Permitting decisions

Variation

We have decided to grant the variation for Moy Park Limited operated by Moy Park Limited.

The variation number is EPR/NP3832ZA/V002.

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:

- 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 and the variation notice. The introductory note summarises what the variation covers.

Key issues of the decision

Odour

Existing Permit

The poultry processing facility occupies much of the south-eastern quarter of the village of Anwick in Lincolnshire. Residential housing is present on the northern and eastern site boundaries. The closest houses are approximately 20m east of the site, on River Lane. An Anglian Water sewage treatment works lies immediately to the south of the site. Outside the residential area of Anwick, the surrounding land is used almost exclusively for arable farming, although there are some woodlands and grassland along the course of the River Slea which lies to the south. The existing site has had odour complaints in the past and has been actively working with the Environment Agency to improve process controls on site to limit odour emissions beyond the site boundary.

The original permit for the site contained an improvement condition (IC1) for the operator to carry out a review of the site's odour mitigation infrastructure, including using monitoring and reporting evidence to assess whether the current odour mitigation infrastructure is effectively minimising odour emissions from the site.

Overall, the assessment identified 33 improvement opportunities within the various process areas. Since 2014, the Site has been implementing a selection of the opportunities, especially in areas with very high odour concentrations.

Since the completion of the IC1 assessment and improvement opportunities listed within the IC1 Report, several additional risk management techniques have been implemented on site within the scalding / defeathering area, offal collection bay, and effluent treatment plant, as agreed with the Environment Agency. Other mitigation proposals have also been investigated, such as installation of a vent stack or scrubber system to disperse and treat site odours.

Air dispersion Modelling – Proposed stack

There are a series of processes at the facility that are potential sources of odour. Currently the extracted air from these processes is discharged through vents, or short stacks located on the roof of one of the buildings in the southern part of the facility, at a height of approximately 15 m above ground level. As part of the IC1 review, the operator has looked at options to discharge odour emissions through a dedicated stack of a suitable height to ameliorate the current odour exposure experienced by residents. The proposed free-standing stack would be located approximately 15 m to the south-west of the current discharge vents/stacks.

In order to determine the optimum odour dispersion stack height required to provide an acceptable level of odour in the area surrounding the facility, a series of stack heights have been modelled by the operator (reference: *A Dispersion Modelling Study of the Impact of Odour from the Proposed Stack at the Moy Park Anwick Primary Poultry Facility, Main Street, Anwick Village, Sleaford, Lincolnshire. AS Modelling & Data Limited, February 2017*). The results of plume dispersion modelling of emissions from a proposed vent stack demonstrate that odour levels beyond the installation boundary could be reduced to acceptable levels.

The modelling concluded that a 40m stack height with continuous emissions at the higher emission rates would lead to an odour exposure slightly above 1.5 OU_E/m^3 over a one year period at central and eastern parts of Anwick village. Assuming a stack height of 45m, predictions are unlikely to exceed an odour benchmark of 1.5 OU_E/m^3. The consultant has compared their predictions with the Environment Agency's H4 guidance suggested benchmark of 1.5 OU_E/m^3. We consider that due to the history of complaints at the site, receptors may be sensitised and therefore a reduction to 1 OU_E/m^3 is more appropriate. Results of the dispersion modelling should therefore be considered in the context of a benchmark of 1 OU_E/m^3.

All predictions are based on the assumption that there will be no fugitive emissions from the operation and results are dependent on the applicant's ability to achieve their stated odour emission rate and flow rate. It should also be noted that the modelling assumes constant emissions of odour at the highest rates observed and is, therefore, the worst case scenario. Under normal operations at the Site, the emissions will be much lower.

The Environment Agency have undertaken checks of the consultant's dispersion modelling. The checks indicate that predictions could be higher than those presented by the consultant. At a stack height of 40 m, assuming the consultants emission rates, impacts at some receptors would exceed a benchmark of 1 OU_E/m^3 which we believe is an appropriate benchmark for the site. Furthermore, assuming a higher emission rate we calculated to represent the increase in capacity, predictions could exceed 1 OU_E/m^3 and 1.5 OU_E/m^3 at a number of receptors. Our predictions show that a stack height of 45 m would be unlikely to lead to impacts over the benchmark of 1 OU_E/m^3 at all receptor locations.

Indicatively, the data presented in their report suggests that there would be an overall improvement with the amended configuration, even with an increase in capacity.

Odour management proposals will reduce the level of overall odour risk, despite the increase in bird production. This is an environmental improvement compared to the current scenario on site; and a significant improvement from when the permit was first issued.

Based on the evidence presented in the atmospheric dispersion modelling, and a quantitative risk assessment, the operator has committed to a 45m odour stack. They have also provided a revised Odour Management Plan that ensures that all odour risks are covered from the site, including normal, abnormal and emergency conditions, both from the stack and via fugitive emissions.

Odour Management Plan and Improvement Conditions

The operator has provided a revised Odour Management Plan (OMP) to address point source and fugitive emissions on site; and ensure that contingency procedures are in place for abnormal or emergency conditions on site (reference: *Odour Management Plan, Environmental Permit EPR/NP3832ZA. Moy Park. June 2017*).

We are satisfied that the OMP should be sufficient to minimise the potential for odour emissions from the facility so that there will be no odour nuisance beyond the installation boundary. The Operator is required to operate in accordance with the OMP, at all times, to prevent pollution arising from odours and implement all mitigation measures in line with the plan.

We have reviewed and approved the OMP and consider it complied with the requirement of out H4 Odour Management guidance note. We agree with the scope and suitability of the 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.

Improvement condition IC2 will provide a further option for review of the adequacy of the OMP, once the commissioning of the odour dispersion stack has been completed (a requirement of Pre-operational Condition 1).

Effluent Treatment Plant (ETP)

The current procedure on site is to empty the scald tanks to the ETP at the end of each production day. The scald tanks have a total combined capacity of approximately 60 m^3. Production wastewater from these flows into a sump from where it is pumped to the ETP via an 850m^3 capacity balance tank. The tank is typically maintained at a low level to provide an adequate buffer capacity for the ETP. Consequently, the scald tank wastewater currently receives minimal dilution prior to entering the ETP. This batch loading causes a potentially high ammonia and Chemical Oxygen Demand (COD) loading on the ETP over a short period of time (typically 30 minutes).

A new buffer tank of 150 m^3 capacity has therefore been installed adjacent to the ETP. Wastewater will now be discharged from the scald tanks at the end of the production shift and collected in the new buffer tank. This will slowly release to the ETP during the course of the following day. This should substantially increase the dilution of the scald tank wastewater within the overall site effluent flow, therefore avoiding a high spike in COD loading on the ETP.

This new method of discharge has undergone commission testing and the site has seen a reduction in COD and ammonia levels at night. In addition, better controls will be put in place to reduce the amount of chemical used to treat the wastewater in the ETP. By managing the pollutant loading and wastewater flow rate, the

design capacity of the existing ETP will not be compromised as a result of the proposed increase in production at the site.

Since the permit was issued, an additional penstock valve has been installed on the surface water lagoon out feed. This allows for greater control of the water discharge and reduces the risk of contamination of the River Lane Dyke.

Increased production at the site will not cause an exceedence of current trade effluent consent conditions and will not alter the conclusions of the environmental impact assessment of the ETP included with the original Permit application.

Ammonia / Heat Recovery Benefits

The site is now using ammonia rather than halogenated refrigerants. Subsequently, the site has installed additional heat recovery systems on the refrigeration plant. As a result of the heat recovery, one of the three boilers that provide hot water to the production plant is now no longer required on site and has be removed from the permit (Yorkshireman boiler, emission to air A2). The operator estimates this has reduced the annual consumption of fuel oil on site by around 40% (760,000 litres) and reduced carbon emissions by 2,000 tonnes (CO_2).

To detect any accidental leakages of refrigerant to atmosphere, each ammonia refrigeration plant has an ammonia alarm system installed. Each alarm system has a number of detection points which activate alarms and can initiate remote electrical isolation of the system. These are combined with automatic extraction fans to dissipate any leakages to atmosphere. The refrigeration systems and associated equipment are incorporated into the preventative maintenance and inspection schedule which includes strict controls to ensure the system is regularly checked for leakages and to identify any issues. The maintenance and inspection procedure ensures that the equipment operates safely and efficiently in order to minimise the potential for fugitive emissions of ammonia.

We are satisfied that the procedures in place for monitoring the ammonia refrigeration plant and heat recovery processes represent Best Available Technique (BAT) for this type of facility.

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. The decision was taken in accordance with our guidance on confidentiality.
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: • Health and Safety Executive • Environmental Protection – North Kesteven District Council No responses were received.
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.
Biodiversity, heritage, landscape and nature conservation	The application is not within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.
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. The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment, all emissions may be categorised as environmentally insignificant with the exception of odour emissions. See the key issues odour section for more information.

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. • EPR 6.10 Food and drink general • EPR 6.11 Treating and Processing Poultry • BAT Reference (BREF) document on in the Food, Drink and Milk Industries 2006 The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit. See the key issues odour section for more information.
Operating techniques for emissions that screen out as insignificant	All emissions have been screened out as insignificant, and so we agree that the applicant's proposed techniques are Best Available Technique (BAT) for the installation. We consider that the emission limits included in the installation permit reflect the BAT for the sector. Operating techniques linked to the variation are covered in the following key documents: • H1 assessment document, revised site plan, non-technical summary of changes and BAT Assessment within original application; • Schedule 5 responses including a fully revised Odour Management Plan; details of stack mitigation and revised emission point location.
Odour management	We have reviewed the odour management plan in accordance with our guidance on odour management. We consider that the odour management plan is satisfactory. See Key Issues Odour section for full details.
Permit conditions	
Updating permit conditions during consolidation	We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.
Raw materials	We have specified limits and controls on the use of raw materials and fuels. No changes have been made to this as a result of the permit variation.
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions. Refer to key issues odour section above.
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme. Refer to key issues odour section above.

Emission limits	No emission limits have been added, amended or deleted as a result of this variation.
Monitoring	Monitoring has not changed as a result of this variation.
Reporting	Reporting has not changed as a result of this variation.
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 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

No responses were received from any of the organisations consulted and no responses were received as a result of the public consultations.