Permitting decisions

Bespoke permit

We have decided to grant the permit for Camp Wood Waste Acid Treatment Plant operated by Singleton Birch Limited.

The permit number is EPR/JP3738YQ.

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.

Purpose of this document

This decision document provides a record of the decision making process. It summarises the decision making process in the decision checklist to show how all relevant factors have been taken in to account.

This decision document:

- highlights key issues in the determination
- summarises the decision making process in the decision checklist to show how all relevant factors have been taken into account
- shows how we have considered the consultation responses.

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

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

Key issues of the decision

1. The site location

The Applicant submitted a plan which we consider is satisfactory, showing the location of the installation and its extent. The Waste Acid Treatment Plant (WATP) is located within the existing boundary of the Camp Wood Landfill Site permitted installation (permit reference: EPR/BS9989IJ). The WATP is located on the floor of the quarry workings at the south of the Camp Wood Landfill site.

A plan is included in Schedule 7 to the Permit, and the Operator is required to carry on the permitted activities within the site boundary.

2. Air Emissions Risk Assessment

3.1 Point source emission to air

There is one point source emission to air from the WATP. A wet chemical scrubber is used to abate emissions from the extraction system ventilating the mixing room. Emissions are dispersed through a 10m high stack. There are expected to be emissions of particulates and ammonia (NH_3). Emissions of particulate matter are due to the agitation of Air Pollution Control Residues (APCR) during neutralisation in the mixing vessel and from deposited neutralised material within the bunker. Ammonia emissions have been considered because APCR contain unreacted ammonia deposited on fly ash particles from municipal waste incinerators that use selective non-catalytic reduction abatement systems.

3.2 Assessment of the impact on Air Quality

A methodology for risk assessment of point source emissions to air, which we use to assess the risk of applications we receive for permits, is set out in our guidance 'Air emissions risk assessment for your environmental permit' and has the following steps:

- Describe emissions and receptors
- Calculate process contributions
- Screen out insignificant emissions that do not warrant further investigation
- Decide if detailed air modelling is needed
- Assess emissions against relevant standards
- Summarise the effects of emissions

The methodology uses a concept of “process contribution (PC)”, which is the estimated concentration of emitted substances after dispersion into the receiving environmental media at the point where the magnitude of the concentration is greatest. The methodology provides a simple method of calculating PC primarily for screening purposes and for estimating process contributions where environmental consequences are relatively low. It is based on using dispersion factors. These factors assume worst case dispersion conditions with no allowance made for thermal or momentum plume rise and so the process contributions calculated are likely to be an overestimate of the actual maximum concentrations. More accurate calculation of process contributions can be achieved by mathematical dispersion models, which take into account relevant parameters of the release and surrounding conditions, including local meteorology – these techniques are expensive but normally lead to a lower prediction of PC.

PCs are considered **Insignificant** if:

- the **long-term** process contribution is less than **1%** of the relevant Environmental Standard (ES); and
- the **short-term** process contribution is less than **10%** of the relevant ES.

The **long term** 1% process contribution insignificance threshold is based on the judgements that:

- It is unlikely that an emission at this level will make a significant contribution to air quality;
- The threshold provides a substantial safety margin to protect health and the environment.

The **short term** 10% process contribution insignificance threshold is based on the judgements that:

- spatial and temporal conditions mean that short term process contributions are transient and limited in comparison with long term process contributions;
- the threshold provides a substantial safety margin to protect health and the environment.

Where an emission is screened out in this way, we would normally consider that the Applicant's proposals for the prevention and control of the emission to be BAT. That is because if the impact of the emission is already insignificant, it follows that any further reduction in this emission will also be insignificant.

However, where an emission cannot be screened out as insignificant, it does not mean it will necessarily be significant.

For those pollutants which do not screen out as insignificant, we determine whether exceedences of the relevant ES are likely. This is done through detailed audit and review of the Applicant's air dispersion modelling taking background concentrations and modelling uncertainties into account.

The Applicant's assessment of the impact of air quality is set out in the Air Emissions Risk Assessment of the Application. The assessment comprises:

- Dispersion modelling of emissions to air from the operation of the WATP; and
- A study of the impact of emissions on nearby sensitive habitat / conservation sites.

The Applicant assessed emission to air using the Environment Agency's 'Air emissions risk assessment for your environmental permit' guidance. The results showed that detailed modelling was required for 24 hour PM_{10} impacts and NH_3 impacts on ecological receptors. PM_{10} is particles of 10 microns and smaller.

The Applicant has assessed the Installation's potential emissions to air against the relevant air quality standards, and the potential impact upon local conservation and habitat sites. These assessments predict the potential effects on local air quality from the Installation's stack emissions using the Lakes AERMOD View (version 9.2.0) dispersion model, which is a commonly used computer model for regulatory dispersion modelling. The model used 5 years of meteorological data collected from the weather station at Humberside Airport between 2007 and 2011. Humberside Airport is less than 2km south of the WATP and is considered to be representative of the meteorological conditions. The impact of the terrain surrounding the site upon plume dispersion was considered in the dispersion modelling.

The way in which the Applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by the Environment Agency's modelling specialists to establish the robustness of the Applicant's air impact assessment. The output from the model has then been used to inform further assessment of health impacts and impact on habitats and conservation sites.

Our review of the Applicant's assessment leads us to agree with the Applicant's conclusions. The Applicant's modelling predictions are summarised in the following sections.

3.3 Assessment of air dispersion modelling outputs

The Applicant has used the following emission characteristics in their assessment. These are actual emission concentrations at ambient temperature. The exhaust flow is based on the design specification of the fan extraction system.

Table 1 Emission Characteristics

Parameter	Mixing room wet scrubber
Height (m)	10
Emission temperature (^oC)	Ambient
Stack diameter (m)	0.5
Air Flow (m^3/s)	2.83

Table 2 Emission concentrations from mixing room wet scrubber

Pollutant	Mixing room wet scrubber
PM_{10} (mg/m^3)	10
NH_3 (mg/m^3)	25

Table 3 Applied Emission Assessment Levels (EALs)

Pollutant	Annual EAL (ug/m^3)	Short term EAL (ug/m^3)
PM_{10}	40	50 (24-hour) not to be exceeded more than 35 times per year
$PM_{2.5}$	25	-
NH_3	180	2,500

A critical level of $3ug/m^3$ for NH_3 has been used to assess the protection of vegetation and ecosystems.

The Applicant's modelling predicted pollutant concentrations at discrete receptors. The tables below show the results of the detailed modelling. Whilst we have used the Applicant's modelling predictions in the table below, we have made our own simple verification calculation of the percentage process contribution and predicted environmental concentration. Any minor discrepancies between the Applicant's modelling and our verification do not materially impact on our conclusions.

A comparison of the PCs for PM_{10} predicted at relevant receptors against the relevant short term EAL is presented in Table 4 below. The predicted PC is less than 10% of the EAL at each receptor and therefore emissions of PM_{10} from the proposed facility are considered to be insignificant.

Table 4 Predicted 24hr PM_{10} concentration

Human receptor	Location	PC (ug/m^3)	PC % of EAL
Hall Farm	507776, 410922	0.055	0.1
Singleton Birch Offices	508266, 411110	0.105	0.2
Singleton Birch car park	508366, 411281	0.133	0.3
Public footpath	Linear feature to northeast	0.239	0.5
Melton High Wood	506763, 411933	0.018	<0.1
Public cycle path	Linear feature to west of site	0.036	0.1
The Old Forge (Melton Ross)	507048, 410825	0.062	0.1
White Lodge (Melton Ross)	507295, 410807	0.081	0.2

The maximum predicted ground level concentration of NH3 as well as the predicted nitrogen and resultant acid deposition rates at each ecological receptor are shown in table 5 below. Critical levels (CLe) and loads (CLo) are set to protect the most vulnerable habitat types. Thresholds change in accordance with the levels of protection afforded by the legislation. Therefore the thresholds for SAC, SPA and SSSI features are more stringent than those for other nature conservation sites.

Therefore we would generally conclude that the Installation is not causing significant pollution at these other sites if the PC is less than the relevant critical level or critical load, provided that the Applicant is using BAT to control emissions.

The critical loads/levels for nutrient nitrogen and acid deposition, as well as background concentrations and deposition fluxes were obtained from APIS. The receptors are Local Wildlife Sites (LWS) or Site of Importance for Nature Conservation (SINC).

As shown in table 5, the PC is less than 5% of the NH_3 CLe at all locally designated sites, the predicted nitrogen deposition rate PC is less than 5% of the N-CLo at all sites and the predicted acid deposition rate PC is less than 1% of the acid CLo at all sites. These results are considered to represent no likely significant impact.

Table 5 Predicted NH_3 concentration at ecological receptors

	NH_3 concentration		**Nitrogen deposition**			**Acid deposition**		
Receptor	PC (ug/m^3)	PC % of EAL	PC (kgN/ha/yr)	C_{Lo} (kgN/ha/yr)	PC % of C_{LO}	PC (k_{eq}/ha/yr)	CLmaxN	PC % of C_{LO}
Melton Ross Road Verges (LWS)	0.04	1.3	0.31	10	3.1	0.022	10.95	0.2
Melton Ross Quarry (LWS)	0.10	3.2	0.49	20	2.5	0.035	4.69	0.8
Melton Ross Pit (SINC)	0.07	2.2	0.35	20	1.7	0.025	4.69	0.5
New Barnetby Road Verges (LWS)	0.02	0.8	0.18	10	1.8	0.013	10.95	0.1
Low Wood (SINC)	0.03	0.8	0.20	10	2.0	0.014	10.95	0.1

Based on our audit of the air assessment we agree with the Applicant's conclusions provided that the plant operates at the stated emission concentrations.

3. Improvement condition

The Applicant stated in the application that prior to undertaking stack emissions monitoring, a site specific protocol will be prepared to ensure it's carried out in accordance with Environment Agency guidance. We have therefore set an improvement condition requiring submission of a monitoring plan.

Decision checklist

Aspect considered	Decision
Receipt of application	
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.
Consultation	
Consultation	The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement. The application was publicised on the GOV.UK website. We consulted the following organisations: - North Lincolnshire Council - Lincolnshire Wildlife Trust - Public Health England - Food Standards Agency - Health and Safety Executive The comments and our responses are summarised in the consultation section.
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 our guidance on legal operator for environmental permits.
The facility	
The regulated facility	We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility' and Appendix 2 of RGN 2 'Defining the scope of the installation'. The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.
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. The plan is included in the permit.
Site condition report	The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.
Biodiversity, heritage,	The application is within the relevant distance criteria of four Local Wildlife

Aspect considered	Decision
landscape and nature conservation	Sites. We have assessed the application and its potential to affect the Local Wildlife Sites identified in the nature conservation screening report as part of the permitting process. We have consulted the North Lincs Council and the Lincolnshire Wildlife Trust and taken their comments into account in the permit determination. We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.
Environmental risk assessment	
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory.
Operating techniques	
General operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility. The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.
Operating techniques for emissions that screen out as insignificant	Emissions of particulates and ammonia have been screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation.
Permit conditions	
Use of conditions other than those from the template	Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template.
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. We are satisfied that the operator can accept these wastes for the following reasons: • they are suitable for the proposed activities • the proposed infrastructure is appropriate • the environmental risk assessment is acceptable. We made these decisions with respect to waste types in accordance with Sector Guidance Note S5.06 – Guidance for the recovery and disposal of hazardous and non-hazardous waste.
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme.

Aspect considered	Decision
	See key issues.
Emission limits	The inclusion of emission limits is to be agreed upon completion of Improvement Condition 1. See key issues.
Monitoring	The inclusion of monitoring requirements is to be agreed upon completion of Improvement Condition 1. See key issues.
Reporting	We have specified reporting in the permit. We made these decisions in accordance with Sector Guidance Note S5.06 – Guidance for the recovery and disposal of hazardous and non-hazardous waste.
Operator competence	
Management system	There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions. The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.
Technical competence	Technical competence is required for activities permitted. The operator is a member of an agreed scheme. We are satisfied that the operator is technically competent.
Relevant convictions	The Case Management System has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.
Financial competence	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit. Paragraph 1.3 of the guidance says: "The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation." We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not

Aspect considered	Decision
	legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections. We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
North Lincolnshire Council
Brief summary of issues raised
In the decommissioning phase, given the location of the site on exposed chalk, consideration should be given to the creation of calcareous grassland and to other biodiversity enhancements.
Summary of actions taken or show how this has been covered
No action required at this time. The concerns will be addressed at the time of permit surrender.

Response received from
Lincolnshire Wildlife Trust
Brief summary of issues raised
• Provided there are no impacts on the faces of the quarry we would not expect any significant impacts. • There are Local Wildlife Sites nearby that could be sensitive to air borne pollutants. The Trust is happy to be led by the Environment Agency's assessment and conclusion.
Summary of actions taken or show how this has been covered
• There will be no impact on the face of the quarry. • We have assessed impact of air emissions on the local wildlife sites. See key issues.

Response received from
Public Health England
Brief summary of issues raised
• The main emissions of potential concern are fugitive emissions of particulate matter and point source emissions of particulate matter and ammonia from the mixing process. • The application indicates that monitoring will be carried out to ensure that abatement is effective. The Environment Agency should ensure that this is undertaken in due course. • 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
• We have assessed emissions to air – see key issues. • We have set Improvement Condition 1 which relates to monitoring of emissions – see key issues. • We are satisfied that the Operator will take all appropriate measures to prevent or control pollution in line with Sector Guidance Note S5.06 as set out in the Decision Checklist above.