already diluted with additional ventilation air. Clarify whether or not samples of air entering the scrubbers will be taken with additional ventilation air excluded.

Question 47 – Section 7.1.4 Wet Scrubbing

The OMP states that “scrubbers are designed to humidify the exhaust air, buffer ammonia, evaporate water, aerate the water and cool down the air to a maximum of 37°C, which is the operational maximum temperature of the biofilter. The scrubber is designed to scrub the air within 2.5 seconds at maximum throughput. The velocity during maximum exhaust is less than 5m/s in the scrubber”.

“In this period ammonia is quickly dissolved in the water and turned into nitrite, nitrate and eventually to nitrogen, similar to 80% of the ambient air. This process takes place in the scrubber. Part of the ammonia stays dissolved in the humidity of the air. This remaining ammonia is blown through biofilter material where another part of the ammonia is turned into nitrite, nitrate and eventually nitrogen”.

Clarify why the critical temperature limit for biofilter operation is >45°C for more than 48 hours, given that in this section it appears that the operational maximum for the biofilter, and the temperature down to which the scrubber reduces exhaust air temperature is 37°C (see table on page 38, Section on Site Infrastructure).

Question 48 – Section 7.1.5 Biofiltration

The operator states that over time, biofilter material loses its coarseness. This is identified by visual inspection of the biofilter media and backpressure. Once the media has been identified as requiring replacement, fresh wood chip material is brought in and the spent biofilter media composted.

Clarify:

- A. What visual characteristics trigger the replacement of the biofilter media.
- B. What specific back pressure triggers the replacement of the biofilter media.
- C. Whether it has been confirmed that spent air treatment filter media is approved as an input for PAS100 compost under the compost quality protocol.

Question 49 – Section 7.3.2 Aeration Piping

The holes in the ASP pipework are designed to point downwards which, when combined with the amount of air pressure generated within the system, means that no material can fall into the pipes and cause blockages. This enables the air to flow over a larger area as it is deflected off the concrete base and upwards through the pile. As a result, there is no requirement to lay an oversize layer over the pipework prior to loading the ASP bays.

Clarify why it is recommended that no oversize layer is used to aid air dispersion if, as appears to be the case in the table in Section 5.8.2 on page 39, this is the same measure that is proposed to aid air dispersion.

Question 50 – Section 8.0 Dispersion including Table 7 and Figure 6 on page 52

Information on wind direction has been derived from the British Weather Services (data collected automatically every 15 minutes) from January 2006 to September 2014. This data is illustrated by the wind rose in Figure 6. Wind data is collected daily as part of the routine monitoring on site. 8-point wind directions are provided below, note that calm days are also included to provide a complete data record.

Clarify:

- A. The source and weather station location of the wind rose data in Figure 6 on page 52 and the wind direction % occurrence data in Table 7 on page 52. The text provided currently does not make it clear if it is derived from British Weather Services Ltd Data or from wind data collected on site. If it comes from a third party, state the proximity of the weather station that provided the data from the site.
- B. The reason no data more recent than 2014 has been used in this section.
- C. Provide details of the following:
 - a. the location of the site's own weather station and sensors;
 - b. the height of the wind speed and direction sensor above ground level;
 - c. the frequency with which the weather station sensors and logger are serviced and calibrated.

Question 51 – Section 9.0 Sensitive Receptors Including Table 8

Clarify:

- A. If Table 8 includes all sensitive receptors within 1000 m or at least highlights the main concentrations of receptors by road name(s).
- B. Whether or not the operator has ever been notified of odour reports relating to the site received from the residential streets south of the A164 road.

Question 52 – Section 9.1 Dispersal Control

The operator states that "given that material leaving the IVC will be fully aerated by the forced aeration system, there will not be odour issues with this material having completed the process requirements detailing in Section 5".

Clarify what site specific evidence is available to support the statement that there will not be odour issues related to the material leaving the IVC tunnels.

Question 53 – Section 9.2 Community Engagement

The operator states that "Biowise will strive to educate the local community through the use of site tours both for schools and local resident groups including businesses".

The Environment Agency will be contacted to advise them of any operation being undertaken that may increase in odour generation. All complaints will be recorded and actioned in accordance to the complaints procedure. Feedback will be given to any complainants on the findings of odour investigations when/if they

are known. A summary will be provided of any remedial measures taken to rectify odour problems and ensure that the problem has been suitably resolved”.

Clarify where the records of current and historic odour investigations and feedback are held.

Question 54 – Section 10.1 Machinery Breakdown Table 9 Contingency Actions on page 58-59

The operator states that “if breakdown prevents effective air extraction within limits identified above, then the air handling system will be switched off, material reception will cease (see 10.5) and material will be exported from the site to a suitably licensed facility within 48 hours. The time period is from point of fault alarm. The alarm is automatically triggered by the process computer with a message sent to the Site Managers phone”.

Clarify the meaning of the above statement. It seems to suggest that by the time 48 hours has elapsed after the fault alarm has been triggered, the operator will have:

- A. Shut down the IVC air handling system;
- B. Stopped all material entering the IVC reception;
- C. All IVC material within the IVC reception building and tunnels will have been moved to a different suitably licensed facility.

Clarify whether or not this statement is correct. If the statement is not correct, revise to make clearer what is meant.

Question 55 – Section 10.2 Staff Absence

The operator states that if widespread illness occurs (<4 operational staff available) amongst staff members (such as food poisoning), the delivery of waste to the site will be suspended until sufficient staff are present to operate the site. The stabilisation area does not require daily turning, so for a limited period of time, the odour risk would not be significant.

Clarify how many staff make up a full contingent for the site under normal working conditions without absences.

END OF NOTICE.