Number	Sch5 Question	Sch5 Response
	Non-Technical Summary	
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.*	The purpose of the variation is to allow the operator the opportunity to use spare capacity in the IVC tunnels in the winter months when feedstock supply has traditionally been lower. In 2020 the operator saw an increase in the availability of feedstock in these months and would like the ability to take advantage of this if the scenario arises this year and in the future. There is no proposal to increase the storage period of material on site or the maximum amount of material that will held on site at any one time. This will remain as specified in Table S1.1 of the current permit.
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.	The leachate storage tank located at the open windrow composting yard is not currently covered. However, the operator can confirm that it is installing a new, replacement tank in early 2022 which will be covered.
3	**Temperature monitoring of processed compost (IVC)**	The operator uses the automated monitoring system to determine whether the temperature of the material has fallen below 35°C. Only when these temperatures are met are the doors opened. The temperatures are recorded on the SCADA system.

	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.*	
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	The operator proposes to monitor the emissions from the ASP piles to determine the characterisation of the waste gas stream released from the surface of the ASP piles. It is proposed that this will initially take place over a set number of day(s) in November. Monitoring will be conducted on three ASP piles; one that has just been formed i.e. is at the start of the 4-week composting process, one which is mid-way through the composting process and one which is at the end of composting process. The monitoring will be carried out from on top of the piles selected. Samples will be collected using a sampling hood which is positioned at specified locations on top of the ASP piles. The hood will be conical or pyramidal and will merge into a cylindrical chimney in which a sampling port will be fitted. This will allow flow measurements to be taken. The hood will be sealed at its base to prevent any influx of ambient air which could dilute the waste gas. The sampling strategy will be to split the ASP surface area of each pile into a grid of partial areas, and to sample a sufficient number of areas within the grid to provide a representative sample. The ASP piles are approximately 20m x 30m. It is expected that the surface of each individual pile will be divided into two equal areas. Monitoring will be carried out for a set period of time, e.g. 30 minutes, from a single sampling location in each equal area with the samples from each area on a single pile combined to yield a cumulative emission concentration of each pollutant from each of the individual ASP piles selected. This broadly follows the sampling strategy set out in Environment Agency Technical Guidance Note M9 (2018) for the monitoring of bioaerosols from open biofilters.

	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).	It is proposed that monitoring for the following pollutants will be carried out according to the following methodologies: Odour – BS EN 13725 Ammonia – BS EN 13649 Hydrogen Sulphide – BS EN 13649 Total Volatile Organic Compounds – BS EN 13649 The methodology proposed to be followed for the odour monitoring is the standard reference method. The methodology for the other parameters is not the standard reference methods, rather it is an alternative reference method. This accounts for the logistical and health and safety factors which must be considered when monitoring from a compost pile. The ammonia in the waste gas stream will be sampled onto silica gel tube, the hydrogen sulphide onto an Orbo 34 tube and the total VOCs onto a charcoal tube. It is also proposed that temperature and velocity measurements will be taken along with monitoring for explosive limits and oxygen using hand-held metres. The final report containing the concentrations of the above parameters will follow approximately 1 month following the monitoring i.e. by the end of w/c 29th November. In addition to the proposed monitoring described above, the operator has also committed to some site improvements and trials in an effort to reduce the overall odour risk from the site. The operator has committed to installing a new leachate storage tank at the open windrow composting yard which will replace the existing tank by 30/04/2022. The new tank will be covered (the existing tank is not covered). The operator has also committed to shredding Category 3 ABPR material received on site in the IVC reception hall from 01/02/2022 onwards and to cease carrying out this activity on the ASP pad area 6 weeks later. Following this date, shredding will take place at the ASP pad for the following reasons only: - Size reduction of fresh green waste only

		- Size reduction of compost oversize for biomass contracts - Size reduction of Grade C wood for Biomass contracts - Size reduction of fresh biofilter material as and when required for operational purposes. - Any other external shredding requirement which is not permitted at the IVC area other than the size reduction of material from the ASP maturation bay. The operator will also perform a negative aeration experiment on one batch in a single ASP pile by 31/12/2021. The reason behind this experiment is to try and establish whether the ASP system can adequately produce a PAS 100 accredited compost through negative aeration as opposed to the current positive aeration system. Should the outcome of the experiment be positive then there is the potential for the ASP piles to be negatively aerated in the future which could further reduce the odour risk.
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.	Following the receipt of the report containing the odour concentrations from the emissions monitoring, quantitative dispersion modelling will be carried out using the ADMS 5.2 software which is developed by Cambridge Environmental Research Consultants (CERC) Ltd. The assessment will consider the impacts of the measured pollutants from the ASP piles on sensitive receptors close to the site. Where appropriate, the modelled process contribution and predicted environmental concentrations at each sensitive receptor of each parameter modelled will be compared against a relevant environmental assessment level with an assessment of the significance of the impact at each sensitive receptor being made. The dispersion modelling will be completed up to one month following receipt of the emissions monitoring report. It is therefore envisaged that this will be completed by the 31/12/2021.

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.*	Leachate is currently transferred into road tankers from the leachate tanks via a sealed system so there is limited chance for odorous air to be released into the atmosphere. The source of the odour in the inspection referred to was caused by a road tanker venting on site. The operator has requested that all tankers used on to transport leachate off-site are now fitted with carbon filters.
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).	November to February inclusive.
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.	The operator is seeking permission to accept up to 90,000 tonnes of biodegradable waste per annum (an increase from up to 75,000 tonnes per annum). There are different options for treatment technologies depending on the waste type. The operator is not seeking to alter any of these. The maximum amount of material on site at any one time will not change. As per the Site Capacity Assessment this will remain at a maximum of 2,500 tonnes at any one time for the In-Vessel Composting element (all 8 tunnels full to capacity). As per Table S1.1 of the existing permit, this will remain at 30,000 tonnes for waste in outdoor turned windrows and Aerated Static Piles combined.

<table>
<tr><td></td><td>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.</td><td></td></tr>
<tr><td>9</td><td>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.</td><td>A. Peak summer months are classed as May to August inclusive.

B. The operator is seeking permission to accept up to 90,000 tonnes of biodegradable waste per annum. However, the maximum tonnages on site will remain the same (30,000 tonnes in the open systems as stated in Table S1.1 of the existing permit).

C. As per Section 10.5 of the Odour Management Plan:

"The site will not accept more waste that it can process effectively at any one time and not above the permitted tonnage per annum.
In the event that the site reaches its maximum capacity, the operational manager will divert any further incoming waste from the sites to neighbouring facilities that are able to process the same types of waste until such a time when the site can resume operations within its normal operating capacity. Full capacity applies to any stage of the process where a storage limit is met (Section 4)."

The storage limits in Section 4 are as follows:

Waste Reception:
<table>
<tr><th>Location</th><th>Storage Limits</th><th>Odour Potential</th><th>Management</th></tr>
<tr><td>OWC Reception Area</td><td><1,500t
<3,000m^3
<5 days from receipt to next process phase</td><td><u>Medium – High</u>
Material could be up to 2 weeks old and started to biodegrade. Depending upon the nature of the material, high nitrogen wastes e.g. cut grass, will have a higher odour potential.</td><td>Section 5.4.1</td></tr>
</table>
</td></tr>
</table>

E. Explain where the records demonstrating these points are held.

IVC Building Reception Hall	<1,000t <2,000m^3 <48hrs from receipt to the next process phase	Medium – High Material could be up to 2 weeks old and started to biodegrade when delivered to site. Food waste has a higher odour potential.	Section 5.3.1

Shredding:

Location	Storage Limits for Shredded Material	Odour Potential	Management
OW Concrete Pad Shredding Area	<500t <1,000m^3 <5 days of receipt	Medium – High Material processed within 5 days of receipt and agitation could release odour.	Section 5.4.2
IVC Building Reception Hall	<500t <1,000m^3 <48hrs of receipt (72hrs on Friday)	High Odour potential as per reception as material shred within 48hrs, increased release of odour due to agitation.	Section 5.3.2

Sanitisation:

Location	Storage Limits	Odour Potential	Management
OW Concrete Pad	<10,000t <20,000m^3 (including stabilisation) <2 weeks	Medium – High Active phase has the potential for odour which diminishes as material ages.	Section 5.4.4
IVC tunnels	<2,520t <5,040m^3 <10 days	Medium – High Active phase has the potential for odour which diminishes as material ages.	Section 5.3.3

ASP Bays	<7,000t <14,000m^3 (including stabilisation) <2 weeks	Medium – High Active phase has the potential for odour which diminishes as material ages.	Section 5.5.2

Stabilisation:

Location	Storage Limits	Odour Potential	Management
OWC Concrete Pad	<10,000t <20,000m^3 (including sanitisation) <6 weeks	Medium The material has completed the most active composting phase and the odour potential of the material is reduced.	Section 5.4.5
IVC tunnels	<2,520t <5,040m^3 <4 weeks	Medium – High Active phase has the potential for odour which diminishes as material ages.	Section 5.3.4
ASP Bays	<7,000t <14,000m^3 (including sanitisation) <4 weeks	Medium The material has completed the most active sanitisation phase and the odour potential is reduced.	Section 5.5.3

Records are taken of all material arriving on site including tonnages as are batch records detailing tonnages and number. The operator continually checks these to ensure that no storage limits are broken. Once any of these capacities have been met, the operator will decide whether any further waste can be accepted onto site, taking into account waste processing times and batch stages. If the answer is no, then waste will be diverted to alternative sites.

D. The facilities that will be used as a contingency are as follows:

Biowise – Leighton Grange IVC facility (EPR/WP3931QA)

		Ryedale Organics Ltd – Melbourne IVC facility (EPR/DB3701LG) Vital Earth GB Ltd – Ashbourne IVC facility (EPR/RP3792FX) It is considered that three permitted sites provide sufficient contingency if required. A variation order has been signed by Biowise, Ryedale Organics and East Riding of Yorkshire Council for Ryedale Organics to take a portion of the summer tonnage from household waste recycling facilities in the East Riding contracted to Biowise if required. E. The IVC reception hall capacity is assessed daily to ensure tunnel capacity is available for the following day's proposed capacity. If it appears likely that the 48-hour limit on material being stored without treatment will be exceeded, then the site manager diverts loads away. The records demonstrating these points are held in electronically on the Weighsoft system accessed by all employees.
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.	The table in Annex A has been updated providing version/issue number and date of publication where applicable.
Odour Management Plan		
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.	The totals should add up to 90,000 tonnes. The OMP has been updated to state the following: Max Food Waste Scenario: Food in comingled contracts: 3,600tpa Food from commercial sources: 18,000tpa Green from commercial sources: 0 Total food to green waste: 21,600tpa (food) to 68,400tpa (green) Percentage split: 24% food waste to 76% green waste Max Green Waste Scenario: Food in comingled contracts: 3,000tpa

		Food from commercial sources: 0 Green from commercial sources: 15,000tpa Total food to green waste: 3,600tpa (food) to 86,400tpa (green) Percentage split: 4% food waste to 96% green waste
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.	A. The records of the C:N ratio validation testing are held on the Biowise IMS system. B. The validation testing is carried out biannually. C. Toolbox talk training for IVC reception hall staff in C:N ratios are carried out alongside regular on-site tutoring. This paragraph of Section 2.1 now states: *"Parts will be measured by volume based on a simple approach that allows consistency in batch creation. This will be achieved via a simple loading of feedstock via a loading shovel, where one bucket will equate to 1 part. As a guide, the following wastes anticipated to be processed on site will require mixing based on C:N ratio as a general classification as brown or green. The table below identifies how the different waste types will be mixed by operatives on site. This volumetric C:N ratio procedure is validated on biannually (considering seasonal variance in feedstock), by obtaining a sample of the feedstock blend and sending for laboratory analysis to confirm the C:N ratio is being achieved. If the test result is outside of the target ratio, then alterations will be made to the blend mix and re-testing undertaken to ensure the appropriate feedstock blend is achieved. The records of this validation testing are held on the Biowise IMS system."*
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	Table 3 has been updated to add up to 90,000 tpa.

	OMP where the tonnages have not been updated to reflect the increase in tonnage of 90,000 tpa.	
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.	Waste brought to site that does not meet the agreed limits, the waste will be rejected. The second and third paragraphs of Section 2.3 has been amended to state the following: *"Where waste is contracted, agreements with suppliers as to material type and expected quality with appropriate limits will be set both quantitative and qualitative as appropriate. Any load containing 5% or more non-targeted waste materials by weight shall be considered above the acceptable contamination threshold. The quality of material delivered to the site will be constantly reviewed and fed back to suppliers in order to minimise odour potential at point of receipt. This quality feedback process will include contamination levels, odorous loads and load rejections.* *A Daily Load Inspection Sheet (F03b-02) will be filled by the site operatives and held on record. Where received loads do not meet the agreed requirements, they will be rejected. Rejected loads will be recorded and the waste provider contacted immediately upon the rejection of a load by email. The Sheet will include details of the reason for rejection and photographic evidence as required."*
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.	The operator can confirm that shredding takes place on both the OWC reception area and the OWC/ASP pad.
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*	It should be clarified that following discussions between the operator and the local area EA team the following shredding activities will take place: Incoming Category 3 ABPR material will be shredded in the IVC reception hall from 01/02/2022 onwards and will cease on the ASP area 6 weeks later. Shredding will take place at the ASP pad for the following reasons only: - Size reduction of fresh green waste only - Size reduction of compost oversize for biomass contracts - Size reduction of Grade C wood for Biomass contracts

	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.	- Size reduction of fresh biofilter material as and when required for operational purposes. - Any other external shredding requirement which is not permitted at the IVC area other than the size reduction of material from the ASP maturation bay. A. The operator confirms that this paragraph means that no material is stockpiled post shredding, prior to either entering the OWC/ASP active composting phase or the IVC sanitisation phase. B. This table means that the material is stored for up to 5 days or 48 hours prior to shredding. It does not mean that the shredded material is stored for up to 5 days or 48 hours. C. The 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 are 19 days for green waste only (14 days old on receipt plus another 5 days in storage prior to shredding and then immediate active composting) and 17 days for co-mingled (14 days old on receipt plus another maximum 72 hours on a Friday in storage prior to shredding and the immediate active composting).

<table>
<tr><td></td><td>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.</td><td></td></tr>
<tr><td>17</td><td>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.</td><td>A. Approximately 30% of the shredded material is lost as oversize and contamination. The oversize / amendment material is stored on the OWC pad or in the IVC reception hall. As per Section 4.8 of the OMP, batch record sheets detail screened oversize being stored including the age and tonnage of the material that comply with the proposed storage limit and from which compost batch it was sourced. The following limits apply:

<table><tr><th>Location</th><th>Storage Limits</th><th>Odour Potential</th><th>Management</th></tr><tr><td>Amendment Materials Storage Area</td><td><1,000m³
<6 months</td><td><u>Low</u>
The material is specially selected for low odour potential and is high in carbon for addition to the more unstable nitrogenous wastes.</td><td>Section 5.3.2</td></tr></table>
B. The oversize / amendment material is stored on the OWC pad or in the IVC reception hall.</td></tr>
<tr><td>18</td><td>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.</td><td>This information is detailed in the Drainage Management Plan (Issue 04).

A.
<table><tr><th>Tank</th><th>Capacity</th><th>Content</th><th>Location</th><th>Bunding</th></tr><tr><td>IVC Leachate Tank</td><td>Glass coated steel construction. Diameter: 3.405m Height: 5.588m, Capacity: 50.8m³.</td><td>Leachate from all internal IVC areas.</td><td>Adjacent to eastern process tunnels. See Drawing 35602-250E</td><td>“Second Skin” Glass coated steel construction. Diameter: 4.204m Height: 5.588m Capacity: 57.20m³</td></tr></table></td></tr>
</table>

	C. Describe the bunding provided for these tanks and the capacity of the bunding.	<table><tr><td>OWC Leachate Tank (Boythorpe)</td><td>Glass coated steel construction. Diameter: 10.60m Height: 3.60m Capacity: 398m^3.</td><td>Leachate from all external hardstanding.</td><td>North of welfare facilities. See Drainage Plan.</td><td>Breezeblock retaining bund 110% of tank capacity.</td></tr></table> B. As per the final paragraph of Section 3.4 of the DMP – *"The IVC freshwater tank, and both leachate tanks are fitted with level metres. This is an essential part of the management of the system and it is hooked up to the main computer system that monitors the process. There is also an alarm system which notifies site staff of any issue with level whether it be too high or too low."* C. As per the first paragraph of Section 3.5 of the DMP - *"As identified in section 3.4, both the IVC leachate tank and the OWC leachate tank are fully bunded in case of tank failure to at least 110% of the tank capacity. This ensures that all leachate water is fully contained should the tanks fail."*
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.	A. The Site Manager or Senior Operations Manager are responsible. This has been corrected in this section. B. As per Section 10.2 of the OMP, 4 is the minimum number of staff required. C. Qualified means a member of staff who has been trained via a toolbox talk in the correct procedures for assessing waste and making appropriate adjustments. Records of the members of staff trained on this procedure are stored on site, This paragraph now reads as follows: *"The Site Manager or Senior Operations Manager shall ensure that the site has the required number of qualified staff on site prior to the waste acceptance and rejection procedures (four qualified members of staff). In this instance, qualified means someone who has been trained via a toolbox talk in the correct procedures for assessing waste and making appropriate adjustments. Records of the members of staff who have been trained are stored on site. The Site Manager or Senior Operations Manager shall ensure that the site has capacity to store and treat any*

<table>
<tr><td></td><td></td><td>incoming waste. The Site Manager or Senior Operations Manager I shall ensure that the site will not exceed Permit conditions by accepting any incoming wastes."</td></tr>
<tr><td>20</td><td>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.</td><td>A. This paragraph of Section 5.2 has been amended to state:

Any load containing 7% or more non-targeted materials by weight shall be considered above the acceptable contamination threshold and would result in rejection, based on existing contractual arrangements at this percentage level. Percentage contamination will be obtained by visual inspection of the load by a trained operative in line with industry best practice techniques. This includes spreading the load out to about 0.5m deep to enable a visual inspection to take place. The following table provides guidance on how to carry out a visual assessment and how to identify whether a load requires rejections.

<table>
<tr><th>Number of plastic bags / per 10 tonnes of material delivered</th><th>Action</th></tr>
<tr><td><5 bags</td><td>No action required</td></tr>
<tr><td>5-7 bags</td><td>No action required</td></tr>
<tr><td>8-13 bags</td><td>Minimal picking of contaminants required before waste is shredded.</td></tr>
<tr><td>>13 bags i.e. >7%</td><td>Considerable picking of contaminants before waste is shredded or rejection of load.</td></tr>
</table>

Section 5.4.1 of BIO02 Management System has also been amended to match this.

B. As per the final paragraph of Section 2.3, the Site Manager will sign off any rejections:

"Waste will be initially inspected by the site operative working on the reception area. Prior to formal rejection of a load the Site Manager will be informed to undertake the inspection and sign off any rejections."</td></tr>
<tr><td>21</td><td>Section 5.3.1 In-Vessel Composting Waste Reception Para 1</td><td>Section 7.1 states:</td></tr>
</table>

	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).	*"The ventilation system is operated under a negative pressure principle that draws air through the process building via inlet louvres maintaining a negative pressure of -20Pa to -50Pa as monitored at the process tunnels. The negative pressure systems enable changing of the air space within the waste reception hall of over 4 air exchanges per hour under normal operating conditions."* Therefore, the monitoring of the negative pressure in the reception hall is effectively done via the monitoring of the pressure in the IVC process tunnels. The pressure is monitored and logged via the SCADA system with critical limits of -20Pa and -50Pa. An additional row in the table in Section 5.3.1 has been included with the process controls cell stating: *"Fast acting roller shutter doors are deigned to prevent loss of odorous air out of the building. Should there be a fault with the fast-acting roller shutter doors, a contractor shall be called to site to fix the problem within 24 hours. The building also operates under negative pressure with 4 air changes per hour. Should the pressure in the tunnels be outside the normal working range of -20PA to -50Pa, a contractor shall be called to site to fix the problem within 24 hours."*
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.	This process control box has been amended to state the following: *"Reject load and inform waste supplier for removal from site within 24hrs of receipt."* The rejected odorous waste will be removed from site within 24 hours of receipt.
23	**Section 5.3.5 Tunnel Unloading**	This means that where any critical limits will not be broken, should the wind be blowing in a northerly direction then tunnel unloading will be paused until the wind

	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.	direction has changed. However, if critical limits do not allow and the wind direction persists, the tunnels will be unloaded. As per Section 9.1 – *"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."*
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.	Material is transported in open containers. 10mph is the safety speed limit for the site and is sufficiently low to prevent the entrainment of dust into the atmosphere. Also, the material leaving the IVC is in its non-composting phase at 35°C or less so it has only a low risk of being odorous.
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.	A. As per Section 4.8 of the OMP, up to 1,000m^3 (400 tonnes) of oversize material is stored on site. B. This material is stockpiled on the OWC pad. C. Should the stockpile of amendment material run out and should the operator be unable to source any further supplies, then all further acceptance of feedstocks requiring amendment shall cease. D. The process control cell in the first row in the table in this section has been amended to state: *"Isolate feedstock from remaining material, add amendment such as woodchip or oversize material and mix thoroughly to open up and aerate the material. On completion the blended material can be covered with woodchip or moistened*

	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.	*screened compost which will aid in reducing any odorous emissions to the air. Should the stock of amendment material run out and site is unable to source any additional stock, deliveries of feedstocks requiring amendment material i.e. highly nitrogenous material consisting mainly of grass, shall cease."*
26	**Section 5.4.2 Shredding** *Following waste acceptance, a loading shovel or 360^0 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.	The moisture content of the shredded material is increased using sprinklers. The water is sourced from the leachate storage tank serving the OWC pad. This paragraph now states: *"Following waste acceptance, a loading shovel or 360^0 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. This is done using a sprinkler with the water sourced from leachate storage tank serving the OWC pad."*
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	Section 10.5 has been amended to clarify that if any of the three treatment options on site reaches its maximum, then initially the site seeks to utilise spare capacity in one of the other treatment options where appropriate. If not, any further incoming waste is diverted to a neighbouring facility. Section 10.5 now states: *"The site will not accept more waste that it can process effectively at any one time and not above the permitted tonnage per annum.* *In the event that any of the three treatment options reaches its maximum capacity, the Site Manager first seeks to utilise spare capacity in one of the other treatment*

	material awaiting shredding is exceeded. Confirm whether or not this statement is correct.	*options where appropriate. If this is not possible, the Site Manager will divert any further incoming waste from the sites to neighbouring facilities that are able to process the same types of waste until such a time when the site can resume operations within its normal operating capacity. Full capacity applies to any stage of the process where a storage limit is met for each of the three treatment options."*
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/850m^3 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.	A. & B. The minimum width that is left between windrows in 1m. This has enabled safe monitoring of windrows throughout the lifetime of the permit with no occurrences of windrow collapse. C. This table has been amended to include the windrow dimensions (4m x 8m x 40m).
29	**Section 5.4.4 OWC Sanitisation Table on Page 28**	A. Windrows are turned by a loading shovel. They are turned to a new location from the front to the back (not from the side). It takes approximately 4 hours to turn a

	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.	windrow. There will always be a spare windrow space to enable a windrow to be turned. B. Should the wind be blowing to the SW-SE, then windrow turning will be delayed until such time as the wind has changed direction. However, if this was not possible as it meant that the site would exceed critical limits, the operator would have to turn the windrow to avoid an escalating problem. Sniff testing at the site boundary and sensitive receptors would be carried out and recorded. Should an odour complaint be received, the records would be used to determine whether the site was the likely cause or not.

	Clarify what happens once sniff testing has been completed if odour is detected beyond the boundary.	
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. It is considered that it should not be required due to the specific design of the ASP bays with the anticipated structure of the target material. However, the addition of oversize is a process control to correct inadequate air flow in the ASP should inadequate airflow be an issue. B. A reduction in windrow dimensions refers to the windrow height only. This has been updated in the OMP.

	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.	
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.	A. Adding a base layer of oversize to existing batches would allow more air flow through the pile across the entire base of the pile. This would prevent anaerobic conditions from forming in the pile, thus reducing the likelihood of odorous emissions. The section of this table has been amended to clarify that the oversize layer would be added to the existing pile experience the insufficient airflow. B. As stated in the paragraph above this table – "Since the commissioning of the IVC tunnels, there has not been a single instance where the tunnels have required remixing in order to aid airflow. This gives confidence that the same level of performance can be anticipated for the ASP system." As such, it is not used routinely for all batches because it has never been required. C. & D. A 300mm layer of biofilter media is used routinely for all batches and has been for some time. This section of the OMP has been amended to state this. The process control for odours from the ASP process now says: *"A layer (~300mm) of biofilter media (e.g. mulch/finished compost) is added to all batches (within 24hrs of formation) as a cover layer to aid the reduction of odour emissions. Should concentrations continue to be elevated then the emergency action plan will be implemented (Section 10)."*
32	**Section 5.5.2 ASP Sanitisation**	This sentence has been amended to state:

	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.	*"The sanitisation phase is a minimum 48hr period in which critical limits are constantly met."*
33	**Section 5.5.2 ASP Sanitisation Table on pages 31 and 32** A. Clarify what is meant by the phrase "bays with 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.	A. This is controlled automatically by the Gicom computer control system so it is something that it is continually and automatically being monitored and acted upon as opposed to it being a response to a problem. B. As per Section 4.6 of the Drainage Management Plan: *"Leachate stored within the OWC leachate tank is re-circulated through the OWC/ASP composting processes only where the addition of moisture is identified through the operating procedures and critical limits of compost monitoring. Where this is carried out the leachate is added on a little and often basis across the profile of the batch at a maximum of 5m³ at a time. After each addition, the moisture level of the batch is re-assessed prior to any further liquid addition."* C. As per Section 4.4.2 of the DMP: *"The northern composting pad (ASP array) is laid to a 1 in 50 fall to Sump Pit A (24m³ capacity) to the northwest of the pad. The southern pad is also laid to a 1 in 50 fall to a Sump Pit B (8m³ capacity) to the northwest of the pad. Leachate is pumped from both sumps over the parabolic screen to the OWC Leachate Tank with a 398m³ capacity. Only leachate generated at the OWC/ASP site is captured through this system."*

	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.	D. The critical temperature limit during OWC Sanitisation and ASP Sanitisation is 75°C. The critical temperature limit during OWC Stabilisation and ASP Stabilisation is 55°C. The figures in the corresponding tables now match. E. Back pressure within the pile is monitored 24 hours a day by the GICOM SCADA system. Following formation of the pile, there is a period of the material "settling down". To react too quickly to a pressure outside of the critical limit may well not be an appropriate action to take as it could lead to additional odour causing activity i.e. re-agitating a pile that does not actually require fully re-mixing with additional oversize. Three days is considered a sufficient amount of time to determine that the backpressure will not be corrected without further action. F. All remedial actions refers to the remixing and covering with a 300mm thick biofilter layer.
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*	A. 8 temperature probes are evenly spaced across the ASP bay in terms of length and width. Each probe is located 1m below the surface. Only when all probes have a reading of less than 35°C is the bay unloaded. The GICOM system is specifically designed to create uniformity throughout the pile, proven by the ABPR validation tests. B. This just means that the use of a loading shovel enables the operator to pick up the material from the ground and transport it to the storage area just above the ground. On unloading at the storage area, the operator can do so at a low drop height. All three reduce the likelihood of material becoming entrained in the air, thus reducing the likelihood of a release of odour. This section of the OMP has been amended to state:

	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.	*"Material is unloaded by loading shovel to reduce fall heights during transfer and storage prior to grading at the adjacent pad. This reduces the likelihood of material becoming entrained in the air, thus reducing the likelihood of a release of odour. Only one bay is unloaded at any one time to minimise exposure to the atmosphere of finished material."*
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.	The process controls in the table in this section means that only cooled material (<35°C) that has completed all phases of composting successfully is graded. Material is held in piles of less than 400 tonnes for a maximum of 5 days to greatly minimise the likelihood of the piled material becoming anaerobic. The process controls also states that routine sniff checks take place during grading. These sniff checks have never produced an odour intensity of 2 or above demonstrating that odour pollution beyond the boundary does not occur as a result of grading.
36	**Section 5.6 Compost Grading Table Page 36**	Compost grading would continue in the event that pausing the activity would lead to critical limits elsewhere in the composting process being exceeded such as storage

	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.	size and time limits of waste that has not been actively composted which is more likely to cause odour pollution beyond the site boundary. Where pausing the grading activity is not possible then water will be added to the material to limit aerial dispersion. This cell of the table has been amended to state: "*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. Where this is not possible, water will be added to limit aerial dispersion."*
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. Routine temperature monitoring of the product storage pile does actually take place and Section 5.7 of the OMP has been amended to reflect this. The third paragraph of this section now states: *"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. Daily temperature monitoring is carried from three locations across the product storage pile and if a temperature of 45oC or above is detected then this indicates that the biological process could be re-accelerating and the pile is turned to fully aerate."* B. The temperature probes that are used are 1.2m long, enabling 3 readings to be taken from different locations across the pile, with the results recorded in the Site Diary.

	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.	
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.	A. Clean water from the borehole tank would be applied to the biofilter using the sprinkler system allowing water to be applied evenly and comprehensively over the whole biofilter. The process control cell of the first row of this table has been amended to include this information. B. There are four temperature sensors, spread evenly across each biofilter, that constantly monitor the temperature 24 hours per day. C. Monitoring method BS EN 14791 is used to sample the ammonia at the scrubber outlet.
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.	This was an error and has now been amended to state >4.5kPa.
40	**Section 5.8.3 Drainage System**	A. Technical Drawing PFD3-02 has been added as an Appendix to the OMP (Appendix B).

<table>
<tr><td></td><td>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).</td><td>B. Drainage plan for OWC/ASP area has been added as an Appendix to the OMP (Appendix C).</td></tr>
<tr><td>41</td><td>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</td><td>The operator can confirm that the BioCrust system is not used on the OWC leachate storage tank. All references to this have been removed. Daily odour checks are carried out at the surface of the leachate tank via the access ladder and platform.

The third row of the table in this section has been amended to state the following:

<table>
<tr><th>Potential Odour Issue</th><th>Monitoring</th><th>Critical Limits</th><th>Process Controls</th><th>Records</th></tr>
<tr><td>Release of odours from leachate</td><td>Daily sniff test at surface of</td><td>Odour intensity 3</td><td>Odour losses due to wind blow should be minimised in a tank where capacity is kept</td><td>Site Diary.</td></tr>
</table>
</td></tr>
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<table>
<tr>
<td></td>
<td>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.</td>
<td>
<table>
<tr><td>storage conditions on OWC.</td><td>leachate tank</td><td>– distinct odour</td><td><90%. Should odour be detected during sniff test, the Site Manager will arrange for the leachate in the tank to be removed from the site and sent to a suitably licenced facility for onward treatment. During the time between the leachate being arranged to be removed and actually being removed from site, the tank will be temporarily covered and the leachate will be prohibited from being used on the windrows or ASP piles.</td><td></td></tr>
<tr><td>ORP</td><td colspan="4">7</td></tr>
</table>

Please note, as per Question 2, the OWC leachate storage tank is being replaced in early 2022. The new tank will be covered.
</td>
</tr>
<tr>
<td>42</td>
<td>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</td>
<td>A. Full cross reference has been added to the OMP.

B. The template documents mentioned in the OMP have been fully cross referenced with issue dates and version numbers. All are stored in the Site Office.

Action Required Report (F05a-01, version 1, 07/09/17)
Safe System of Work for Odour Monitoring (SSOW031-02, version 6, 30/10/20)
Daily Checklist (F03i-02, version 1, 08/10/17)
Odour Complaint Form (F05a-03, version 2, 2019).</td>
</tr>
</table>

	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).	
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.	A. The probes are located 1m below the surface and are spaced evenly across the pile. B. The oxygen across the entire ASP bay is effectively verified via the SCADA system. Should the oxygen across the bay be inadequate, then anaerobic conditions would form causing the material to get hotter and the critical limit for temperature surpassed. The temperature is recorded and logged on the SCADA system. Temperatures below the critical limits mean that the oxygen is being adequately provided across the entire bay.
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:*	A. The ASP infrastructure has been added to the inspection schedule and the wording has been changed to reflect this. B. The specified maximum time period that will be allowed to elapse before defects with leachate collection chamber will be remedied after identification is 48 hours. This has been added to this section of the OMP. C. The airflow pipework will be checked visually after flushing through to ensure all blockages have been removed. D. Following identification, cracked or damaged pipework is repaired via an external contractor within 48 hours and the valves would be closed to prevent pollution. E. The pad has been constructed with a fall and there are no specific drainage channels running across the ASP bays. As such, specific maintenance during composting is not necessary. Regular inspections ensure no blockage of flow to the collection chamber. F. Repairs of the ASP system are logged in the Site Diary.

	• *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.	
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.	As per the Drainage Management Plan, all parts of the drainage system are visually inspected weekly by site operatives for signs of damage.

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 m^3/h. Under normal operational conditions, the total process airflow will be 68,640 m^3/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.	Under normal operating conditions, the air scrubber and biofilter process 68,640m^3/h of process airflow. As explained in Sections 7.1.1 of the OMP this is total air demand of the IVC tunnels. Therefore, under normal operating conditions, all air demanded by the tunnels is provided from the waste reception hall. In abnormal operating conditions, such as if the biofilter becomes too warm or if additional ventilation air is required within the composting tunnels, then the scrubber and biofilter have the design capacity to be able to process 99,000m^3/h of air. Given that this is only required in abnormal operating conditions and in this instance the process air will be further diluted, it is considered that the efficacy of the air treatment system in this scenario does not require measuring.
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".*	They are two separate abatement techniques used in series. The scrubber is designed to reduce the temperature of the scrubbed gas to less than 37°C. However, the critical temperature limit for the effective operation of the biofilter is 45°C. It is therefore unlikely that the critical temperature limit for the biofilter would ever be reached unless there was a defect with 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).	
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.	A. As per the Bioaerosols Management Plan, the visual characteristics that trigger the replacement of biofilter media are areas of drying, weed growth, shrinkage of the bed, cracks and fissures. An operative trained by the biofilter supplier shall determine when the media requires replacements based on all of the visual characteristics described above. B. A constant back pressure of 6,000Pa for one week would trigger the replacement of the biofilter media. Section 7.1.5 has been amended to state this. C. The spent biofilter media is an approved input material for PAS 100 under the compost quality protocol under EWC code 19-05-03.

	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.	
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.	This means that there is no normal requirement to lay an oversize layer over the pipework prior to loading the ASP bays. However, in the unlikely event that backpressure proves to be a problem, then an oversize layer will be laid at the base of the material as per the process control in the table in Section 5.8.2. The wording has been altered to state: *"As a result, there is no normal requirement to lay an oversize layer over the pipework prior to loading the ASP bays."*
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. & B. The wind rose data has been updated to cover the last 5 years from 2015. The data has been taken from the wind.willyweather.co.uk website which takes the data from the Leconfield weather station located approximately 12km north of the site. C. The weather station is located at the site weighbridge at 5m above ground and it is serviced annually. The final paragraph of Section 8.0 has been amended to state this.

	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.	
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.	A. Table 8 refers to the closest sensitive receptors within particular directions from the site. For example, there are additional sensitive receptors in the same direction as Sensitive Receptor 5 but these are further away from the site and so have not been included in the table. B. Yes

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.	This wording has been amended to state: *"Given that material leaving the IVC will be fully aerated by the forced aeration system there is unlikely to be odour issues with this material having completed the process requirements detailing in Section 5."* The operator can confirm that it has never received any complaints of odour whilst moving material from the IVC area.
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.	The records of current and historic odour investigations and feedback are held on the IMS system.
54	**Section 10.1 Machinery Breakdown Table 9 Contingency Actions on page 58-59**	The operator confirms that this statement is correct.

	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.	
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*	9 staff members make up a full contingent for the site under normal working conditions.

	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.	