

## **Environment Agency permitting decisions**

### **Variation**

We have decided to issue the variation for McVitie's (previously known as Manchester Chocolate Refinery) operated by United Biscuits (UK) Limited.

The variation number is EPR/TP3438PA/V003

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

### **Description of the changes introduced by the Variation**

This is a Substantial Variation.

The installation is located in the Levenshulme area of Manchester and has been operating as a biscuit factory for over 100 years. It includes a chocolate refinery, which is currently permitted as a Section 6.8 Part A(1)(e) activity for the treating and processing of milk, with a Section 5.4 Part A(1)(a)(ii) listed activity for effluent treatment and disposal. The operator now requires a variation to their environmental permit to include the manufacture of biscuits and cakes because of the 2013 update to the Environmental Permitting Regulations, which implemented the Industrial Emissions Directive and extended the scope of installation activities to include a new food & drink activity:

#### **Section 6.8 Part A(1)(d)(iii)(bb)**

The 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  $300 \cdot (22.5 \times A)$ , where 'A' is the proportion of animal material in percent of weight of the finished product production capacity.

The operations undertaken within the biscuit factory include the receipt and storage of ingredients, weighing, mixing, machining, baking in ovens and cooling, followed by secondary processes such as the addition of jam, cream or chocolate. The products are then packaged and distributed. The operations undertaken in the chocolate refinery include the receipt and storage of ingredients, mixing, refining, agitation and storage prior to distribution or use in the biscuit factory.

Emissions to air will result from combustion activities on-site, comprising the operation of baking ovens, steam boilers, a combined heat and power plant and processing plant. There are no point source emissions to water, with all process effluent and site drainage being discharged to the public sewer for treatment at Stockport Wastewater Treatment Works. There is an on-site effluent treatment plant to provide pre-treatment to the process effluent prior to disposal to sewer.

The site is committed to waste minimisation and has not sent anything to landfill for the past three years. The site is also committed to a reduction in energy consumption.

## **Purpose of this document**

This decision document:

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

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

## **Structure of this document**

- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

## Key issues of the decision

The application contains a number of supporting documents that describe the operating techniques at the installation, referencing the best available technique (BAT) requirements in:

- How to comply with your environmental permit (Version 6, June 2013)
- How to comply with your environmental permit - Additional guidance for: The Food and Drink Sector (EPR 6.10) (March 2009)
- Integrated Pollution Prevention and Control Reference Document on Best Available Techniques in the Food, Drink and Milk Industries (August 2006)

The application provides information on how the installation meets the requirements or proposes improvements where necessary. This is explored in the following sections.

### Management

The site operates an Environmental Management System (EMS) certified to ISO 14001:2004, which was audited and re-certified in November 2014. This includes sections on environmental objectives, targets & requirements, training, control of spillages, monitoring, management of environmental non-conformances and records maintenance. The site adheres to procedures for the monitoring and measuring of key environmental aspects associated with the facility's operations. Key Performance Indicators (KPIs) are used for waste statistics, water, gas & energy use, CO<sub>2</sub> emissions, production efficiency and environmental compliance. Planned Preventative Maintenance (PPM) is carried out on-site and is controlled via a software programme that automatically raises work orders for relevant PPM tasks. There is also provision for any reactive maintenance necessary.

### Odour

The installation has been a food manufacturing site for over 100 years. Housing was developed in the vicinity around the same time. The frequency, intensity and duration of the odour generated by the facility are well known and recognised by the operator and the local community. The odour is classified at the top of the pleasant scale according to its hedonic score. The operator maintains a record of all complaints – none have been received regarding odour. The operator has carried out annual odour monitoring over the last 5 years, during which no adverse odours have been identified.

The application contains information on the control measures that the site employs: containment and minimising storage of wastes; high standards of housekeeping; filters on local exhaust ventilation systems; dewatering of sludge to prevent odorous emissions from evaporation; activities/storage takes place inside buildings; effluent treatment tanks are sealed or located within containers; elevated flues promote dispersion; complaints procedure and community involvement.

Although there is only a low risk that odorous emissions will cause pollution beyond the site boundary, the operator has developed an Odour Management

Plan, as these are usually a requirement for the Food & Drink sector. This is included in the application and will be referenced from the variation. However, we are not satisfied that the OMP fully addresses the following:

- An inventory of odorous materials, including quantities and length of time held on site prior to use or removal.
- Identification of the nearest receptors including a map and any supplementary information such as a wind rose.
- Demonstration that management procedures are in place to: prevent material from becoming odorous on site; contain and abate any odours; and prevent the release off site. This should include any process controls and monitoring.
- A description of the measures in place to improve the dispersion of odorous releases and minimise pollution at receptors.
- Contingency plans for incidents or emergencies.
- Details of the procedures and frequency of monitoring surveys and community engagement.

Aspects of these topics have been considered in the odour section of the application but are not incorporated in the OMP. As such, an improvement condition will be included for the operator to update their OMP with these matters and with regard to our H4 guidance so that it reads as a definitive operating procedure of how the installation will be run to minimise odour.

#### Noise

As with odour, the local community are familiar with noise from the installation. The applicant carries out annual noise surveys (method not stated) to measure spot noise levels at sensitive receptors around the site. These have found the noise levels to be consistent over the last 5 years but the applicant acknowledges that they are not representative of the noise impact from the installation alone, as they contain background noise levels.

The most recent noise complaint was in November 2013 regarding a delivery driver banging on the side of the tanker during unloading. This was addressed through refresher training and feedback was provided to the complainant. The application contains information on the control measures that the site employs: selection of low noise/vibration appliances; speed limits on vehicle movements; instructions to turn off engines; delivery vehicles must have low noise blowers or silencers; planned preventative maintenance; majority of the activities take place inside buildings; external processes provided with enclosures where feasible; retrofitting of noise abatement equipment; management controls on timing of noisy operations; complaints procedure and community involvement.

As discussed, there is some uncertainty regarding the impact from the noise sources actually at the installation. As such, the variation will include an improvement condition for the operator to carry out a noise survey and submit a report of the findings. A further improvement condition will require them to build on this work and develop a noise management plan.

### Monitoring

There is no stack monitoring for point source emissions to air. There are a number of combustion activities (ovens, boilers and a combined heat & power (CHP) plant), which total 30.7MW with no individual appliances exceeding 3MW. The burners in the ovens are low NO<sub>x</sub> burners and a new burner in Boiler 1 has been installed to achieve low NO<sub>x</sub> emissions. The CHP plant will achieve NO<sub>x</sub> emissions of <250 mg/m<sup>3</sup>. We are satisfied that the impacts from the combustion sources are not likely to cause pollution. The emissions will already be included in the estimated background air pollution maps<sup>1</sup>, which show an annual mean NO<sub>2</sub> concentration of 28.05 µg/m<sup>3</sup> at this location. This is within the statutory air quality limit of 40 µg/m<sup>3</sup> as an annual mean. However, in order for the operator to complete the environmental risk assessment for emissions to air, the permit will include an improvement condition to undertake stack emissions monitoring. This is important, as sections of nearby roads are part of the Greater Manchester designation as an Air Quality Management Area (AQMA) for NO<sub>2</sub>.

The current permit requires the operator to report on the effluent treatment plant discharge to sewer for chemical oxygen demand (monthly), suspended solids (monthly) and flow rate (continuously). United Utilities undertake tests at least once per month and provide the site with the sample analysis reports. The operator should consider undertaking their own monitoring of the effluent and various process effluents for variations in composition to understand the wastewater loadings, ensure effective operation of the effluent treatment plant and promote resource efficiency. This will be addressed with an improvement condition. We have removed suspended solids as a parameter in Table S3.2 because we do not have environmental concerns about this being discharged to sewer and we will use flow (volume) and COD (load) as performance indicators to assess resource efficiency.

### Energy Efficiency

The operator measures and records energy consumption on a daily basis and it is reviewed weekly against the budget and production plans. There are also energy data-loggers which can be fitted to assess the usage of individual items of equipment.

Natural gas is used as the fuel for combustion in boilers, baking ovens, the CHP plant and heating appliances. The combustion efficiency is monitored and PPM is carried out on all energy consuming plant. There are physical measures in place to insulate all heated pipework and tanks, return condensate for boiler feed, economisers on boiler flues to allow recovery of heat, seals on ovens to prevent heat loss and separation of areas requiring heating/cooling. The CHP plant is due for replacement and will provide heat and power for the site. The applicant will provide a report to confirm that this has been successfully commissioned and is operating in line with BAT.

There is currently some heat recovery undertaken on site and some other improvements have been implemented to improve efficiency, which the

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<sup>1</sup> <http://uk-air.defra.gov.uk/data/laqm-background-home>

operator commits to investigating further as part of an updated energy efficiency plan. This requirement will be included as an improvement condition in the variation.

### Water Use

The site has implemented a range of measures for the minimisation, re-use and recycling of water. This includes: dry cleaning; trigger mechanisms and high-pressure/low-volume nozzles on hoses; monitoring to ensure blow down on boilers/cooling towers only when necessary; upgrade of steam traps to minimise steam losses; condensate return systems on steam boilers; production planning to minimise the need for clean downs between different product batch runs and re-circulation of water in cooling towers, belt-wash unit and tray wash. There is limited sub-metering of water consumption and no discussion of the re-use of treated effluent. The need to consider these options will be included as an improvement condition in the variation.

### Wastewater management

Dry cleaning is used preferentially on-site, with measures to ensure efficient cleaning and minimisation of the volume of wastewater sent to the effluent treatment plant. The site has grease traps and gratings to prevent sewer blockages. The operator has reviewed the chemical properties of their cleaning chemicals and confirmed that none contain Priority Substances and Certain Other Pollutants and they have minimised their use of EDTA. We are satisfied that the disposal to sewer following pre-treatment on-site is BAT for this installation. However, it is unlikely that the effluent treatment plant meets the BAT requirement for preventing accidental discharges from overloading or damaging the effluent treatment plant and the operator will be required to review this through an improvement condition.

### Waste

The site is committed to waste minimisation and achieved 'zero waste to landfill' from 2012. The site has a 'Lean Manufacturing' approach to minimise waste and continually improve production yields and efficiencies. Control of production losses are a key part of this approach. The operator re-uses materials to minimise waste. Dough cuttings are recycled back into the mix and biscuits can be ground and reworked back into the ingredient mixing stage. Any food waste from the site is sold to a contractor for incorporation into animal feed. This made up 74% of the waste stream in 2014. Wooden pallets, drums and empty intermediate bulk containers (IBCs) are sent for re-use off-site and a number of other wastes are recycled. Having followed the waste hierarchy, any other wastes that can't be prevented, re-used or recycled are sent for incineration with energy recovery.

Waste is stored so as to minimise pollution, with all external waste storage being on concrete hardstanding and some under canopies.

The variation will include an improvement condition for the operator to undertake a waste minimisation audit including a review of the disposal method for effluent sludge.

### Storage and containment

Storage arrangements are designed to provide containment should leakage occur, with automated and manual checks to monitor storage levels. Automated controls on bulk liquid storage tanks include high level alarms, auto-transfer systems to alternative tanks and automated shut-off valves. Dry bulk storage silos are also provided with high level alarms, which automatically shut off the transfer of material from a tanker if the alarm is triggered during delivery. An online system calls for ingredients from bulk storage and is able to identify the increase in the receiving bin when calling from bulk. This allows self-monitoring of transfer efficiency and identification of potential issues in transfer systems.

The application includes an inventory of all storage vessels and the secondary containment and surfacing at each. In addition, tertiary containment is provided by four 'envirovalve' emergency shut off valves across the installation, which can be used to stop releases to the sewer. However, there are some instances of the bund capacity or integrity being unproven, so the variation will contain an improvement condition requiring the operator to review all secondary containment, including the decommissioning of the vehicle refuelling diesel tank.

## 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
<b>Receipt of submission</b>		
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.	✓
<b>Consultation</b>		
Scope of consultation	<p>The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.</p> <p>For this application we consulted the following bodies:</p> <ul style="list-style-type: none"> <li>• Manchester City Council (Environmental Protection and Planning departments)</li> <li>• Health and Safety Executive</li> <li>• United Utilities PLC</li> </ul>	✓
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>	✓
<b>European Directives</b>		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
<b>The site</b>		
Extent of the site of the facility	<p>The operator has provided a plan which we consider is satisfactory, showing the extent of the installation including emission points.</p> <p>A plan is included in the permit and the operator is required to carry on the permitted activities within the installation boundary.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Site condition report	<p>The operator has provided a description of the condition of the site. 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> <p>The operator has collected baseline information for the ground immediately beneath the site. However, information regarding the baseline condition of the underlying Principal Aquifer is missing. The operator may require this information to prove, at permit surrender, that the aquifer is not impacted. If they have no baseline data this could be problematic for them. However, if the applicant considers that the risk to the Principal Aquifer is manageable and tolerable then they may chose not to include deeper intrusive monitoring points.</p> <p>We informed the applicant of these implications. They responded with justification for their method and concluded that <i>‘the presence of up to 8m of generally cohesive [clay] materials (and the lack of significant soil and groundwater contamination encountered) provides comfort that the site is not currently causing contamination of the sensitive receptor. Should any evidence of aquifer contamination be proposed in the future, then further assessment may need to be completed, but this is not considered necessary at this time.’</i> We are satisfied with this response.</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. There are no SSSIs within 2km of the installation but Rochdale Canal SAC is within 10km.</p> <p>An assessment of the application and its potential to affect the SAC has been carried out as part of the permitting process. We consider that the application will not affect the features of the site.</p> <p>For releases to air, even when aggregated, the combustion processes at the installation are less than 50MW in total, so are not considered to be relevant using our guidance on screening distances for combustion activities. For processes of 20 – 50MW, we only consider European sites within 2km. Rochdale Canal SAC is 8km from the installation so is not relevant to the assessment.</p>	✓

Aspect considered	Justification / Detail	Criteria met Yes
	<p>The release to foul sewer is not considered 'relevant' under this assessment. These releases are considered when the discharge from the sewage treatment works itself is assessed.</p> <p>We have not formally consulted on the application with regards to habitats sites. The decision was taken in accordance with our guidance.</p>	
<b>Environmental Risk Assessment and operating techniques</b>		
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 unsatisfactory and requires additional assessment to make up the shortfall. There is no stack monitoring for point source emissions to air. The operator will address this through an improvement condition requiring them to carry out a programme of monitoring and complete the H1 risk assessment. This is also the case for Noise. We are satisfied that the impacts are not likely to cause significant pollution in the meantime. (See Key Issues for further detail.)</p> <p>Otherwise, we are satisfied that applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.</p>	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes:</p> <ul style="list-style-type: none"> <li>• How to comply with your environmental permit (Version 6, June 2013)</li> <li>• How to comply with your environmental permit - Additional guidance for: The Food and Drink Sector (EPR 6.10) (March 2009)</li> <li>• Integrated Pollution Prevention and Control Reference Document on Best Available Techniques in the Food, Drink and Milk Industries (August 2006)</li> </ul> <p>The application provides information on how the installation meets the requirements or proposes improvements where necessary. This is explored in the Key Issues section.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>We have assessed the applicant's Odour Management Plan and we approve the OMP in as far as it goes but set out in the Key Issues section the ways in which we consider it to be deficient and, in particular, which additional appropriate measures the operator needs to take.</p> <p>Emissions have been previously screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation.</p> <p>We consider that the proposed techniques included in the installation permit reflect the BAT for the sector. Where these depart from the guidance we have considered the operators proposed improvements and imposed conditions to ensure that the operator addresses all requirements. (See Improvement conditions.)</p>	
<b>The permit conditions</b>		
Updating permit conditions during consolidation.	<p>We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permit(s).</p> <p>The operator has agreed that the new conditions are acceptable.</p>	✓
Use of conditions other than those from the template	Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template, which was developed in consultation with industry having regard to the relevant legislation.	✓
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"> <li>➤ the appropriate containment and surfacing measures are in place to prevent fugitive emissions.</li> <li>➤ the appropriate measures are in place to prevent pollution from odour.</li> <li>➤ the appropriate measures are in place to prevent pollution from noise and vibration.</li> </ul>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<ul style="list-style-type: none"> <li>➤ the operator has the information necessary to complete an assessment of point source emissions to air the impacts.</li> <li>➤ appropriate measures are in place to prevent accidental discharges from overloading or damaging the effluent treatment plant.</li> <li>➤ appropriate measures are in place to ensure that energy is used efficiently.</li> <li>➤ appropriate measures are in place to ensure the efficient use of water.</li> <li>➤ appropriate measures are in place such that waste production will be avoided as far as possible, and where waste cannot be recovered it will be disposed of using a disposal method that avoids or reduces any impact on the environment.</li> </ul> <p>See Key Issues for further discussion.</p>	
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.</p>	✓
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 (other than the removal of the suspended solids parameter from Table S3.2). It now includes any contributions from the cake/biscuit factory in addition to the chocolate refinery.	✓
Reporting	Reporting has not changed as a result of this variation (other than the removal of the suspended solids parameter from Table S3.2). It now includes any contributions from the cake/biscuit factory in addition to the chocolate refinery.	✓
<b>Operator Competence</b>		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Relevant convictions	<p>The National Enforcement Database has been checked to ensure that all relevant convictions have been declared.</p> <p>Relevant convictions were found and declared in the application. We considered relevant convictions as part of the determination process. These relevant convictions were spent after one year and these sites are no longer operated by the company. We concluded that the operator satisfies the criteria in RGN 5 on Operator Competence.</p>	✓
Financial provision	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.</p>	✓

## Annex 2: 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. (Newspaper advertising is only carried out for certain application types, in line with our guidance.)

Response received from
United Utilities
Brief summary of issues raised
No objection and confirm that discharge is covered by a trade effluent consent. Wish to remind the operator of the importance of complying with those conditions. Assert that the site should obtain continuous flow proportional samples and recommend consider for inclusion in the EPR permit.
Summary of actions taken or show how this has been covered
We have shared the response from UU with the operator as part of our query regarding their monitoring methods for the discharge to sewer. The operator is discussing improvements with UU, which are outside of the remit of the EPR permit.

No responses have been received from:

- Manchester City Council (Environmental Protection and Planning departments)
- Health and Safety Executive