Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Skelton Grange Composting Facility operated by Biffa Waste Services Limited.

The permit number is EPR/ZP3535AU.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Description of the main features of the Installation

Biffa Waste Services Limited is to construct and operate a composting facility within the boundary of Skelton Grange Landfill Site. The Skelton Grange Composting Facility will be a standalone bespoke permit (central grid reference: SE 36252 30436). The site is located 800m north of the village of Woodlesford, approximately 4km southeast of Leeds.

The site will treat up to 24,000 tonnes per annum of biodegradable wastes utilising an existing light waste building, weighbridge and site office. Waste types accepted will generally be green waste, leaves, grass clippings and horticulture waste. Green waste arriving at the site will initially be unloaded on a concrete pad adjacent to the light waste building where it will be inspected for contrary materials, stockpiled, and loaded on to vehicles for transfer to the open windrows stabilisation and maturation pads. The area of the concreted pads is 7,600m². The existing light waste building is currently used on windy days for the receipt of waste for the landfill site. Landfill disposal will cease in March 2016, when the building will be used for receipt and shredding of green waste, before transfer to the composting pads.

The treatment will create a nutrient rich fertiliser compost, reprocessed to meet the requirements of PAS100 (2011) and the Compost Quality Protocol standard. The final product will be used for a variety of uses, primarily for restoration works at Skelton Grange Landfill site. Once restoration works are complete the product will be either stocked as a product for off-site supply or loaded direct into bulk transport for off-site supply other Biffa sites or third party customers.

The waste reception area, composting and maturation pads and all areas used for waste storage and processing will comprise impermeable concrete pavements with sealed drainage systems. Potentially contaminated liquors will be stored in engineered lagoons and removed by tanker to an authorised facility.

There are no sensitive receptors within 250m of the treatment operations. There are no Sites of Special Scientific Interest within 2km of the site, and no European designated sites within 10km of the site.

An Odour Management Plan has been written to ensure fugitive emissions are controlled so that there will be no significant releases with the potential to

cause odour. The site has an Environmental Management System based on ISO 14001 in place to minimise the risk of pollution of the environment or harm to human health. All treatment systems meet Best Available Technique (BAT) requirements.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues: Odour; Bioaerosols; Noise; Containment; Site Construction and Stability Risk Assessment; and Site Condition Report
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Key issues of the decision

Odour

Composting facilities have the potential to be odorous. The closest sensitive receptors are residential properties approximately 260m north and southeast of the installation. The operator has provided a comprehensive Odour Management Plan (OMP) for the facility (report reference: *CE-SK-0848-Appendix 5 Odour Management Plan: Skelton Grange Composting Facility. Crestwood Environmental Limited. 26 March 2015*). Additional information in relation to the site OMP was provided in a Schedule 5 response, received 19/08/2015.

The following parts of the activity have been identified as having the greatest potential to generate odour:

- Odour emissions from vehicles delivering wastes to the site; and
- Odour emissions from waste loading, storage, shredding and treatment.

Odour controls – acceptance of waste

Pre-acceptance and acceptance checks will be made on the waste types to ensure that only permitted wastes are delivered to the site. The Applicant has won a 4 year contract with Leeds City Council for the collection and processing of 20,000 tonnes per annum of green waste. Information required will include specific details of the type of process producing the waste, the type and quantity of waste, the form the waste takes (e.g. solid) and any special handling requirements needed. An assessment will be made to ensure that the waste is suitable for treatment at the site. Waste will not be accepted if for any reason there is insufficient storage capacity available or if the site is inadequately manned.

All containers will be enclosed sheeted or netted, depending on the waste and its odour potential. All waste will be assessed by the weighbridge operator to ensure it complies with the waste transfer note description and the permitted waste types for the facility. From here it will be transferred to the storage/shredding area. Once the landfill disposal ceases in 2016, the light waste building currently on site will be used for the receipt and shredding of waste.

Any unauthorised waste identified will either be re-loaded into the delivery vehicle or segregated for temporary storage prior to removal and disposal to an appropriate alternative facility as soon as practicable.

If highly odorous waste is received that cannot be adequately managed it will be prioritised for rapid removal to an authorised off-site facility within 24 hours of receipt.

Odour controls – storage and shredding

The storage and shredding area will be designed to contain up to 4 days of waste, although in reality materials will be turned around a lot quicker. The site will operate on a first-in-first-out basis.

The volume of waste received and held in stockpile prior to processing will be managed in order to keep stockpiled material to a minimum.

All storage, shredding and loading activities will take place on an engineered concrete pad, equipped with sealed construction joints, and connected to a sealed drainage system.

Odour controls – treatment

When initially placed in windrows the waste material will naturally start to decompose reaching temperatures of 65 to 80 degrees Celsius to kill off any weed, seed etc. After an initial 2 week period temperatures are maintained at above 45 degrees Celsius until the end of the stabilisation phase. For each batch the maturation phase will occur within a minimum of 6 weeks. Each windrow will be turned once every two weeks to maintain aerobic conditions and prevent malodour associated with an anaerobic environment. Only small amounts of odour are expected during the maturation period. Temperature and moisture of windrows will be monitored and recorded weekly.

The OMP includes maintenance and monitoring of the abatement plant and measures to be undertaken in abnormal events and emergencies.

We are satisfied that the OMP is sufficient to minimise the potential for odour emissions from the facility to cause nuisance outside the installation boundary. The Operator is required to operate at all times in accordance with the site OMP to prevent pollution arising from odours and implement all mitigation measures in line with the plan.

We, the Environment Agency, have reviewed and approved the Odour Management Plan and consider it complies with the requirements of our H4 Odour management guidance note. We agree with the scope and suitability of key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the operator.

Bioaerosols

The operator has undertaken a bioaerosol risk assessment to assess the impact from potential bioaerosol release at the closest receptors. This has defined the risk of emissions from site as being not significant, due to the distance of the nearest receptors and the control measures in place on site.

The areas of the site with the greatest potential to generate bioaerosols has been identified as the following:

- Offloading of waste materials to the concrete pad adjacent to the light waste building. Once landfill activities have ceased the offloading of waste materials will take place inside the light waste building:
- Waste shredding and transfer to the composting pad;
- Waste composting, maturation and turning activities;
- Waste screening.

The site is situated within a rural landscape to the south of the M1 motorway. There are scattered residential properties surrounding the site. The closest receptor to the light waste building and waste reception area is approximately 340m. The composting/maturation pads are located 255m to the south of the closest receptor.

To minimise the generation and subsequent dispersal of bioaerosols, a number of preventative control measures will be implemented on site:

- All potentially dusty loads will be sheeted to reduce bioaerosol release;
- All on site vehicles will limited to speed reductions to reduce dust; traffic movement may also produce dust, therefore vehicles will go through wheel washes;
- During periods of high winds, shredding, screening and turning activities will be reduced or suspended until winds subside and normal operation can resume;
- Windrows will be positioned so the smallest possible area of composting mass is exposed to the prevailing winds to avoid ‘stripping’ of the piles;
- A weather station installed on site will be used to monitor wind speed and direction. The reading will assist in determining when activities on site should be reduced/suspended;
- As part of the daily inspection routine, the site will be routinely inspected for the presence of fugitive emissions. Regular maintenance will include road sweeping and general housekeeping;
- A complaints system will be in place in accordance with the sites Environmental Management System;
- Fog sprays or similar will be used to dampen down windrows before and during turning;
- Turning machines will be equipped with rubber aprons to minimise the emissions of dust from turning activities.

The consensus from various studies is that bioaerosols from composting activities decline rapidly within the first 100 metres from a site and generally

decline to background levels within 250m. As per our composting and bioaerosol position statement, we take this into account before authorising any new composting facility located where the composting operations would be within 250 metres of sensitive receptors.

We agree with the operators bioaerosol risk assessment and are satisfied that the risk of bioaerosol impact off site is low. This is due to a combination of the distance of the activities from the sensitive receptors, and the measures in place on site.

Noise

Potential sources of noise primarily relate to the construction, operation and traffic generation associated with the site. Existing landfill operations at Skelton Grange Landfill site carried out currently, including the movement of traffic and tipping of waste, have not given rise to any significant noise impact on any nearby noise sensitive receptors.

A noise assessment has been carried out for the site. It considers that the construction phase of the development will potentially give rise to higher noise emissions than the operational phase; however the construction phase is short-term. The principal potential sources of noise associated with the construction and operational phase of the site are:

Construction phase:

- Site Clearance;
- Excavations for foundations, services and drainage;
- Refurbishment of existing structures;
- Construction works;
- Surfacing and infrastructure works; and
- Plant and HGV movements.

Operational phase:

- Site haulage and road transport; and
- Materials handling and processing.

The noise assessment concluded that the construction phase of the proposal may have a moderate impact, without mitigation, to the nearest receptor, due to the processes involved and the proximity of the nearest noise sensitive receptors. With mitigation the site is classified as low risk in terms of noise impacts. During the operational phase of the facility, the noise risk would be negligible.

To minimise potential noise impacts, the site will be operated in accordance with Best Practice Means. Identification and assessment of potential problem areas has been undertaken, and specific measures have been proposed in respect of controlling noise emissions associated with construction, operation and haulage at the site. These are detailed in the site noise assessment.

Containment

Receipt of the waste will be undertaken on an engineered concrete pad adjacent to the existing light waste building. Once the green waste has been stockpiled and shredded, it will be transferred to open air windrows on stabilisation and maturation pads. The waste reception area, composting pad and maturation pad (i.e. all areas used for waste storage and processing) will all comprise impermeable concrete pavements with sealed drainage systems to ensure no run-off to adjoining land or watercourse.

Potentially contaminated liquors will be stored in engineered lagoons and removed by tanker to an authorised facility. Run-off from the concrete pad adjacent to the light waste building will drain to lagoon 1. Run-off from the stabilisation and maturation pads will drain to lagoon 2. Both lagoons have been designed to have adequate drainage capacity to contain the maximum amount of run-off. This has been based on a 1 in 100 storm event, plus 20% additional allowance for climate change. Water can be recycled/re-circulated and used in the process to moisten the waste, where necessary.

Clean run-off water from the light waste building roof and clean yard area external to the building will drain to an existing offsite lagoon located adjacent to the western site boundary. This already collects clean surface water run-off.

Batches will be transferred to the stabilisation pad from the reception area via a front loader and stock piled in windrows. The stabilisation pad is approximately 3,200m². Each windrow would be a minimum 7m at base and up to 3.5m high. Windrows will be separated by a minimum of 3m to allow access by a front loader for turning operations. Adequate separation areas will also allow surface water and leachate to drain away and prevent cross contamination of batches. Subsequently the material will be transferred to a maturation pad, of approximately 4,400m².

All impervious surfaces will be checked regularly and the results and intended maintenance arising will be recorded.

Only relatively small quantities of engine oil and hydraulic oil etc will be stored on site. Liquids used during the process (i.e. diesel and oil) will be stored in dedicated tanks located within an engineered bund, which will be designed and constructed in accordance with The Control of Pollution (Oil Storage) (England) Regulations 2001. It will have a capacity greater than 110% of the largest tank, or 25% of the total, whichever is larger. Visual inspection for damage, deterioration, leakage or liquid accumulation will be undertaken on a regular basis.

Any dry spillages will be swept and cleaned. In the event of a diesel spillage (e.g. from delivery vehicles) or an oil spillage (e.g. from site plant), the liquid will be treated with absorbent material. Any used absorbent will be placed in a sealed container for authorised disposal.

Site Construction and Stability Risk Assessment

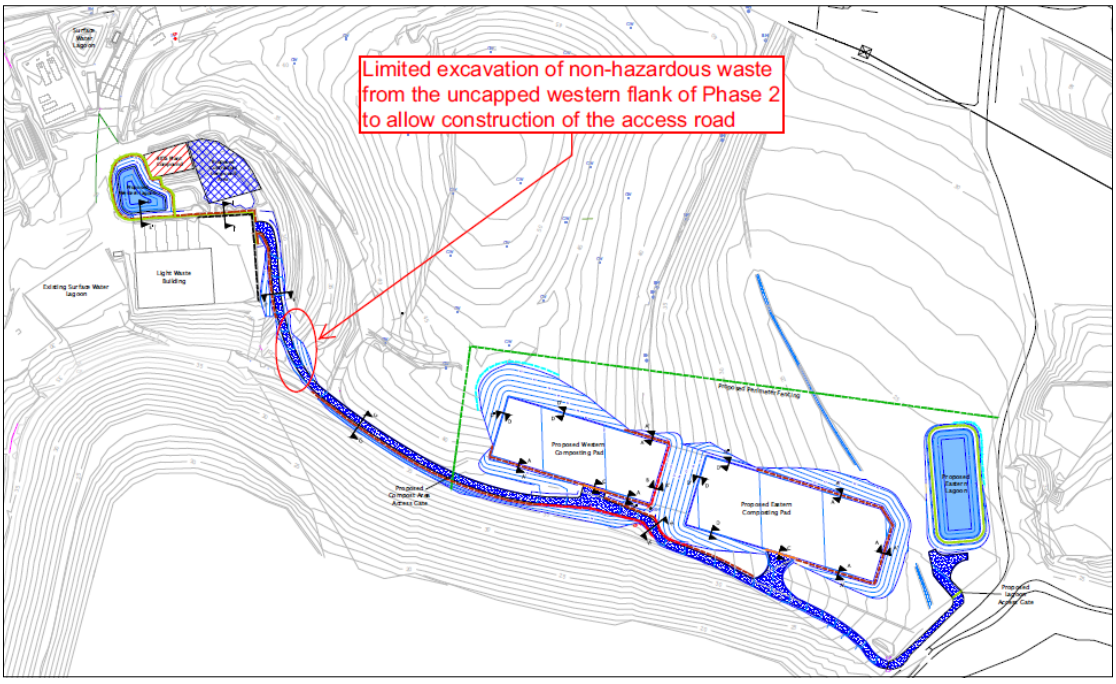
Construction

Some of the western concrete composting pad overlies an existing stable non-reactive waste cell. The western pad has been designed so that no excavation into any existing waste or disturbance of any part of the site infrastructure is necessary. The only material in this part of the site which is proposed to be removed is the (above waste and capping) fill material which has been previously placed to re-grade the contours of the site in this area.

In order to ensure that no damage occurs to the existing infrastructure in this area, full time supervision is proposed whilst excavations take place in the vicinity of the Phase 2 capping. Should any damage occur to the Phase 2 cap, the damage will be rectified in accordance with the existing approved Construction Quality Assurance Method Statement and Quality Plan (CQA plan) for that area of the site. The CQA Method Statement has been incorporated into the operating techniques of the composting permit and a copy will be kept on site during the works.

There will also be limited excavation of non-hazardous waste as part of the construction (see Figure 1 below for extent). The location is on the currently uncapped western flank of Phase 2 of the site.

Figure 1 – Area of waste to be removed



Removal of a limited amount of cover soils and waste in this area is required to allow construction of the proposed access road with a safe gradient for vehicles. Any waste removed will be relocated to the current Biffa tipping area.

Stability Risk Assessment

We consulted the Geoscience Operations Team (GOT) with regards to the Skelton Grange proposal, as we had concerns regarding the construction of the composting facility over parts of the existing landfill site. The team recommended that the operator provide a Stability Risk Assessment to support the application and confirm a Factor of Safety greater than 1.3 against stability failure of part of the site cut slope. This was requested as a Schedule 5 Notice.

The Stability Risk Assessment (reference: *Stability Risk Assessment Review for 2015 Compost Facility Works Skelton Grange Landfill Site*: BF4894/SRAR. Stratus Environmental Limited. August 2015) assessed the stability and integrity of the existing Phase 2 capping system at Skelton Grange Landfill Site in relation to the construction of the compost facility. The analyses were based on the available site investigation information, and a worst-case scenario interpretation.

The assessment confirmed that the factors of safety for integrity of the geo-synthetic capping system are all in excess of 1.3. In addition, the factors of safety for stability of the capping system under plant loading are also all in excess of 1.3 for peak values (and >1.0 for residual values). The worst case was determined to be a vehicle pushing material down the slope during construction whilst decelerating.

The analysis suggested that settlement in the adjacent waste mass to the site will increase the factors of safety for stability, assuming even settlement. The factor of safety achieved was also judged to provide sufficient allowance for differential settlement. The assessment concluded that the construction of the proposed compost facility will not adversely affect the stability, and integrity of the existing Phase 2 capping system or the stability of the Phase 2 waste flank.

The Risk Assessment was reviewed by the GOT team. GOT confirmed they were satisfied with the report, and its conclusions were well supported by the analyses that had been undertaken.

The operator has confirmed that the recommendations for methodology made in the report (and the western pad design amendment) will be incorporated into the Construction Quality Assurance Method Statement and Quality Plan for the works.

We are therefore satisfied that the stability element of the proposal has been adequately addressed.

Site Condition Report

The site is located within the area permitted under the Skelton Grange Landfill site, approximately 800m north of the outskirts of Woodlesford, and 1km west of the residential outskirts of Swillington.

A Site Condition Report (SCR) has been submitted to support the application. The report covers the area of the site currently permitted under a landfill permit that will become a new bespoke composting installation.

Historic Land Use and contamination

Historical land use of the site shows open areas of agricultural fields separated by hedgerows until the 1960's. After this time the site was used for opencast coal workings. A recycling centre was also set up to the north of the site. The lagoon area to the south of the site appears from 1973 onwards, and from 1973 the site is described as 'active workings'.

The area where the composting site will be located currently consists of two areas of land divided by a fence. To the west of the fence the land consists of top soil/inert materials; to the east is an agricultural field covered by amenity grassland. The adjacent landfill site comprises three former pulverised fuel ash (PFA) lagoons originally operated by Skelton Grange Power Station. Two of the lagoons (19 and 20) obtained planning permission for infilling with municipal waste. Part of the composting proposal is to be located on the south eastern corner of Lagoon 20 (which contains cells 1 and 2). Lagoon 20 is approximately 7.8 hectares in extent and had been previously infilled to approximately 31 metres with PFA, Furnace Bottom Ash and reject colliery spoil. The PFA, FBA and colliery spoil have been excavated and re-deposited to Lagoon 19.

In addition, asbestos was also deposited within Lagoon 20, however it has been relocated and separated from the remaining landfill waste by the construction of a High Density Polyethylene (HDPE) Sidewall lining system. The composting site will not be located in the vicinity of this area.

Areas of infilled land can be found to the north and west of the site. This is associated with land filling operations within the area.

The site drainage plan that was received as part of the application demonstrates the new site drainage infrastructure. Oils and diesel for mobile plant etc will be stored in designated tanks which will either be self-bunded or surrounded by impermeable bunds with a minimum capacity of 110% of the tanks contents. For more information see containment section above.

An Addendum to the site condition report provides the latest background environmental data for the vicinity of the green waste composting facility. This includes the leachate and landfill gas monitoring results that have been conducted in accordance with the permit condition attached to the landfill permit. The Environmental Monitoring Review for 2014 includes all

groundwater monitoring and surface water monitoring for the area. Also included are the Quarterly Reports for the first 6 months of 2015. The monitoring will be ongoing throughout the post-closure and after-care phases of the landfill permit.

We are satisfied that the site description and baseline data represents an accurate description to that found on site.

Annex 1: decision checklist

This document should be read in conjunction with the application, supporting information and permit/notice.

Aspect considered	Justification / Detail	Criteria met Yes
Receipt of submission		
Confidential information	A claim for commercial or industrial confidentiality has not been made.	✓
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on commercial confidentiality.	✓
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements. For this application we consulted the following bodies: • Health and Safety Executive • Leeds Metropolitan District Council – Planning department • Leeds Metropolitan District Council – Environmental Health • Public Health England • Director of Public Health	✓
Responses to consultation and web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
Operator		
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓

Aspect considered	Justification / Detail	Criteria met Yes
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility including discharge points. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.	✓
Site condition report	The operator has provided a description of the condition of the site. This includes monitoring results of the existing landfill in the vicinity of the composting installation boundary. We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under IED– guidance and templates (H5).	✓
Biodiversity, Heritage, Landscape and Nature Conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the site. We have not formally consulted on the application. The decision was taken in accordance with our guidance.	✓
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory. The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.	✓

Aspect considered	Justification / Detail	Criteria met Yes
	Relevant risk assessments have been carried out for the following environmental aspects associated with the variation: • Odour • Bioaerosols • Noise	
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. *(Sector guidance note S5.06: Guidance for the recovery and Disposal of Hazardous and Non-Hazardous Waste; EPR 1.00 - How to comply with you Environmental Permit; Horizontal Guidance H4 – Odour Management).* Key measures proposed by the operator associated with the application are as follows: • Pre acceptance procedure to assess waste • Acceptance of waste procedures • Waste handling storage and treatment - control of these include odour management techniques outlined in the key issue section, materials stored on impermeable pavement with sealed drainage, no point source emissions, an accident management plan • Fugitive emissions to air – control of these are outlined within the Site specific bioaerosol risk assessment in the key issues section • Odour management techniques (see key issues of decision section for further details) The proposed techniques for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for the facility.	✓
The permit conditions		
Raw materials	We have specified limits and controls on the use of raw materials and fuels.	✓
Waste types	We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.	✓

Aspect considered	Justification / Detail	Criteria met Yes
	We are satisfied that the operator can accept these wastes for the following reasons: • Wastes are non hazardous in nature. • These wastes are appropriate for this treatment type We made these decisions with respect to waste types in accordance with Sector Guidance Note S5.06: Guidance on the recovery and disposal of hazardous and non-hazardous waste.	
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table in the permit.	✓
Monitoring	We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. These monitoring requirements have been imposed in order to demonstrate compliance with the conditions of the permit for operations requiring the treatment of waste. We made these decisions in accordance with *Sector guidance note S5.06: Guidance for the recovery and Disposal of Hazardous and Non-Hazardous Waste.* The above technical guidance notes are considered the most appropriate for this activity. Based on the information in the application, we are satisfied that the Operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.	✓
Operator Competence		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Technical competence	Technical competency is required for activities permitted. The operator is a member of an agreed scheme.	✓
Relevant convictions	The National Enforcement Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found. The operator satisfies the criteria in RGN 5 on Operator Competence.	✓
Financial provision	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓

Annex 2: External Consultation and web publicising advertising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Public Health England – 13th July 2015
Brief summary of issues raised
The main emissions of potential concern from the site are emissions of particulate matter, bioaerosols and odour. The applicant has considered potential emissions from the site, including nuisance issues (e.g. noise and odour) and emissions that may impact on air quality (e.g. odour, bioaerosols and dust). The assessment of these potential emissions has found that the impact of the proposed site is low and adverse effects are unlikely at residential properties. The application sets out mitigation measures to control and minimise emissions from the site. It is proposed that monitoring/visual inspections of the site will be undertaken, with action taken should odours or dust emissions be detected. This application contains a site-specific bioaerosol risk assessment which demonstrates that adequate control measures are in place to maintain bioaerosol emissions at acceptable levels. PHE does not have concerns regarding adverse public health impacts associated with bioaerosol emissions from this facility providing that the applicant implements the control measures described in the application and operates in accordance with any permit granted by the Environment Agency. Based on the information contained in the application supplied to us, Public Health England has no significant concerns regarding the risk to the health of the local population from the installation. This consultation response is based on the assumption that the permit holder shall take all appropriate measures to prevent or control pollution, in accordance with the relevant sector guidance and industry best practice.
Summary of actions taken or show how this has been covered
No action taken.

The following organisations were consulted, however no response was received:

- Health and Safety Executive
- Leeds Metropolitan District Council – Planning department
- Leeds Metropolitan District Council – Environmental Health
- Director of Public Health

This proposal was also publicised on the Environment Agency's website between 01/07/2015 and 29/07/2015, but no representations were received during this period.