

Permitting Decisions- Bespoke Permit

We have decided to grant the permit for Bakkavor Pizza Holbeach operated by Bakkavor Foods Limited.

The permit number is EPR/KP3708MT.

The Bakkavor Pizza site is an existing production facility which produces chilled, ready to cook pizza. The site operates under a Part A environmental permit in line with the Environmental Permitting Regulations as follows;

Section 6.8 Part A(1)(d)(iii)(aa). Treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed (where the weight of the finished product excludes packaging) — animal and vegetable raw materials (other than milk only), both in combined and separate products, with a finished product production capacity in tonnes per day greater than (aa) 75 if A is equal to 10 or more, where 'A' is the portion of animal material in percent of weight of the finished product production capacity.

Section 5.4 Part A(1)(a)(i). Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment (i) biological treatment

The site is located 6.6Km north of the town of Holbeach and 13km northeast of the town of Spalding (centred on NGR TF 34984 31780). The site consists of a purpose-built production building where the pizza bases are prepared, cooked and frozen prior to assembly and packing for onward distribution. The site also includes an effluent treatment plant which treats process effluent prior to discharge to the River Holbeach.

There are 10 emissions points to air which include the onsite boiler, and oven burners. Detailed dispersion modelling has been undertaken to assess the pollutant emissions to air. The assessment has considered impacts from emissions of Oxides of Nitrogen (NO_x as NO₂) and Particulate Matter (PM₁₀ and PM_{2.5}).

Surface water originating from yard areas is discharged to the River Holbeach via a series of interceptors.

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 considerations](#) section to show how the main relevant factors have been taken into account
- highlights [key issues](#) in the determination
- 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.

Key issues of the decision

Emissions to Air

The Operator used the Environment Agency's H1 methodology to assess the releases from the onsite emission points. The emission points comprise of burners, oven outlets, boilers and local exhaust ventilation (LEV) on local air quality in the context of applicable air quality standards and accepted environmental benchmarks for conservation sites.

The H1 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 H1 guidance 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.

Once short-term and long-term PCs have been calculated, they are compared with Environmental Standards (ES), for example, Ambient Air Directive limit values, or UK Environmental Assessment Levels (EALs), referred to as "benchmarks" in the H1 Guidance. PCs are considered insignificant if:

- the short-term PC is less than 10% of the short-term environmental quality standard; and
- the long-term PC is less than 1% of the long-term environmental quality standard.

Where an emission cannot be screened out as insignificant at the first stage, it does not mean it will necessarily be significant. For pollutants that do not screen out as insignificant the exceedances of the relevant ES are assessed by considering the PEC (Predicted Environmental Contribution) which takes account of the background pollutant concentrations. We consider the environmental risk not to be significant where the following criteria are met:

- the short-term PC is less than 20% of the short-term environmental standard minus twice the long-term background concentration; and

- the long-term PEC is less than 70% of the long-term environmental standard.

When the above conditions cannot be verified through the H1 screening exercise, our guidance requires that a detailed modelling assessment is carried out by using computer software that model the dispersion of a substance as it travels through the atmosphere until it reaches the ground.

The assessment was based on two 3.55MWth kerosene boilers each with a thermal input of 3.55MWth and two bakery lines. The table below summaries the combustion plant on site. The boilers were installed in 2004 and are therefore considered to be existing combustion plant as defined in the Medium Combustion Plant Directive (MCPD). During the determination the Operator disclosed that Boiler 2 has now been decommissioned and no longer operational and Boiler 1 will also be taken offline in early 2023.

Description of combustion plant	Thermal input	Fuel	Date when the new MCP was first put into operation	Expected Operating Hours and load in use
Boiler 1 for direct fired oven cooking	3.55 MWth	Kerosene	01/01/2004	8222 Hours per year 50% Load
Bakery line 1, burner 1	0.470 MWth	LPG	2003	4380 Hours per year 50% Load
Bakery line 1, burner 2	0.470 MWth	LPG	2003	4380 Hours per year 50% Load
Bakery line 1, burner 3	0.470 MWth	LPG	2003	4380 Hours per year 50% Load
Bakery line 2, burner 1	0.470 MWth	LPG	2003	4380 Hours per year 50% Load
Bakery line 2, burner 2	0.470 MWth	LPG	2003	4380 Hours per year 50% Load
Bakery line 3, oven ^{Note 1}		LPG/ Wood	2011	

Note 1: Bakery line 3 oven is a stone bake oven which is exempted from the MCPD as the combustion gases come into direct contact with the product 'direct gas fired ovens which have the burner located within the oven chamber so that the hot combustion gases come into direct contact with the product'

The applicant's assessment of the impact to air quality is set out in the submitted report (Bakkavor Pizza Ltd – Environmental Permit Application, Air Quality Dispersion Modelling Report dated June 2021) which was submitted with the application. The objectives of the study were to assess the impact of emissions from the existing plant on ambient air quality and to assess the impacts from the activities on sensitive human and ecological receptors located near the site. The modelling considered the potential impacts associated with the emissions to air from site (looking at oxides of nitrogen (expressed as NO₂) and Particulate

Matter (PM₁₀). The assessment comprises the following information that we consider relevant to the risk posed by the installation:

- Dispersion modelling of nitrogen oxides and particulate matter emissions to air from the operation of the installation.
- A study of the impact of nitrogen oxides emissions on nearby human receptors and conservation sites.

The screening assessment shows that the emissions of nitrogen oxides and particulate matter could not be screened out and a detailed assessment with air dispersion modelling was submitted. Emissions of sulphur dioxide, carbon monoxide and volatile organic compounds have been screened out as part of the risk assessment and are not considered further. This section of the decision document covers the dispersion modelling of NO_x and PM₁₀ & PM_{2.5} emissions to air from the installation and the impact on local air quality. The installation lies within the relevant screening distances from the statutorily protected ecological sites of The Wash & North Norfolk Coast Special Area of Conservation (SAC), The Wash which is designated as a Ramsar, Special Protection Area (SPA) and a Site of Special Scientific Interest (SSSI) and two Local Wildlife Sites.

The Operator has assessed the installation's nitrogen oxides and particulate matter emissions to air using ADMS 5 (version 5.2), which is a commonly used computer model for regulatory dispersion modelling. The model used meteorological data collected at Holbeach meteorological station, which is located approximately 9.7km east of the permitted site and represents meteorological conditions experienced at the site.

We have reviewed the applicant's air dispersion model and its selection of input data, use of background data and the assumptions made to inform the assessment. We have also carried out a screening exercise using an air dispersion screening tool developed by the Environment Agency and based on the US EPA AERMOD air dispersion model to confirm the quality of the applicant's model predictions.

The site and the combustion equipment operate continuously as such the releases considered within the report have been modelled at a 24/7 operation apart from Boiler 1. Boiler 1 is to act as backup to the main boiler and is expected to operate for 5% of the hours of the year (438 hours). As such the modelling has been post-processed to account for this. The modelling has exaggerated the impact of the emissions on the surrounding area, including emissions, operational profile, ambient concentrations, meteorology and surface roughness. The assessment has used the years highest ground-level concentrations at the

nearest sensitive receptor for comparison against the air quality objectives. This approach is considered to be precautionary and the 'worst-case scenario'.

Assessment of impacts of air emissions on human receptors

Table 1 below, shows the maximum concentration of NO₂ over a five-year period (2016-2020) at the sensitive receptor locations. The receptor with the highest identified process contribution has been assessed to represent the worst-case scenario.

Table 1: Concentrations of NO₂ at the sensitive receptor of maximum prediction					
Pollutant	ES (µg/m³)	PC (µg/m³)	PC as % of ES	Background (long term) (µg/m³)	PEC (µg/m³) (PC + long-term background)
NO₂ (annual)	40	0.49 <small>Note 1</small>	1.2	9.81	10.3
NO₂ (99.79th %ile of hourly average)	200	3.90 <small>Note 1</small>	2.0		

PC – Process Contribution; ES - Environment Standard; PEC – Predicted Environmental Concentration
 Note 1 – The location with the highest predicted concentration is H1 (534901,331645)

Table 1 shows that the long term (annual) process contributions (PC) are greater than 1% of the environmental standard (ES). The short-term PC are less than 10% of the short-term ES. Only the long-term emissions required further assessment to determine the impact of the long-term emissions on the predicted environmental concentration (PEC). The long-term PEC is significantly below the ES, as such we consider that the long-term emissions of NO₂ are unlikely to breach the long-term ES. We agree with the applicant's conclusions that the onsite combustion processes are unlikely to have a significant impact in obtaining the air quality standards for NO₂ at the discrete receptor locations in the area.

Table 2: Concentrations of PM₁₀ at the sensitive receptor of maximum prediction			
Pollutant	ES (µg/m³)	PC (µg/m³)	PC as % of ES
PM₁₀ (annual)	40	0.29 <small>Note 1</small>	0.73
PM₁₀ (90.41 percentile 24-hour mean)	50	1.12 <small>Note 1</small>	2.2

PC – Process Contribution; ES - Environment Standard; PEC – Predicted Environmental Concentration
 Note 1 – The location with the highest predicted concentration is H1 (534901,331645)
 Note 2 – the short-term background concentration is considered to be twice the long term concentration.

Table 2 above, shows the maximum concentration of particulate matter (PM₁₀) over a five-year period (2016-2020) at the sensitive receptor locations. The

receptor with the highest identified process contribution has been assessed to represent the worst-case scenario.

The long term (annual) process contributions (PC) are less than 1% of the environmental standard (ES). The short-term PC are less than 10% of the short-term ES. As the long-term PC are less than 1% of the ES and the short-term PC are less than 10% of the ES no further assessment is required. We agree with the applicant's conclusions that the onsite combustion processes are unlikely to have a significant impact in obtaining the air quality standards for PM₁₀ at the discrete receptor locations in the area.

Table 3 below, shows the maximum concentration of particulate matter (PM_{2.5}) over a five-year period (2016-2020) at the sensitive receptor locations. The receptor with the highest identified process contribution has been assessed to represent the worst-case scenario.

Pollutant	ES (µg/m³)	PC (µg/m³)	PC as % of ES	Background (long term) (µg/m³)	PEC (µg/m³) (PC + long-term background)
PM_{2.5} (annual)	20	0.29 <small>Note 1</small>	1.45	8.86	9.15

PC – Process Contribution; ES - Environment Standard; PEC – Predicted Environmental Concentration
 Note 1 – The location with the highest predicted concentration is H1 (534901,331645)

Table 3 shows that the long term (annual) process contributions (PC) are greater than 1% of the environmental standard (ES) as such further assessment is required to determine the impact of the long-term emissions on the predicted environmental concentration (PEC). The long-term PEC is significantly below the ES, as such we consider that the long-term emissions of PM_{2.5} are unlikely to breach the long-term ES. We agree with the applicant's conclusions that the onsite combustion processes are unlikely to have a significant impact in obtaining the air quality standards for PM_{2.5} at the discrete receptor locations in the area.

Assessment of impacts of air emissions on ecological receptors

The air dispersion modelling report included an assessment of the impacts on the statutorily conservation sites within the relevant screening distance of 10km. The installation lies within the screening distance from three European sites protected under the Conservation of Habitats and Species Regulation 2017 and a single SSSI (Site of Special Scientific Interest) protected under the Wildlife and Countryside Act 1981.

Our review of the applicant's assessment has led us to agree with the conclusions of the applicant's air dispersion model and assessment of impacts on the applicable European conservation sites within relevant screening distance as follows:

- The long-term (annual average) predicted PC of nitrogen oxides are below the significance screening threshold of 1% of the nitrogen oxides long term critical level at all the receptors within European sites requiring assessment.
- The short-term (24 hours) predicted PC of nitrogen oxides are below the significance screening threshold of 10% of the nitrogen oxides 24 hours critical level at all the receptors within European sites requiring assessment.
- The long-term (annual average) predicted process contribution of nitrogen oxides deposition, as nutrient nitrogen, are below the significance screening threshold of 1% of the nutrient-nitrogen critical load at all the receptors within European sites requiring assessment, where these critical loads are specified.
- The long-term (annual average) predicted process contribution of nitrogen oxides deposition, as pollutants responsible for acidification, are below the significance screening threshold of 1% of the acid function critical load at all the receptors within European sites requiring assessment, where these critical loads are specified.

We have therefore concluded that the variation is not likely to cause significant impacts to the protected European sites or the SSSI.

Whilst the assessment did not extend to cover the two local wildlife sites (LWS) within the relevant screening distance, we are confident that the emissions will not cause significant pollution. For LWS both the short- and long-term PC are required to be less than 100% of the ES for nitrogen oxides. The applicant has demonstrated that the short- and long-term PC are less than 1% when assessing the impacts on the conservation areas as such we can conclude that the emissions are unlikely to cause significant pollution to the LWS.

Conclusion

We agree with the Operator's conclusions that the results of the dispersion modelling indicate the impacts of the pollutant concentrations are not predicted to be significant at any of the sensitive human or ecological receptor locations.

The impacts were assessed on a conservative approach including the assumption that the boiler will be operating at full capacity and emit the maximum concentration of each pollutant throughout an entire year. As such the predicted pollutant concentrations are likely to be an overestimate of actual emissions.

Effluent treatment

Effluent arising from the onsite processes is treated on site via the effluent treatment plant prior to discharge into the River Holbeach (W1). The discharge was previously consented by the Environment Agency under a discharge consent. As part of the permitting of the site the discharge has been incorporated into the permit as a schedule activity (Section 5.4 Part A(1)(a)(i)). To support the application the Operator undertook an impact assessment of the discharge to the river. The assessment concluded that no specific substances (hazardous chemicals) are used at the site and therefore can not be present in the discharge. As the discharge was previously assessed as part of the application for the discharge consent and the Operator completed an impact assessment of the discharge no further assessment of the discharge was undertaken as part of this determination.

The effluent treatment plant comprises of the following treatment stages, screening to remove gross debris, Dissolved Air Flotation (DAF) to remove fats and oils with the addition of chemicals and to balance the pH, biological treatment, settlement, aeration and final discharge to the river. The consent had limits for the following parameters; daily volume (1310m³), discharge rate (28 litres/second), suspended solids (50mg/l) and biochemical demand (BOD) (20mg/l). To ensure there is no 'backsliding' and the receiving environment is adequately protected we have retained these limits in addition we have included the BAT-AELs for emissions to water as listed under BATc 12 of Food, Drink & Milk Industries Bref.

Parameter	Emission Limit Value (ELV)
Chemical Oxygen Demand (COD)	100mg/l
Total Nitrogen (TN)	20mg/l
Total Phosphorus (TP)	2mg/l

The Operator currently undertakes weekly monitoring of the effluent for the current parameters listed on the discharge consent and the parameters added as part of the determination. The requirements under BATc 4 are that weekly monitoring of the listed parameters as listed under BATc 12 are required, unless the Operator can demonstrate that the concentration of the parameters is sufficiently stable in which case a lower monitoring frequency can be adopted.

During the determination the Operator advised that daily monitoring as per the requirement of BATc 4 isn't appropriate. We have included improvement condition (IC 1) which requires the Operator to provide the monitoring data in order to demonstrate that concentration of the parameters within the effluent are stable over a suitable period time. On submission and review of the data the Environment Agency will advise whether the monitoring of the frequency of the effluent can be reduced to a more suitable frequency. In addition, improvement condition (IC2) has been included for the Operator to achieve the BAT-AELs (BATc 12).

On site containment

The site is surfaced with impermeable surface with all production being undertaken in purpose-built buildings. All process effluent is treated by the on-site effluent treatment plant prior to discharge. Uncontaminated surface water from yard areas is discharged to the River Holbeach (W2) via one of three interceptors within the yard area. Roof water is directed to the onsite lagoon which feeds the interceptor before being discharged to the River Holbeach (W2). The lagoon can be isolated by switching the pump off. Further measures to prevent uncontrolled release include the use of spill kits and drain covers in areas where liquids are stored. Chemicals which are used on site are bunded and stored on drip trays. High level alarms are used on the pumping stations

The Operator has stated during the determination that it is unknown whether the tanks associated with the effluent treatment plant meet CIRIA standard. The Operator has committed to investigating the status of the effluent treatment plant tanks. Improvement condition (IC3) has been included in the permit for the Operator to provide a technical assessment of a survey for the containment provisions of the tanks associated with the effluent treatment plant, the improvements proposed and the time scale for implementation, if required.

The site has a number of external tanks the majority of which have integral bunds, the specification and the capacity of the bunds is not known. As such improvement condition (IC4) has been included in the permit for the Operator to provide a technical assessment of a survey for the containment (primary, secondary and tertiary) provisions for all storage tanks on site the improvements proposed and the time scale for implementation, if required.

Odour Management Plan

An odour management plan (OMP) has been submitted as part of the application (BFLB3(3b) - Odour Management Plan v.2 Received 28/10/2022). The OMP outlines the possible sources of odour, the prevention and mitigation controls in

place to prevent odours from the site and the monitoring in place to limit the impact on receptors.

We have reviewed the revised OMP for compliance in respect of our guidance H4 Odour Management, How to comply with your environmental permit. The OMP is referenced within Table S1.2 of the permit as it forms part of the Operating Techniques. The OMP details the methods employed at the site, including onsite monitoring and contingencies to prevent, control and minimise odour pollution and procedures for recording and investigating odour complaints should they arise.

We consider that the conditions in the permit are sufficient to ensure that the risk of odour pollution beyond the site boundary is low. In the event that odour emissions cause pollution beyond the site boundary, the permit conditions require the Operator to comply with the measures specified in the site's operating techniques and odour management plan.

BAT Assessment

BAT Conclusions for the Food, Drink and Milk Industries, were published by the European Commission on 4 December 2019. There are 37 BAT Conclusions. BAT 1 – 15 are General BAT Conclusions (Narrative BAT) applicable to all relevant Food, Drink and Milk Installations in scope.

Comparison of Indicative BAT with key measures proposed by the operator		
BAT ref.	Indicative BAT	Key measures proposed
1	EMS	The operator has an established EMS that adheres to BS EN ISO 14001 standards. The EMS is audited internally and externally on an annual basis
2	EMS – inventory of inputs & outputs to increase resource efficiency and reduce emissions.	The Operator has established inventories of water, energy and raw materials consumption on site alongside as well as inventories of wastewater and waste gas streams, as part of the environmental management system.
3	Emissions to water – monitor key process parameters	The Operator had an existing discharge consent for the treated process effluent to the River Holbeach. The consent required the Operator to monitor the following parameters; continuous flow, suspended solids, BOD and pH. A contractor undertakes weekly tests for pH, COD, BOD, SS and ammonia.
4	Monitor emissions to water	The Operator already monitors the following parameters; continuous flow, suspended solids, BOD and pH. The Operator currently undertakes weekly monitoring of

		the current parameters (as listed in their original discharge consents) along with the parameters listed in BATc 12. BATc 4 require daily monitoring of the parameters listed in BATc 12. Improvement condition (IC 1) has been included for the Operator to provide appropriate monitoring data to demonstrate that the discharge is sufficiently stable to reduce the monitoring frequency to a minimum of monthly.
5	Monitor channelled emissions to air	The Operator is not required to monitor emission to air under BATc 5 as none of the sectors within BATc 5 apply to the site.
6	Energy efficiency	<p>The Operator has an energy efficiency plan which forms part of the sites EMS. The site monitor, measure and record electricity and LPG consumption. The site undertakes the following techniques to reduce energy consumption on site</p> <ul style="list-style-type: none"> • Install LED lighting as and when lighting needs to be replaced • Install variable speed drives on equipment • Conduct air leak surveys • Conduct thermographic monitoring of hot and cold systems • Install and monitor insulation on hot and cold systems.
7	Water and wastewater minimisation	<p>Due to the nature of the processes carried out at the site and the requirement to conform to hygiene and food safety requirements there are limited opportunities to reuse water on site.</p> <p>The Operator uses a variety of cleaning techniques on site including; dry-cleaning, high-pressure cleaning and low-pressure foam cleaning.</p>
8	Use of harmful substances	Due to the nature of the processes carried out at the site, all cleaning chemicals are required to comply with the relevant hygiene and food safety standards.
9	Use of refrigerants	<p>The site uses ammonia plant which is used to chill or freeze product before distribution as well as freezing raw materials. Ammonia has a Global Warming Potential of 0. The site also has legacy equipment which are reliant on refrigerants with a GWP of over 2,500. These systems are refilled with reclaimed refrigerant gases from converted systems at other sites with the Bakkavor Group.</p> <p>The Operator has committed to replace all R404A systems on a risk-based schedule.</p>
10	Resource efficiency	The Operator has outlined the initiatives for the re-use of residues on site, catch trays are used under the conveyor belts to catch loose debris, which are re-used in production where possible depending upon the product/ingredients used. Up to 60% of re-worked dough

		<p>is used in pizza bases. Where residues are unable to be re-worked, suitable wastes are sent for anaerobic digestion.</p> <p>Due to the nature of the residues and increased controls and potential for contamination residues can no longer be sent for animal feed.</p>
11	Emissions to water – wastewater buffer storage	<p>The site has a buffer storage of 285m³ which allows the site to hold any out of specification water for 36 hours before the effluent treatment plant would be required to shut down. An automatic closure valve is fitted at the discharge point which monitors turbidity and dissolved oxygen, if the discharged effluent is outside of the set parameters the valve shuts and the effluent is diverted back to the plant.</p> <p>Surface water originating in the yard areas is discharged to the River Holbeach via an interceptor. There are three interceptors which are located in the yard area. Roof water is diverted to the onsite lagoon which is then pumped to an interceptor prior to discharge to the River Holbeach.</p> <p>Further measures to prevent uncontrolled release include the use of spill kits and drain covers in areas where liquids are stored. Chemicals which are used on site are bunded and stored on drip trays. High level alarms are used on the pumping stations</p>
12	Emissions to water - treatment	<p>The site discharges treated process effluent to the River Holbeach, this was previously under a consent from the Environment Agency. The treatment of effluent now forms part of the listed activities undertaken at the site. In summary the effluent treatment plant offers the following levels of treatment</p> <ul style="list-style-type: none"> • Physical separation via the use of screens to remove gross debris • Separation of sludge via an intercept and balancing tank • Treatment to removal of fats and oils by, pH dosing and the addition of a polymer to cause flocculation. • Further treatment of the flocculated water in a DAF cell • Biological treatment via micro-organisms and treatment via activated sludge • Aeration of the treated effluent prior to final settlement tanks and discharge to the River Holbeach. <p>The consent had the following emission limit values (ELVs)</p> <ul style="list-style-type: none"> • Suspended Solids 50mg/l • Biochemical Oxygen Demand 20mg/l <p>The Operator also monitors Chemical Oxygen Demand</p>

		<p>(COD) on a weekly basis.</p> <p>Improvement condition (IC2) has been included in the variation for the Operator to provide monitoring data to show they can comply with the upper BAT-AELs for COD, Total Suspended Solids, Total Nitrogen and Total Phosphorus.</p>
13	Noise – management plan (NMP)	<p>The Operator include noise as part of their risk assessment in support of their application. The Operator has screened out noise emissions from the site in addition there has been no history of noise complaints from the site as such as noise management plan is not deemed necessary.</p>
14	Noise minimisation	<p>The production process is undertaken with the main building with only vehicle movements noted as being undertaken outside. The following measures are in place to prevent noise emissions.</p> <ul style="list-style-type: none"> • Planned Preventative Maintenance is schedule for all equipment on site • Bailing is only carried out between 06:00 – 18:00 and no bailing takes place outside of those hours • No HGV deliveries outside of 06:00 – 18:00 apart from 1 x LGV vehicle per night • HGV movement is limited to vehicles leaving site to take finished products and equates to 7 x HGVs per night shift • FLT movements at night at restricted as all materials are delivered to the factory in the hygiene cleaning window between 18:00 – 22:00 • Regular noise monitoring is carried out at the site boundary
15	Odour – management plan	<p>An Odour Management Plan has been submitted for assessment as part of the application. See above for further details.</p>

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.
The decision was taken in accordance with our guidance on confidentiality.

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

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

We consulted the following organisations:

- UK Health Security Agency (formally Public Health England)
- Department for Public Health
- Health & Safety Executive
- Environmental Health - South Holland District Council
- Sewage Authority – Anglian Water
- Food Standards Agency
- Fire & Rescue

The comments and our responses are summarised in the [consultation responses](#) section.

Operator

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 regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN2 'Defining the scope of the installation' and Appendix 1 of RGN 2 'Interpretation of Schedule 1'.

The site

The operator has provided a which we consider to be satisfactory. These show the extent of the site of the facility including the discharge points. 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.

A site condition report (SCR) was submitted with the application. The SCR states that all operational areas are surfaced with an impermeable hardstanding which provides an impervious barrier to potential contaminants to soil or groundwater. All production happens within the main process building. Chemicals, fuel (kerosene) and oils are all stored within bunded tanks. The Operator was unable to provide the details of the containment provisions for the tanks associated with the effluent treatment plant or the storage tanks associated with the processes on site. Improvement condition (IC4) has been added for the Operator to provide an assessment of the primary, secondary and tertiary containment on site with reference to CIRIA Containment systems for the prevention of pollution (C736).

Operational areas are connected to sealed drainage which channels effluent to the onsite effluent treatment plant prior to discharge to the River Holbeach (W1). Uncontaminated surface water from yard areas is discharged to the River Holbeach (W2) via a number of interceptors. Roof water is directed to the onsite lagoon which feeds the interceptor before discharged to the river (W2). The site doesn't lie within any source protection zones and is underlined by a non-aquifer and the groundwater vulnerability is considered unproductive.

No baseline samples have been taken. We therefore assume that the existing level of contamination at the site is zero and the operator will be responsible for any necessary remediation when the ground is surrendered.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances, we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England. The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The Operator's risk assessment for emissions to air is satisfactory. The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment all emissions to air may be screened out as environmentally insignificant, see key issues section above for further information.

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 NO_x (oxides of nitrogen) from the onsite boilers and combustion processes have been screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

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 and we approve this plan.

We have approved the odour management plan as we consider it to be appropriate measures based on information available to us at the current time. The applicant should not take our approval of this plan to mean that the measures in the plan are considered to cover every circumstance throughout the life of the permit.

The applicant should keep the plans under constant review and revise them annually or if necessary sooner if there have been complaints arising from operations on site or if circumstances change. This is in accordance with our guidance 'Control and monitor emissions for your environmental permit'.

The plan has been incorporated into the operating techniques S1.2.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme. We have included the following improvement conditions (IC):

IC1 – IC1 has been included for the Operator to provide appropriate monitoring data to demonstrate that the discharge is sufficiently stable to reduce the monitoring frequency to a minimum of monthly.

IC2 – IC2 has been included in the permit for the Operator to provide a report setting out progress to achieve the BAT-AELs (associated emission limits) in relation to BAT 12, for direct discharges to a receiving water body.

IC3 – IC3 has been included in the permit for the Operator to submit a written report for technical assessment detailing a survey of containment provision (primary, secondary and tertiary) for the effluent treatment plant and all associated tanks.

IC4 – IC4 has been included in the permit for the Operator to submit a written report for technical assessment detailing a survey of containment provision (primary, secondary and tertiary) for all of the bulk storage vessels on site.

IC5 – IC5 has been included for the Operator to provide a maintenance plan for the maintenance of the containment measures at the site.

Emission Limits

Emissions to air:

Emission Limit Values (ELVs) based on Best Available Techniques (BAT), as set out in the Medium Combustion Plant Directive, have been added for the following substances

- An ELV of 650 mg/m³ Oxides of nitrogen (NO and NO₂ expressed as NO₂) has been set for the boiler which is fired on kerosene.

This is in accordance with the medium Combustion Plant Directive for this type of plant.

Emissions to water:

Numerical limits have been added to the permit as per the Food, Drink and Milk Industries Bref. Note, the daily volume and ELV's for BOD and TSS along with pH have been retained from the previous discharge consent.

Parameter	Limit
Daily volume	1310m ³
Biology Oxygen Demand (BOD)	20mg/l

Chemical Oxygen Demand (COD)	100mg/l
Total suspended solids	50mg/l
Total Nitrogen (TKN)	20mg/l
Total Phosphorus	2mg/l
pH	6-8
Visible oil and grease	None visible

Monitoring

Emissions to air

We have decided that monitoring should be amended for the following parameters, using the methods detailed and to the frequencies specified:

- Oxides of nitrogen

These monitoring requirements have been included in order to ensure that the plant operates within the emission limits specified in the permit.

The Operator will carry out monitoring in accordance with the relevant methods specified in our guidance TGN M5.

We made these decisions in accordance with BAT for the sector MCP technical guidance.

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

Emissions to water

We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:

- Biology Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Total suspended solids
- Total Nitrogen (TKN)
- Total Phosphorus
- pH

These monitoring requirements have been included in order to ensure that the plant operates within the emission limits specified in the permit.

The Operator will carry out monitoring in accordance with the relevant methods specified in our guidance M18 – Monitoring of discharges to water and sewer.

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.

Reporting

Emissions to air

We have added reporting in the permit for the following parameters:

- Oxides of nitrogen

We have specified reporting in the permit. For the Medium Combustion Plant monitoring is required 3 months following permit issue then every 3 years in line with the Medium Combustion Plant directive.

Emissions to water

We have added reporting in the permit for the following parameters:

- Biology Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Total suspended solids
- Total Nitrogen (TKN)
- Total Phosphorus
- pH

Reporting for emissions to surface water are required every quarter.

Considerations of foul sewer

We agree with the operator's justification for not connecting to foul sewer. There has been a food production site at the location with a discharge of treated effluent to the River Holbeach since 1994. The site is located some 19.74km from the nearest sewer. As such we conclude that the site is in a location where it is not reasonable to connect to the foul sewer.

Management System

We are not aware of any 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.

We only review a summary of the management system during determination. The applicant submitted their full management system. We have therefore only reviewed the summary points.

A full review of the management system is undertaken during compliance checks.

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

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 Responses

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 UK Health Security Agency (formally known as Public Health England)

Brief summary of issues raised

Concerns raised by the UKHSA related to the potential risk of flour explosions and whether the site had suitable prevention measures and practices in place. In addition, comments were also made to the generation of dust from the reception of dry ingredients and whether a dust management plan should be required.

Summary of actions taken

The applicant has conducted a DSEAR risk assessment to assess the risk of explosions at the site, the report confirmed that there are no serious non-compliance issues at the site. The minor non-compliance issues identified were not in relation to the use of flour.

The operator has an updated risk assessment which covers the risk of dust from the site. In order to mitigate against dust emissions, the operator has a 'clean as you go' policy to prevent the build-up of dust. Flour is delivered to the site direct from the mill by tankers which load flour direct to silos via hoses, flour is then transported from the silos in covered conveyors and added to mixing bowls via an automatic depositing system. Dust monitoring is carried out annual at the site. Given the site is existing and there have been no recorded issues with dust we believe the site has adequate control measures in place. If a situation should arise the generic permit condition for emissions of substances not controlled by emission limits allows us to request a dust management plan.

Response received from Director of Public Health (Lincolnshire County Council)

Brief summary of issues raised:

Concerns raised regarding the potential for dust generation from the reception and the use of flour at the site. In addition, the potential risk of an explosion from the use of flour on site was raised along with whether the site had suitable prevention measures and practices in place.

Summary of actions taken

Refer to the response above.

Response received from Anglian Water (Sewage Authority)

Brief summary of issues raised: No concerns raised

Summary of actions taken: No further action required.

Response received from South Holland District Council (Environmental Health)

Brief summary of issues raised: No concerns raised

Summary of actions taken: No further action required.

No responses were received from the following organisations;

- Food Standards Agency,
- Health and Safety Executive
- Fire & Rescue Service.