

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Pontefract Confectionery Production operated by Dunhills (Pontefract) PLC.

The permit number is EPR/LP3232EG/A001

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:

- 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

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

Structure of this document

- Description of main features of the installation
- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Description of the main features of the Installation

Pontefract Confectionery Production is an installation located in Pontefract, West Yorkshire. The site is set in an urban area and is bound by public highways to all sides. The site undertakes the production of gelatine based confectionery. The site now requires a Part A environmental permit, following the 2013 update to the Environmental Permitting Regulations which implemented the Industrial Emissions Directive (IED). This redefined the thresholds for the food and drink sector based on the maximum production capacity of the installation:

Section 6.8 Part A (1) (d) (iii) (bb) - Treatment and processing, of 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

[300-(22.5 x A)] tonnes per day

where 'A' is the portion of animal material in percent of weight of the finished product production capacity and is less than 10%.

The factory has the capacity to produce 180 tonnes of finished product per day with approximately 6% animal material (gelatine) content.

The key stages of the process undertaken at the installation are receipt and storage of raw materials, preparation and processing of ingredients, chilling, and packaging. The fully prepared and packaged product is sent off site for storage and distribution.

Jelly confectionery is produced by mixing the glucose syrup, sugar dextrose and gelatine or starch. Colouring and flavouring is added to the mixture on the production line. The recipe mix is then poured into form trays which are made from corn starch moulds. The form trays are stored in ambient conditions or air conditioned rooms for a number of days to cure. Once cured the trays are fed back into the production machine which separates jellies from the starch. The jellies are either then coated with oil, wax, or a sugar and citric acid mix. Liquorice confectionery are produced by mixing sugar, glucose, gelatine, liquorice extract and molasses. Creams are made by mixing powdered sugar, vegetable fats, colours and flavours. Both pass through an extruder before passing through a cooling tunnel and then sliced. Products are packaged on site and sent for distribution by a third party.

The following directly associated activities are also undertaken on site:

- Combustion - Operation of a 7MWth natural gas fuelled boiler.
- Storage of materials - All raw materials are stored onsite, in conditions appropriate for the protection of the materials. Storage includes silos, heated tanks, refrigerated rooms, and ambient warehousing. The movement of raw materials and products throughout the factory is undertaken using sealed transmission lines and conveyors.
- Generation, storage and handling of waste – Waste generated on site primarily comprise process waste such as product unsuitable for human

consumption, process effluent and general waste such as cardboard and plastics. Solid waste is segregated and collected in wheelie bins before transfer to a compactor. All solid waste is then sent for recycling. All liquid waste from the production process flows to an effluent storage sump. The sump level is automatically controlled, and there are three pumps to ensure that the level of the sump is always kept below the overflow to the public sewer. Controls are in place to ensure action is taken to avoid the sump overflowing. The effluent from the sump is pumped to an external stainless steel storage vessel, which is fitted with level telemetry to allow for adequate time to schedule a collection of the effluent by a licenced external waste contractor. This method is in place as the Yorkshire Water waste water treatment works does not have the capacity to treat the process effluent from the site. All process effluent is, therefore, collected and removed from the site by road tanker for disposal. Cleaning – All production machines are cleaned daily (only if the machine has been used for production within the day). Cleaning chemicals for production plant is limited to a sodium hydroxide solution and mild detergent. The cleaning shift takes place every night between 10pm and 6am. Product planning is carried out during the day to minimise the need for cleaning production machinery outside this allocated time for cleaning. Sequential cleaning techniques are used to minimise the use of water and cleaning chemicals. Throughout the site there are trigger operated spray guns which are used in cleaning processes. There are also a number of hoses which do not have an automatic shut-off. Throughout the production spaces there is adequate provision of sweeping brushes and pans to allow for dry clean up.

- Storage and handling of chemicals - There are specific chemical stores for the storage of process cleaning chemicals, including sodium hydroxide, on site. The processes define the type and quantity of chemical to be used for the cleaning process. There is no use of sanitising agents at the site, and cleaning chemicals are not recovered from effluent.
- Starch conditioning plant –Enables the recycling of starch once the final product has been removed. The filtration process features bag filters, which are periodically cleared using air jets. The extraction system is ducted and finally emits to atmosphere via exhausts on the side of the building.
- Refrigeration - There is one small storage room which is chilled; this is used to store colours and flavours. Process cooling is carried out by the use of water and a single air conditioned cooling tunnel serviced by an air conditioning plant. There are 46 items of refrigerant plant (Air Handling Units (AHUs), Packaged Systems, Variable Refrigerant Flow Systems, Single and Multi-Split Systems) which contain a total of 120.2 kg of refrigerant. The refrigerants used at the Installation comprise R410a, R407c, R134a and R22. Inspections include a leak test, which are carried out in line with statutory requirements for leak testing.

There are no direct emissions to surface water or groundwater from the site. Surface water run-off from the site drains into two Yorkshire Water combined sewers at three locations, one serving the North of the site on Front Street and two to the South of the site at Watergate.

Point source emissions to air arise from the operation of a 7MWth natural gas fired boiler for the generation of steam, and the venting of steam and vapours from production processes and washing. Particulates also arise from the silos, starch conditioning plant, starch sieve, sanding and colour kitchen vents, together with dust extraction filters serving the starch conditioning plant and the sieving room.

The nearest residential receptors lie 55m north east of the site, with further residential areas located 150m to the south and 165m to the west. There are no SACs, SPAs or Ramsars within 10km of the installation boundary or any SSSI's within 2km.

Key issues of the decision

The application submission contains a number of supporting documents that describe the controls and operating techniques at the installation, having regard for Best Available Techniques (BAT) requirements, as specified in our guidance and to ensure compliance with the environmental permit conditions. These key controls and techniques are described in the following sections.

General Management

The installation has a bespoke Environment Management System (EMS) in place which is designed to ensure that environmental management is a high priority within the sites operations. The system appears to address the appropriate design, operation and maintenance of the process plant and includes details of staff training. It is also developed and implemented to manage accidents and abnormal operations. The requirement for an EMS is also maintained through the permit conditions and the operator is currently working towards achieving ISO14001 accreditation.

Odour

Odorous raw materials are consumed in the processes and the installation has the potential to cause odorous emissions through various stages of the process such as receipt of raw materials, processing and the production of waste. There are human receptors adjacent to the site in retail units. There are further retail units located within 30-150m on all sides. The nearest residential receptors lie 55m north east of the site.

The applicant employs a range of controls to reduce odorous emissions such as:

- Daily cleaning regimes to remove product not fit for sale from the production area.
- A centralised secure internal storage area for waste has four compactors within the waste storage area, each compactor is serviced, by waste contractors on a weekly basis totalling four collections per week.
- The provision of equipment for the cleaning of the gradual accumulation of waste in the waste management area (Waste does not accumulate in any area of the site, with waste collections undertaken on a frequent basis. However, the concrete hardstanding area where the waste compactors are stored does over time accumulate dust and residues across its surface. Housekeeping is undertaken on a regular basis to minimise this).
- Daily removal of process effluent from the site by road tankers.

The applicant also undertakes routine monitoring of odours at intervals representative to the risk of odour causing offensive being increased – such

as response to an emergency or after a complaint. Sniff testing is used for monitoring odours.

The operator is currently reviewing the site Odour Management Plan (OMP) as part of the ISO14001 accreditation. On that basis, an improvement condition has been added to the permit requesting the operator to submit this improved OMP for approval by the Environment Agency prior to implementation.

Noise and Vibration

The installation has the potential to cause noise emissions through various stages of the process such as through the production machinery and vehicle movements on site. The nearest residential receptors lie 55m north east of the site, with further residential areas located 150m to the south and 165m to the west.

The applicant employs a range of controls to reduce noise and vibration emissions such as:

- All production processes are undertaken within buildings providing significant noise attenuation such as:
 - Optical sorters operated within noise attenuation enclosures where required.
 - Enclosed sieve room
 - Compressors are enclosed
 - Enclosed tray washing plant
- All doors and openings to buildings are self-closing.
- Roller doors are alarmed if left open.
- The plant is well maintained to minimise noise from poor performance.
- Loading bays are located to the north of the site adjacent to the car park
- Raw materials are delivered in bulk to reduce the number of deliveries.

At this time we do not require a site specific Noise Management Plan (NMP), however the permit conditions enable the Environment Agency to require the operator to develop and implement an NMP if deemed necessary.

Fugitive emissions

The installation has the potential to release fugitive emissions in particular dust and particulate matter resulting from general space ventilation. The applicant has identified the sources of fugitive emissions and will ensure sufficient management and controls in place to minimise these:

- General ventilation distributes air to the sides of the building at levels which are likely to aid rapid dispersion to the atmosphere.

- Dust is removed from the production areas as part of the daily cleaning regime and through the use of 'clean as you go' dry cleaning processes.
- Production machines are fitted with extraction systems to limit the amount of dust extracted as part of general ventilation.
- High risk areas such as the sugar grinder are fitted with abatement systems prior to internal venting.
- Refrigerant leakage: Extract points providing general space ventilation and leaks on refrigerant plant. Refrigeration plant is periodically inspected and maintained. These inspections include a leak test, which are carried out in line with statutory requirements for leak testing.

There are two storage silos for the storage of sugar in granular form, and three internal storage tanks. Two of these are used for the storage of liquid glucose, with the remaining tank used for the storage of molasses. Both silos are only ever filled to a maximum of 90% of the total storage capacity and are fitted with ultra-high limit transponders which will automatically close the feed valve should the silo reach its storage capacity.

The liquid storage tanks for glucose and molasses are all fitted with level gauges which indicate the remaining capacity of the tanks. These tanks are managed by ordering raw materials dependent on the capacity available in the storage tanks.

Point source emissions

Emissions to air

Point source emissions to air arise from the operation of a 7MWth natural gas fired boiler for the generation of steam and the venting of steam and vapours from production processes and washing. Particulates also arise from the silo, starch conditioning plant, starch sieve, sanding and colour kitchen vents.

The sieving room is also fitted with an extraction system featuring bag filters and air jets which emits to atmosphere via a stack through the factory roof. The technical specifications for the filtration media indicate that the exhaust air from these processes will contain <math><10\text{mg/m}^3</math> of particulates.

Point source emissions from the boiler comprise of CO, CO₂, NO_x, and SO_x, which are released to atmosphere via a stack at approximately 25m above ground level. Filtration media is used to minimise particulate matter from this stack.

The boiler stack emissions are the main point source and have been evaluated using the H1 Annex F Methodology. The data input has been derived from the manufacturer's technical specification and demonstrated that at worst case:

For CO, CO₂ and SO_x:

Process contributions can be considered insignificant at screening step 1 as:

- the long term process contribution is <1% of the long term environmental standard;
- and
- the short term process contribution is <10% of the short term environmental standard

In terms of NO_x, the assessment at screening test 2 demonstrates that:

- Long term NO_x emissions are below 70% of the relevant EQS
- Whilst the short term NO_x concentrations are marginally above 20% of the relevant EQS this is based on a conservative estimate of the efficiency of the low NO_x burner fitted. (85mg/m³ used in the assessment whereas manufacturer specifications state a 45mg/m³ emission concentration).

On the basis of the above, and the fact that the rated thermal input of the combustion plant is less than 20MW, we are satisfied that the emissions are unlikely to have any significant environmental impact and no additional assessment is needed.

Emissions to sewer, surface water and groundwater

There are no direct emissions to surface water or groundwater from the site. Surface water run-off from the site drains into two Yorkshire Water combined sewers, serving the North of the site on Front Street and one to the South of the site at Watergate..

Resource efficiency and waste management

Raw materials

Raw material efficiency is controlled and is measured through the monitoring of production loss and waste. Efficiency is measured using tonne raw material/tonne of finished product. Water is considered a significant raw material.

Waste minimisation

Quantities of waste are monitored and recorded. Should a significant change in the effluent loadings be identified investigations are carried out to identify the cause of any such increase and remedial actions taken to minimise any continued increase in the loadings.

Waste handling

Waste is segregated and collected in bins before transfer to compactor. All waste is sent for recycling, including general waste which goes through an automated sorting and manual picking system. All staff receive basic information on waste management, followed by more department specific training as required.

Water usage

Water use is automated for feeding into the production process, other uses of water include for cleaning production machinery (this is manually controlled). The entire site is metered and records are maintained of water use.

The company has undertaken water efficiency audits as part of the Food and Drink Federation water saving campaign, and has been involved in the Manufacturing Advisory Services water project. In addition to these projects the company has employed engineers to specifically identify areas of significant water use and to evaluate opportunities for recycling and re-use of water.

Informed by these projects the company has implemented the following:

- Condensate from the use of steam is returned to the steam boiler and used as pre-heated feed water.
- Water used for cooling the vacuum chambers is either recirculated or is used as feed water to the heat exchangers and ultimately used in the product or as general hot water.
- Sequential reuse of water for the cleaning of vessels, supply lines, vacuum chambers, jelly dispensers and machine beds.

There is no onsite facility for the treatment of effluent to allow for its recycling in the production process.

Energy usage

The operator holds a Climate Change Agreement. Energy consumption is continually monitored and reviewed, enabling the operator to monitor performance and identify areas for improvement. The site is supplied with gas and electricity from the national grid.

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	<p>The consultation requirements were identified and implemented. The decision was taken in accordance with our Public Participation Statement and our Working Together Agreements.</p> <p>For this application we consulted the following bodies:</p> <ul style="list-style-type: none">• Wakefield Metropolitan District Environmental Protection• Health & Safety Executive• Public Health England and local Director of Public Health• Yorkshire Water	✓
Responses to consultation and web publicising.	<p>The web publicising and consultation responses (Annex 2) were taken into account in the decision.</p> <p>The decision was taken in accordance with our guidance.</p>	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
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.	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	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	<p>The operator has provided a description of the condition of the site.</p> <p>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).</p>	✓
Biodiversity, Heritage, Landscape and Nature Conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>Pontefract Country Park Local Nature Reserve and Orchard Head, Harewood Park Pontefract, Cobblers Lane and Pontefract Park North End Local Wildlife Sites are within 2 km of the installation.</p> <p>On that basis that the site has been in operation for many years without any reported impacts, and there are no changes to operations proposed as part of this permit application, we are satisfied that the installation will not have a significant adverse impact on the designated sites.</p> <p>We have not formally consulted on the application. This decision was taken in accordance with our guidance</p>	✓
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment all emissions may be categorised as environmentally insignificant. This is discussed in more detail in the Key Issues section of this document.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and Sector Guidance (TGN EPR 6.10).</p> <p>It has been demonstrated that the emissions from the installation (detailed in the Key Issues section of this document) are not significant. The Environment Agency agrees that the Applicants techniques are BAT for the installation.</p>	✓
The permit conditions		
Raw materials	We have not specified limits and controls on the use of raw materials and fuels.	✓
Improvement conditions	<p>Based on the information on the application, we consider that we need to impose improvement conditions.</p> <p>We have imposed improvement conditions to ensure that:</p> <ul style="list-style-type: none"> ➤ The appropriate measures are in place to prevent pollution from odour; the operator shall produce an Odour Management Plan in accordance with Environment Agency guidance, H4 Odour Management, having regard and addressing the shortfalls in question 6 of Schedule 5 dated 04/10/16. The Operator should submit it for review and agreement in writing. ➤ No unsuitable refrigerants are used on site; the operator is to assess refrigerants used and cease to use unacceptable refrigerants and review suitable substitute. The operator will then replace with an appropriate refrigerant or replace equipment ➤ To ensure adequate pollution prevention and controls are in place; the Operator shall review the measures in place to prevent spillage and loss of containment during the transfer of trade effluent from the holding tank to the road tanker. The operator shall submit a summary report setting out the improvements to be made, with timescales, to minimise the risks and demonstrate Best Available Technique for approval in writing by the Environment Agency. 	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Incorporating the application	<p>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.</p> <p>These descriptions are specified in the Operating Techniques table in the permit. Supporting documents include:</p> <ul style="list-style-type: none"> • Section 2: B3 of the application - Answers to Section 3 on application form Part B3 including references to the Food and Drink Sector Guidance EPR 6.10 and the Food, Drink and Milk Industries BREF. • Section 4: Process overview • Section 7: Environmental Risk Assessment • Section 9: Management System Summary • Section 11: Climate Change Agreement 	✓
Emission limits	<p>We have decided that emission limits should be set where appropriate in the permit.</p> <p>We have not set emission limits for the combustion plant as the combined plant is considered small and the emissions are likely to be insignificant.</p> <p>Sugar silo vent emissions are unlikely to be significant as dust filters are installed on all silo vents with performance spec $<1\text{mg/m}^3$. However it has not been demonstrated that vents in process areas will emit particulate matter in insignificant quantities and on that basis ELVs have been set for particulates on these emission points.</p> <p>These decisions were made in accordance with our guidance.</p>	✓
Monitoring	<p>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.</p> <p>These monitoring requirements have been imposed in order to ensure emissions do not exceed benchmark levels.</p> <p>We made these decisions in accordance with TGN EPR 6.10</p>	

Aspect considered	Justification / Detail	Criteria met
		Yes
	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	<p>We have specified reporting in the permit.</p> <p>The reporting requirements are in regard to emissions, annual production and performance parameters.</p> <p>We made these decisions in accordance with TGN EPR 6.10</p>	✓
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 our guidance on what a competent operator is.	✓
Relevant convictions	<p>The Case Management System and National Enforcement Database has/have been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found.</p>	✓
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 our guidance on what a competent operator is.	✓

Annex 2: External Consultation and web publicising 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
Wakefield Council Environmental Health Services
Brief summary of issues raised
Not aware of any particular environmental or nuisance issues associated with this installation, and would not be seeking any additional controls on emissions of dust, noise or odour over and above BAT for the installation.
Summary of actions taken or show how this has been covered
The above areas have been address in the key issue section.

No responses were received from the following:

Health & Safety Executive

Public Health England

Yorkshire Water