

# **Review of an Environmental Permit for an Installation subject to Chapter II of the Industrial Emissions Directive under the Environmental Permitting (England & Wales) Regulations 2016 (as amended)**

## **Decision document recording our decision-making process following review of a permit**

The Permit number is:                   EPR/BM9998IT  
The Operator is:                         AAK (UK) Limited  
The Installation is:                     Hull Vegetable Oil Plant  
This Variation Notice number is:   EPR/BM9998IT/V004

### **What this document is about**

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication by the European Commission of updated decisions on best available techniques (BAT) Conclusions.

We have reviewed the permit for this installation against the BAT Conclusions for the Food, Drink and Milk Industries published on 4<sup>th</sup> December 2019 in the Official Journal of the European Union. In this decision document, we set out the reasoning for the consolidated variation notice that we have issued.

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

The introduction of new template conditions makes the Permit consistent with our current general approach and with other permits issued to Installations in this sector. Although the wording of some conditions has changed, while others have been deleted because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the Permit in any way. In this document, we therefore address only our determination of substantive issues relating to the new BAT Conclusions.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future.

## **How this document is structured**

1. Our decision
2. How we reached our decision
3. The legal framework
4. Annex 1 – Review of operating techniques within the Installation against BAT Conclusions.
5. Annex 2 – Review and assessment of changes that are not part of the BAT Conclusions derived permit review
6. Annex 3 – Improvement Conditions

# 1 Our decision

We have decided to issue the Variation Notice to the Operator. This will allow the Operator to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice that updates the whole permit.

We consider that, in reaching our decision, we have taken into account all relevant considerations and legal requirements and that the varied permit will ensure that a high level of protection is provided for the environment and human health.

The Consolidated Variation Notice contains many conditions taken from our standard Environmental Permit template including the relevant annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we have considered the techniques identified by the operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate. This document does, however, provide an explanation of our use of “tailor-made” or installation-specific conditions, or where our Permit template provides two or more options.

## 2 How we reached our decision

### 2.1 Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 08/06/2022 requiring the Operator to provide information to demonstrate where the operation of their installation currently meets, or how it will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Notice required that where the revised standards are not currently met, the operator should provide information that:

- describes the techniques that will be implemented before 4 December 2023, which will then ensure that operations meet the revised standards, or
- justifies why standards will not be met by 4 December 2023, and confirmation of the date when the operation of those processes will cease within the Installation or an explanation of why the revised BAT standards are not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised BAT standards described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT-AEL) described in the BAT Conclusions Document, the Regulation 61 Notice required that the Operator make a formal request for derogation from compliance with that BAT-AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The Regulation 61 Notice response from the Operator was received on 31/10/2022.

We considered it was in the correct form and contained sufficient information for us to begin our determination of the permit review but not that it necessarily contained all the information we would need to complete that determination.

The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61 Notice response that appears to be confidential in relation to any party.

## 2.2 Review of our own information in respect to the capability of the Installation to meet revised standards included in the BAT Conclusions document

Based on our records and previous experience in the regulation of the installation we consider that the Operator will be able to comply with the techniques and standards described in the BAT Conclusions other than for those techniques and requirements described in BAT Conclusion BATc 9. The operator does not currently comply with the requirements of BATc 9. In relation to this BAT Conclusion, the operator has committed compliance by 4 December 2023. We have therefore included Improvement Condition IC 10 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered before 4 December 2023.

## 2.3 Requests for further information during determination

Although we were able to consider the Regulation 61 Notice response generally satisfactory at receipt, we did in fact need more information in order to complete our permit review assessment, and issued a further information request on 04/08/2023. The request for further information required further information and clarification on the following; BATc 1-3, 5-11, 14 and 30, Energy EPL, relative hazardous substances used on site and onsite containment provisions. A copy of the further information request was placed on our public register.

# **3 The legal framework**

The Consolidated Variation Notice will be issued under Regulations 18 and 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Consolidated Variation Notice, it will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

## Annex 1: decision checklist regarding relevant BAT Conclusions

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.

BAT 16 – 37 are sector-specific BAT Conclusions, including Best Available Techniques Associated Emissions Levels (BAT-AELs) and Associated Environmental Performance Levels (BAT-AEPLs):

BAT 16 & 17	BAT Conclusions for Animal Feed
BAT 18 – 20	BAT Conclusions for Brewing
BAT 21 – 23	BAT Conclusions for Dairies
BAT 24	BAT Conclusions for Ethanol Production
BAT 25 & 26	BAT Conclusions for Fish and Shellfish Processing
BAT 27	BAT Conclusions for Fruit and Vegetable Processing
BAT 28	BAT Conclusions for Grain Milling
BAT 29	BAT Conclusions for Meat Processing
BAT 30 – 32	BAT Conclusions for Oilseed Processing and Vegetable Oil Refining
BAT 33	BAT Conclusions for Soft Drinks and Nectar/Fruit Juice Processed from Fruit and Vegetables
BAT 34	BAT Conclusions for Starch Production
BAT 35 – 37	BAT Conclusions for Sugar Manufacturing

This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the Consolidated Variation Notice.

The overall status of compliance with the BAT conclusion is indicated in the table as:

**NA – Not Applicable**

**CC – Currently Compliant**

**FC – Compliant in the future (within 4 years of publication of BAT Conclusions)**

**NC – Not Compliant**

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
<b>GENERAL BAT CONCLUSIONS (BAT 1-15)</b>			
1	<p><b>Environmental Management System - Improve overall environmental performance.</b></p> <p>Implement an EMS that incorporates all the features as described within BATc 1.</p>	<b>CC</b>	<p>The operator has provided information to support compliance with BATc 1. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 1.</p> <p>The operator has an EMS externally accredited to the ISO14001 standard.</p>
2	<p><b>EMS Inventory of inputs &amp; outputs. Increase resource efficiency and reduce emissions.</b></p> <p>Establish, maintain and regularly review (including when a significant change occurs) an inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the features as detailed within the BATCs.</p>	<b>CC</b>	<p>The operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 2.</p> <p>The Operator demonstrated that the site has:</p> <ul style="list-style-type: none"> <li>• A simplified high level process diagrams showing the flow of materials and wastes.</li> <li>• Description of processes and techniques that identify emissions points</li> <li>• Monitoring of water inputs from the towns water supply to use throughout the process to discharge of final effluent.</li> <li>• Monitoring in place of the process effluent prior to discharge to the sewer.</li> <li>• Identified waste gas streams and there characteristics</li> <li>• Information regarding energy consumption, resource used, and waste generation</li> <li>• Monitoring of inputs and outputs based on company's agreed KPIs and environmental targets</li> </ul>
3	<p><b>Monitoring key process parameters at key locations for emissions to water.</b></p> <p>For relevant emissions to water as identified by the inventory of waste water streams (see BAT 2), BAT is to monitor key process parameters (e.g. continuous monitoring of waste water flow, pH and temperature) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).</p>	<b>CC</b>	<p>The operator has provided information to support compliance with BATc 3. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 3.</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			<p>Process effluent is directed to settlement tanks prior to discharge to the foul sewer under a trade effluent consent. The effluent is monitored to ensure the effluent is within the limits as set out in the trade effluent consent. Monitoring includes pH, flow and turbidity.</p> <p>Cooling water is discharged to the King George Dock, the cooling water is continuously monitored via an electromagnetic flow sensor.</p>
4	<p><b>Monitoring emissions to water to the required frequencies and standards.</b>            BAT is to monitor emissions to water with at least the frequency given [refer to BAT 4 table in BATc] and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</p>	NA	<p>We are satisfied that BATc 4 is not applicable to this Installation.</p> <p>BATc 4 is only relevant for direct discharges to surface water. There are no direct discharges of effluent to surface water. this installation does not have such discharges. Trade effluent is treated on-site prior to discharge to the foul sewer. The only emission to water is uncontaminated surface run-off and cooling water</p>
5	<p><b>Monitoring channelled emissions to air to the required frequencies and standards.</b>            BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.</p>	NA	<p>We are satisfied that BATc 5 is not applicable to this Installation.</p> <p>There are no channelled emissions associated with the processes undertaken at the site. Site specific processes related to BATc 5 for the oil processing sector 'handling and preparation of seeds, drying and cooling of meal' do not apply as the site undertakes further refining of oil and crude oil which is brought on to site in liquid form.</p>
6	<p><b>Energy Efficiency</b>            In order to increase energy efficiency, BAT is to use an energy efficiency plan (BAT 6a) and an appropriate combination of the common techniques listed in technique 6b within the table in the BATc.</p>	CC	<p>The operator has provided information to support compliance with BATc 6. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 6.</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			<p>The site has a standard for the mapping energy use across the site and has identified opportunities for energy savings.</p> <p>In addition the site uses the following techniques to increase energy efficiency</p> <ul style="list-style-type: none"> <li>• Burner regulation and control</li> <li>• Energy-efficient motors</li> <li>• Heat recovery with heat exchangers</li> <li>• Lighting</li> <li>• Minimising blowdown from the boilers</li> <li>• Optimising steam distribution systems</li> <li>• Preheating feed water</li> <li>• Process control systems</li> <li>• Reducing compressed air system leaks</li> <li>• Reducing heat losses by insulation</li> <li>• Variable speed drives</li> </ul>
7	<p><b>Water and wastewater minimisation</b></p> <p>In order to reduce water consumption and the volume of waste water discharged, BAT is to use BAT 7a and one or a combination of the techniques b to k given below.</p> <p>(a) water recycling and/or reuse</p> <p>(b) Optimisation of water flow</p> <p>(c) Optimisation of water nozzles and hoses</p> <p>(d) Segregation of water streams</p> <p>Techniques related to cleaning operations:</p> <p>(e) Dry cleaning</p> <p>(f) Pigging system for pipes</p> <p>(g) High-pressure cleaning</p> <p>(h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP)</p> <p>(i) Low-pressure foam and/or gel cleaning</p> <p>(j) Optimised design and construction of equipment and process areas</p> <p>(k) Cleaning of equipment as soon as possible</p> <p>For detail of each technique, refer BAT 7 table in BATc.</p>	CC	<p>The operator has provided information to support compliance with BATc 7. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 7.</p> <p>The on-site processes require a high volume of water, the site has set a target of reducing their water usage by 50% by 2030 when compared to 2020. The site uses Reverse Osmosis, to reuse water on site. RO retentate is recycled for reprocessing, 'waste' RO steam is used as wash water, furthermore treated water is reused as feed water for the boilers onsite.</p> <p>In addition the site uses the following techniques to reduce water usage on site;</p> <ul style="list-style-type: none"> <li>• Optimisation of water flow</li> <li>• Optimisation of water nozzles and hoses</li> <li>• Segregation of water streams</li> <li>• Dry cleaning</li> <li>• Pigging systems for pipes</li> </ul>



BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			<ul style="list-style-type: none"> <li>• High pressure cleaning</li> <li>• Optimisation of chemical dosing and water use in cleaning-in-place (CIP)</li> <li>• Optimised site design</li> </ul>
8	<p><b>Prevent or reduce the use of harmful substances</b></p> <p>In order to prevent or reduce the use of harmful substances, e.g. in cleaning and disinfection, BAT is to use one or a combination of the techniques given below.</p> <p>(a) Proper selection of cleaning chemicals and/or disinfectants</p> <p>(b) Reuse of cleaning chemicals in cleaning-in-place (CIP)</p> <p>(c) Dry cleaning</p> <p>(d) Optimised design and construction of equipment and process areas</p> <p>For detail of each technique, refer BAT 8 table in BATc.</p>	<b>CC</b>	<p>The operator has provided information to support compliance with BATc 8. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 8.</p> <p>The Operator has a food safety and quality system procedure in place to ensure Quality, Food Safety, Safety, Health and Environment are considered as well as compatibility, demonstrating compliance with BATc 8a. In addition the Operator undertakes dry cleaning where appropriate and the optimises the design of the equipment and process areas.</p>
9	<p><b>Refrigerants</b></p> <p>In order to prevent emissions of ozone-depleting substances and of substances with a high global warming potential from cooling and freezing, BAT is to use refrigerants without ozone depletion potential and with a low global warming potential.</p>	<b>FC</b>	<p>The operator has provided information to support part compliance with BATc 9. We have assessed the information provided and we are not fully satisfied that the operator has demonstrated compliance with BATc 9.</p> <p>Whilst the main/largest cooling systems at the site use ammonia as a cooling media a number of the other systems use refrigerants with a higher global warming potential (GWP), mainly R404A. We have requested that the site provide a replacement plan for the refrigerant systems at the installation</p> <p>We consider that the operator will be future compliant with BATc 9. Improvement condition (IC10) has been included in the permit to achieve compliance (see Annex 3).</p>
10	<p><b>Resource efficiency</b></p> <p>In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below:</p> <p>(a) Anaerobic digestion</p>	<b>CC</b>	<p>The operator has provided information to support compliance with BATc 10. We have assessed the information provided and we are satisfied that the</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	(b) Use of residues (c) Separation of residues (d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading		<p>operator has demonstrated compliance with BATc 10.</p> <p>The Operator uses appropriate methods to ensure resource efficiency across the site, these include the separation of residues for reprocessing. In addition the Operator has an onsite facility that looks to rework out of specification products that would otherwise be disposed of. This allows waste streams to be split and ensure the most appropriate waste streams are selected. Allowing waste stock oil to be redistributed as feed material for the bio-processing industry (animal feed, biofuel etc)</p>
11	<p><b>Waste water buffer storage</b>            In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.</p>	CC	<p>The operator has provided information to support compliance with BATc 11. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 11.</p> <p>The site has buffer storage in the form of the effluent pits on site, Pit 1 has emergency capacity of 53m<sup>3</sup>, pits 2 &amp; 3 each have an operational capacity of 64.5m<sup>3</sup> and can be isolated individually. To prevent uncontrolled releases off site, the site drains are split into foul, process and surface water. Surface water drains are not present within processing areas and are restricted to road and walkways. Process drains enter the effluent handling pits via an interceptor, treated and then discharged under agreement to Yorkshire Water. Foul drainage is discharged directly via an enclosed sewerage system. All tanks and vessels are monitored by the site SCADA system with level transmitters which would indicate of any unexpected loss of level, alerting the operations team within the control rooms.</p>
12	<p><b>Emissions to water – treatment</b></p>	CC	<p>The operator has provided information to support compliance with BATc 12. We have assessed the</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement										
	<p>In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below.</p> <p>Preliminary, primary and general treatment</p> <p>(a) Equalisation</p> <p>(b) Neutralisation</p> <p>(c) Physical separate (eg screens, sieves, primary settlement tanks etc)</p> <p>Aerobic and/or anaerobic treatment (secondary treatment)</p> <p>(d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc)</p> <p>(e) Nitrification and/or denitrification</p> <p>(f) Partial nitrification - anaerobic ammonium oxidation</p> <p>Phosphorus recovery and/or removal</p> <p>(g) Phosphorus recovery as struvite</p> <p>(h) Precipitation</p> <p>(i) Enhanced biological phosphorus removal</p> <p>Final solids removal</p> <p>(j) Coagulation and flocculation</p> <p>(k) Sedimentation</p> <p>(l) Filtration (eg sand filtration, microfiltration, ultrafiltration)</p> <p>(m) Flotation</p>		<p>information provided and we are satisfied that the operator has demonstrated compliance with BATc 12.</p> <p>All process effluent is directed to settlement tanks prior to discharge to the foul sewer under consent by Yorkshire Water. Monitoring of the following parameters is undertaken pH, flow and turbidity.</p>										
12	<p><b>Emissions to water – treatment</b></p> <p><b>BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body</b></p> <table border="1" data-bbox="282 1145 1211 1347"> <thead> <tr> <th>Parameter</th> <th>BAT-AEL (°) (°) (daily average)</th> </tr> </thead> <tbody> <tr> <td>Chemical oxygen demand (COD) (°) (°)</td> <td>25-100 mg/l (°)</td> </tr> <tr> <td>Total suspended solids (TSS)</td> <td>4-50 mg/l (°)</td> </tr> <tr> <td>Total nitrogen (TN)</td> <td>2-20 mg/l (°) (°)</td> </tr> <tr> <td>Total phosphorus (TP)</td> <td>0,2-2 mg/l (°)</td> </tr> </tbody> </table>	Parameter	BAT-AEL (°) (°) (daily average)	Chemical oxygen demand (COD) (°) (°)	25-100 mg/l (°)	Total suspended solids (TSS)	4-50 mg/l (°)	Total nitrogen (TN)	2-20 mg/l (°) (°)	Total phosphorus (TP)	0,2-2 mg/l (°)	NA	<p>We are satisfied that the BATC-AELs under BATC 12 are not applicable to this Installation.</p> <p>There are no direct discharges of treated process effluent to surface water.</p>
Parameter	BAT-AEL (°) (°) (daily average)												
Chemical oxygen demand (COD) (°) (°)	25-100 mg/l (°)												
Total suspended solids (TSS)	4-50 mg/l (°)												
Total nitrogen (TN)	2-20 mg/l (°) (°)												
Total phosphorus (TP)	0,2-2 mg/l (°)												
13	<b>Noise management plan</b>	NA	We are satisfied that BATc 13 is not applicable to this Installation.										

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	<p>In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to set up, implement and regularly review a noise management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> <li>- a protocol containing actions and timelines;</li> <li>- a protocol for conducting noise emissions monitoring;</li> <li>- a protocol for response to identified noise events, eg complaints;</li> <li>- a noise reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.</li> </ul> <p>Note: BAT13 is only applicable where a noise nuisance at sensitive receptors is expected and/or has been substantiated.</p>		<p>BATc 13 is only applicable where a noise nuisance at sensitive receptors is expected and/or has been substantiated. The site is based in a very industrial area. There is no history of noise complaints and the Operator has not indicated that their operations give rise to any noise complaints.</p>
14	<p><b>Noise management</b></p> <p>In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given below.</p> <ul style="list-style-type: none"> <li>(a) Appropriate location of equipment and buildings</li> <li>(b) Operational measures</li> <li>(c) Low-noise equipment</li> <li>(d) Noise control equipment</li> <li>(e) Noise abatement</li> </ul>	CC	<p>The operator has provided information to support compliance with BATc 14. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 14.</p> <p>The Operator uses the following techniques to reduce noise emission at the site, the use of low noise equipment where possible and operational measures (maintenance of equipment, closing of doors &amp; windows in production areas, avoiding noisy activities out of hours and training staff).</p>
15	<p><b>Odour Management</b></p> <p>In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> <li>- a protocol containing actions and timelines;</li> <li>- a protocol for conducting odour monitoring.</li> <li>- a protocol for response to identified odour incidents eg complaints;</li> <li>- an odour prevention and reduction programme designed to identify the source(s); to measure/estimate odour exposure: to characterise the contributions of the sources; and to implement prevention and/or reduction measures.</li> </ul>	NA	<p>We are satisfied that BATc 15 is not applicable to this Installation.</p> <p>BATc 15 is only applicable where odour nuisance at sensitive receptors is expected and/or has been substantiated. The site is based in a very industrial area. There is no history of odour complaints and the Operator has not indicated that their operations give rise to any odours.</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement									
	BAT 15 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.											
	<b>OILSEED PROCESSING &amp; VEGETABLE OIL REFINING SECTOR BAT CONCLUSIONS (BAT 30-32)</b>											
30	<p><b>Energy efficiency – Oilseed processing and refining</b></p> <p>In order to increase energy efficiency, BAT is to use an appropriate combination of the techniques specified in BAT 6 and to generate an auxiliary vacuum.</p>	<b>CC</b>	<p>The operator has provided information to support compliance with BATc 30. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 30.</p> <p>The Operator has demonstrated through BATc 6 that the site has in place procedures to map energy use and uses a variety of techniques to increase/improve energy efficiency.</p> <p>In addition to the techniques listed in BATc 6 and in order to reduce the demand for thermal energy, auxiliary vacuum systems are in operation throughout the site namely within the E5 and E6 installations where vacuum pumps, ring pumps, root blowers and small steam injectors provide the required vacuum allowing elevated operating temperatures to be achieved without increased thermal energy demand. The operation of the plant is controlled via the site SCADA system and is a computer aided to ensure optimal process parameters are maintained.</p>									
31	<p>In order to reduce channelled dust emissions to air, BAT is to use one or a combination of the techniques given below.</p> <table border="1" data-bbox="275 1251 1171 1450"> <thead> <tr> <th data-bbox="275 1251 495 1305">Technique</th> <th data-bbox="495 1251 730 1305">Description</th> <th data-bbox="730 1251 1171 1305">Applicability</th> </tr> </thead> <tbody> <tr> <td data-bbox="275 1305 342 1394">(a)</td> <td data-bbox="342 1305 495 1394">Bag filter</td> <td data-bbox="495 1305 730 1394" rowspan="2">See Section 14.2</td> </tr> <tr> <td data-bbox="275 1394 342 1450">(b)</td> <td data-bbox="342 1394 495 1450">Cyclone</td> <td data-bbox="730 1394 1171 1450">Generally applicable.</td> </tr> </tbody> </table>	Technique	Description	Applicability	(a)	Bag filter	See Section 14.2	(b)	Cyclone	Generally applicable.	<b>NA</b>	<p>We are satisfied that BATc 31 is not applicable to this Installation.</p> <p>The site purchases refined oil and crude oil as raw materials in liquid form, for further refining and packaging.</p>
Technique	Description	Applicability										
(a)	Bag filter	See Section 14.2										
(b)	Cyclone		Generally applicable.									

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries				Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement															
	(c)	Wet scrubber																			
AEL	<b>BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from handling and preparation of seeds as well as drying and cooling of meal.</b> <table border="1" data-bbox="282 481 1173 769"> <thead> <tr> <th data-bbox="282 481 492 568">Parameter</th> <th data-bbox="501 481 730 568">Unit</th> <th colspan="2" data-bbox="739 481 1173 568">BAT-AEL (average over the sampling period)</th> </tr> <tr> <td data-bbox="282 571 492 625">Dust</td> <td data-bbox="501 571 730 625">mg/Nm<sup>3</sup></td> <td data-bbox="739 571 958 625">New plants</td> <td data-bbox="967 571 1173 625">Existing plants</td> </tr> <tr> <td data-bbox="282 628 492 683"></td> <td data-bbox="501 628 730 683"></td> <td data-bbox="739 628 958 683">&lt;2-5 <sup>(1)</sup></td> <td data-bbox="967 628 1173 683">&lt;2-10 <sup>(1)</sup></td> </tr> </thead> </table> <p data-bbox="282 686 1173 762">(1) The upper end of the range is 20 mg/Nm<sup>3</sup> for drying and cooling of meal.</p>				Parameter	Unit	BAT-AEL (average over the sampling period)		Dust	mg/Nm <sup>3</sup>	New plants	Existing plants			<2-5 <sup>(1)</sup>	<2-10 <sup>(1)</sup>	NA	<p>We are satisfied that the BAT-AELs associated with BATc 31 are not applicable to this Installation.</p> <p>The site does not undertake the handling and preparation of seeds nor does the site dry or cool meal. The site refines crude oil and palm oil that is delivered in liquid form to the site. We are therefore satisfied that the BAT-AELs do not apply to the site.</p>			
Parameter	Unit	BAT-AEL (average over the sampling period)																			
Dust	mg/Nm <sup>3</sup>	New plants	Existing plants																		
		<2-5 <sup>(1)</sup>	<2-10 <sup>(1)</sup>																		
32	<b>In order to reduce the hexane losses from oilseed processing and refining, BAT is to use all of the techniques given below:</b> <table border="1" data-bbox="282 871 1218 1270"> <thead> <tr> <th data-bbox="282 871 573 909"></th> <th data-bbox="582 871 1218 909">Technique</th> <th data-bbox="1227 871 2089 909">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="282 912 344 999">(a)</td> <td data-bbox="353 912 573 999">Countercurrent flow of meal and steam in the desolventiser-toaster</td> <td data-bbox="582 912 1218 999">Hexane is removed from the hexane-laden meal in a desolventiser-toaster, involving a countercurrent flow of steam and meal.</td> </tr> <tr> <td data-bbox="282 1002 344 1088">(b)</td> <td data-bbox="353 1002 573 1088">Evaporation from the oil/hexane mixture</td> <td data-bbox="582 1002 1218 1088">Hexane is removed from the oil/hexane mixture using evaporators. The vapours from the desolventiser-toaster (steam/hexane mixture) are used to provide thermal energy in the first stage of the evaporation.</td> </tr> <tr> <td data-bbox="282 1091 344 1177">(c)</td> <td data-bbox="353 1091 573 1177">Condensation in combination with a mineral oil wet scrubber</td> <td data-bbox="582 1091 1218 1177">Hexane vapours are cooled to below their dew point so that they condense. Uncondensed hexane is absorbed in a scrubber using mineral oil as a scrubbing liquid for subsequent recovery.</td> </tr> <tr> <td data-bbox="282 1181 344 1267">(d)</td> <td data-bbox="353 1181 573 1267">Gravitational phase separation in combination with distillation</td> <td data-bbox="582 1181 1218 1267">Undissolved hexane is separated from the aqueous phase by means of a gravitational phase separator. Any residual hexane is distilled off by heating the aqueous phase to approximately 80-95 °C.</td> </tr> </tbody> </table>					Technique	Description	(a)	Countercurrent flow of meal and steam in the desolventiser-toaster	Hexane is removed from the hexane-laden meal in a desolventiser-toaster, involving a countercurrent flow of steam and meal.	(b)	Evaporation from the oil/hexane mixture	Hexane is removed from the oil/hexane mixture using evaporators. The vapours from the desolventiser-toaster (steam/hexane mixture) are used to provide thermal energy in the first stage of the evaporation.	(c)	Condensation in combination with a mineral oil wet scrubber	Hexane vapours are cooled to below their dew point so that they condense. Uncondensed hexane is absorbed in a scrubber using mineral oil as a scrubbing liquid for subsequent recovery.	(d)	Gravitational phase separation in combination with distillation	Undissolved hexane is separated from the aqueous phase by means of a gravitational phase separator. Any residual hexane is distilled off by heating the aqueous phase to approximately 80-95 °C.	NA	<p>We are satisfied that BATc 32 is not applicable to this Installation.</p> <p>The site doesn't process soybeans, Rapeseeds or sunflower seeds. The site purchases refined oil and crude oil as a raw material in liquid form for further processing and packaging. As such BATc 32 doesn't apply to the site.</p>
	Technique	Description																			
(a)	Countercurrent flow of meal and steam in the desolventiser-toaster	Hexane is removed from the hexane-laden meal in a desolventiser-toaster, involving a countercurrent flow of steam and meal.																			
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BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement										
AELS	<p><b>BAT-associated emission levels (BAT-AELs) for hexane losses from oilseed processing and refining:</b></p> <table border="1" data-bbox="286 338 1223 512"> <thead> <tr> <th>Parameter</th> <th>Type of seeds or beans processed</th> <th>Unit</th> <th>BAT-AEL (yearly average)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Hexane losses</td> <td>Soybeans</td> <td rowspan="2">kg/tonne of seeds or beans processed</td> <td>0,3-0,55</td> </tr> <tr> <td>Rapeseeds and sunflower seeds</td> <td>0,2-0,7</td> </tr> </tbody> </table>	Parameter	Type of seeds or beans processed	Unit	BAT-AEL (yearly average)	Hexane losses	Soybeans	kg/tonne of seeds or beans processed	0,3-0,55	Rapeseeds and sunflower seeds	0,2-0,7	NA	<p>We are satisfied that the BAT-AELs associated with BATc 32 are not applicable to this Installation.</p> <p>The site doesn't process soybeans, Rapeseeds or sunflower seeds. The site purchases refined oil and crude oil as a raw material in liquid form for further processing and packaging. As such BATc 32 doesn't apply to the site.</p>
	Parameter	Type of seeds or beans processed	Unit	BAT-AEL (yearly average)									
Hexane losses	Soybeans	kg/tonne of seeds or beans processed	0,3-0,55										
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<p><b>Oilseed processing &amp; vegetable oil refining sector Environmental Performance Levels</b></p>													
EPL	<p><b>Environmental Performance Level – Energy consumption</b></p> <table border="1" data-bbox="286 671 1223 879"> <thead> <tr> <th>Specific process</th> <th>Unit</th> <th>Specific energy consumption (yearly average)</th> </tr> </thead> <tbody> <tr> <td>Integrated crushing and refining of rapeseeds and/or sunflower seeds</td> <td rowspan="3">MWh/tonne of oil produced</td> <td>0,45-1,05</td> </tr> <tr> <td>Integrated crushing and refining of soybeans</td> <td>0,65-1,65</td> </tr> <tr> <td>Stand-alone refining</td> <td>0,1-0,45</td> </tr> </tbody> </table>	Specific process	Unit	Specific energy consumption (yearly average)	Integrated crushing and refining of rapeseeds and/or sunflower seeds	MWh/tonne of oil produced	0,45-1,05	Integrated crushing and refining of soybeans	0,65-1,65	Stand-alone refining	0,1-0,45	CC	<p>The operator has provided information to support compliance with BAT EPL for energy consumption. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BAT EPL.</p> <p>The Operator recorded an energy consumption of 0.780 MWh/t of oil produced (2023 YTD), which is outside the range of 0.1-0.45 MWh per tonne applicable for standalone refining.</p> <p>The Operator has stated that they undertake 'further refining' of oils as such the process involves holding oils at a higher ambient temperature. The Operator is committed to increasing energy efficiency, as per BATc 6 and has KPI's in place to track full site energy use, energy surveys have taken place through a third party company and ESOS scheme. Whilst the current energy consumption is outside the acceptable range we consider their energy use to be appropriate. The Operator has demonstrated that they have measures in place to monitor energy usage across the site in addition to having appropriate techniques in place to increase energy efficiency.</p>
	Specific process	Unit	Specific energy consumption (yearly average)										
Integrated crushing and refining of rapeseeds and/or sunflower seeds	MWh/tonne of oil produced	0,45-1,05											
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BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement												
EPL	<b>Environmental Performance Level – Specific waste water discharge</b>		<b>CC</b>	<p>The operator has provided information to support compliance with BAT EPL for wastewater discharge. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BAT EPL.</p> <p>The Operator recorded a wastewater discharge volume of 1.12 m<sup>3</sup>/t of oil produced, which is outside the range of 0.15 – 0.9 m<sup>3</sup> per tonne range applicable for the stand-alone refining process.</p> <p>The Operator has stated that they undertake ‘further refining’ of oils (as above). The Operator is committed to the reuse and recycling of water along with utilising other techniques as demonstrated through BATc 7. Whilst the specific waste water usage is slightly outside the range we consider the waste water usage to be appropriate for the site. The Operator has demonstrated through BATc 7 they have appropriate techniques in place to reduce water usage on site.</p>											
	<table border="1"> <thead> <tr> <th data-bbox="286 316 734 363">Specific process</th> <th data-bbox="734 316 981 363">Unit</th> <th data-bbox="981 316 1227 363">Specific waste water discharge (yearly average)</th> </tr> </thead> <tbody> <tr> <td data-bbox="286 363 734 427">Integrated crushing and refining of rapeseeds and/or sunflower seeds</td> <td data-bbox="734 363 981 427" rowspan="3">m<sup>3</sup>/tonne of oil produced</td> <td data-bbox="981 363 1227 427">0,15-0,75</td> </tr> <tr> <td data-bbox="286 427 734 467">Integrated crushing and refining of soybeans</td> <td data-bbox="981 427 1227 467">0,8-1,9</td> </tr> <tr> <td data-bbox="286 467 734 507">Stand-alone refining</td> <td data-bbox="981 467 1227 507">0,15-0,9</td> </tr> </tbody> </table>	Specific process			Unit	Specific waste water discharge (yearly average)	Integrated crushing and refining of rapeseeds and/or sunflower seeds	m <sup>3</sup> /tonne of oil produced	0,15-0,75	Integrated crushing and refining of soybeans	0,8-1,9	Stand-alone refining	0,15-0,9		
	Specific process	Unit			Specific waste water discharge (yearly average)										
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Stand-alone refining	0,15-0,9														



## **Annex 2: Review and assessment of changes that are not part of the BAT Conclusions derived permit review**

### **Updating permit during permit review consolidation**

We have updated permit conditions to those in the current generic permit template as a part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.

This included some other administrative changes to the permit to ensure cross-sector consistency, including:

- An updated introductory note
- Site plan
- Table S1.1 overhaul
  - Activity Reference (AR) renumbering
  - Updated listed activities
  - Addition of production capacity
  - Directly associated activities (DAAs) standardisation
- Standardisation of reporting parameters.

### **Production Threshold**

The Environment Agency is looking to draw a “line in the sand” for permitted production capacity; a common understanding between the Operator and regulator for the emissions associated with a (maximum) level of production, whereby the maximum emissions have been demonstrated as causing no significant environmental impact.

We have included a permitted production level (capacity) within table S1.1 of the permit for the section 6.8 listed activity and we need to be confident that the level of emissions associated with this production level have been demonstrated to be acceptable.

The existing volume of raw material permitted at the site has not increased since the previous variation and therefore the assessment for emissions to sewer remain valid for capacity threshold now placed within table S1.1 of the permit.

### **COD efficiency**

As part of the permit review process we have looked to include a new reporting parameter of COD efficiency. This primarily considers the efficiency of onsite production processes with concentrations of COD within the product effluent demonstrating product loss.

The Operator has provided sufficient justification as to why the site is unable to monitor and report COD efficiency. The site treats effluent arising from onsite production processes before discharging the effluent to the foul sewer. The discharge also includes effluent flows from other onsite sources and is not limited to the refinery operations. Monitoring of the effluent including COD is undertaken by the sewage undertaker in accordance with the trade effluent consent. Given that the site is further refining vegetable oil rather than producing vegetable oil, it is considered that COD losses are likely to be minimal. The Operator should consider maintaining a record COD

concentrations from sewage undertaker as this would inform the efficiency of the onsite processes any indicate loss of product from the refinery operation.

**Addition of a new activity**

As part of the permit review process we have looked at the processes undertake at the site. The Operator utilises a physico-chemical treatment process through screening and chemical dosing (with the use of flocculant and caustic) to treat process effluent prior to discharge to the foul sewer. During the determination it was ascertained that the capacity of the effluent treatment plant was greater than 50 tonnes/day threshold. We have now included the effluent treatment process as a listed activity within Table S1.1 as this more accurately describes the processes undertaken at the site.

**Emissions to Air**

We asked the operator to list all emission points to air from the installation in the Regulation 61 notice. And to provide a site plan indicating the locations of all air emission points.

The operator has provided an up to date air emission plan.

**Implementing the requirements of the Medium Combustion Plant Directive**

**Existing Medium Combustion Plant (1MW-50MW)**

We asked the Operator to provide information on all combustion plant on site in the Regulation 61 Notice as follows:

- Number of combustion plant (CHP engines, back-up generators, boilers);
- Size of combustion plant – rated thermal input (MWth)
- Date each combustion plant came into operation

The Operator provided the information in the table below:

**Boilers**

1. Rated thermal input (MW) of the medium combustion plant.	Boiler 1: 5.0 MWth Boiler 2: 5.0 MWth Boiler 3: 7.0 MWth Boiler 4: 10 MWth E1 Steam Generator: 1.7 MWth E2 Steam Generator: 1.7 MWth E5 Steam Generator: 1.4 MWth E6 Steam Generator: 1.3 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boilers 1-4 - Boilers E1, E2, E5 & E6 – Steam Generator (boilers)
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	All run on natural gas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is	Boiler 1: Feb 1983 Boiler 2: Jan 1983 Boiler 3: Sep 1988 Boiler 4: April 1995

unknown, proof of the fact that the operation started before 20 December 2018.	E1: Feb 1990 E2: Jun 1994 E5: Dec 2012 E6: Jul 2018
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We have reviewed the information provided and we consider that the declared combustion plant qualify as “existing” medium combustion plant.

For existing medium combustion plant with a rated thermal input greater than 5 MW, the emission limit values set out in tables 2 and 3 of Part 1 of Annex II MCPD shall apply from 1 January 2025, this is applicable to boilers 3 & 4. For existing MCP with a rated thermal input of less than or equal to 5 MW, the emission limit values set out in tables 1 and 3 of Part 1 of Annex II MCPD shall apply from 1 January 2030, this is applicable to boilers 1 & 2 and steam generators E1, E2, E5 & E6.

We have included the appropriate emission limit values for existing medium combustion plant as part of this permit review. See Table S3.1 in the permit. We have also included a new condition 3.1.4 within the permit which specifies the monitoring requirements for the combustion plant in accordance with the MCPD.

**Emissions to Water and implementing the requirements of the Water Framework Directive**

We asked the Operator to provide information on all emissions to water at the installation in the Regulation 61 Notice as follows;

- Identify any effluents which discharge directly to surface or groundwater;
- Provide an assessment of volume and quality, including results of any monitoring data available;
- and for any discharges to water / soakaway whether a recent assessment of the feasibility of connection to sewer has been carried out.

The operator has previously provided assessments for all emissions to water at the installation. The operator declares there has been no change to activities and subsequent effluents generated at the installation since this risk assessment was taken. Consequently, we agree that the original risk assessments remain valid at this time.

**Soil & groundwater risk assessment (baseline report)**

The IED requires that the operator of any IED installation using, producing or releasing “relevant hazardous substances” (RHS) shall, having regarded the possibility that they might cause pollution of soil and groundwater, submit a “baseline report” with its permit application. The baseline report is an important reference document in the assessment of contamination that might arise during the operational lifetime of the regulated facility and at cessation of activities. It must enable a quantified comparison to be made between the baseline and the state of the site at surrender.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site’s current or approved future use. To do this, the Operator has to submit a surrender application to us, which

we will not grant unless and until we are satisfied that these requirements have been met.

The Operator submitted a site condition report [Aarhus United UK Limited, Hull: PPC Application Site Report, dated March 2005 2006] during the original application received on 12/04/2005. The site condition report included a report on the baseline conditions as required by Article 22. We reviewed that report and considered that it adequately described the condition of the soil and groundwater at that time.

The Operator has confirmed that the outcome of the previously submitted site condition report still accurately reflects the conditions at the site.

### **Hazardous Substances**

Hazardous substances are those defined in Article 3 of Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures

The Operator at this time hasn't been able to undertake a full assessment of the hazardous substances used/stored at the site. A detailed assessment is to be undertaken by the Operator to identify the hazardous substances used, their capability of causing pollution and/or the pollution prevention measures at the installation. The Operator is to undertake a risk assessment that follows the stage 1-3 assessment as detailed within EC Commission Guidance 2014/C 136/03.

- The stage 1 assessment identified the hazardous substances used / stored on site.
- The stage 2 assessment identified if hazardous substances are capable of causing pollution. If they are capable of causing pollution they are then termed Relevant Hazardous Substances (RHS).
- The Stage 3 assessment identified if pollution prevention measures are fit for purpose in areas where hazardous substances are used / stored. This includes drains as well.

If the outcomes of the three stage assessment identified that pollution of soil / groundwater to be possible then monitoring is required for the identified hazardous substance(s).

Improvement Condition (IC11) has been included in the variation for the Operator to undertake the stage 1 – 3 assessment and to submit a relevant hazardous substances monitoring plan for review. Should the outcome of the three stage assessment identified that pollution of soil / groundwater to be possible the Operator is required to submit a monitoring plan for the identified substances.

### **Climate Change Adaptation**

The operator has considered if the site is at risk of impacts from adverse weather (flooding, unavailability of land for land spreading, prolonged dry weather / drought) .

The operator has identified the installation as likely to be or has been affected by prolonged dry weather/ drought, which we consider to be a severe weather event.

The operator has submitted a climate change adaptation plan, which considers, as a minimum the impact of severe weather on the operations within the installation.

We consider the climate change adaptation plan to be appropriate for the installation.

## **Containment**

We asked the Operator via the Regulation 61 Notice to provide details of the each above ground tanks which contain potentially polluting liquids at the site, including tanks associated with the effluent treatment process where applicable.

The Operator provided details of all tanks;

- Tank reference/name
- Contents
- Capacity (litres)
- Location
- Construction material(s) of each tank
- The bunding specification including
  - Whether the tank is bunded
  - If the bund is shared with other tanks
  - The capacity of the bund
  - The bund capacity as % of tank capacity
  - Construction material of the bund
  - Whether the bund has a drain point
  - Whether any pipes penetrate the bund wall
- Details of overfill prevention
- Drainage arrangements outside of bunded areas
- Tank filling/emptying mitigation measures (drips/splashes)
- Leak detection measures
- Details of when last bund integrity test was carried out
- Maintenance measures in place for tank and bund (inspections)
- How the bund is emptied
- Details of tertiary containment

and whether the onsite tanks currently meet the relevant standard in the Ciria “Containment systems for the prevention of pollution (C736)” report.

We reviewed the information provided by the operator. We are satisfied that the existing tanks and containment measures on site meet the standards set out in CIRIA C736.

### Annex 3: Improvement Conditions

Based on the information in the Operator's Regulation 61 Notice response and our own records of the capability and performance of the installation at this site, we consider that we need to set improvement conditions so that the outcome of the techniques detailed in the BAT Conclusions are achieved by the installation. These improvement conditions are set out below - justifications for them is provided at the relevant section of the decision document (Annex 1 or Annex 2).

Previous improvement conditions marked as complete in the previous permit.

<b>Superseded Improvement Conditions – Removed from permit as marked as “complete”</b>	
<b>Reference</b>	<b>Improvement Condition</b>
IC1	The operator shall review the containment measures that are provide at the installation for the storage of vegetable oils, diesel and waste oils, with the aim of preventing or reducing fugitive emissions to land or water. The review shall be made having regard to the requirements of Section 2.2.5 of the Agency's Sector Guidance Note IPPC S6.10 and PPG2: Pollution Prevention Guidelines for Above Ground Oil Storage Tanks. The Operator shall provide the Agency with a written report summarising the findings of the review and shall implement identified improvements to a timetable agreed with the Agency.
IC2	The Operator shall develop and implement a formalised Environmental Management System, having regard to the requirements of Section 2.3 of the Agency Sector Guidance Note IPPC S6.10.
IC3	The Operator shall investigate the sources of fugitive emission to air of Freon and ammonia refrigerants and quantify the amount released. The Operator shall report to the Agency on proposals for measures to reduce those discharged and the timescale for implementation of those measures.
IC4	The Operator shall submit proposals to the Agency for an inspection and maintenance programme for all sub-surface pipework, sumps and storage vessels, to include all surface and foul drainage systems. The proposals shall include a timescale for implementation and suggested frequency of future surveys.
IC5	The Operator shall ensure all waste storage areas are correctly labelled, indicating waste type, maximum capacities and the maximum period for storage of each waste type.
IC6	The Operator shall undertake detailed dispersion modelling of substances identified as significant releases from the H1 screening assessment carried out as part of the submitted PPC Application, specifically carbon monoxide, nitrogen oxides and methanol. The dispersion modelling shall be carried out using emissions monitoring data utilised in the submitted H1 assessment and a suitable second generation modelling package (e.g. ADMS or AERMOD). The dispersion modelling shall be carried out to assess the potential impact of the modelled substances upon local receptors, which shall include, but not be limited to, designated habitat sites. The Operator shall provide the Agency with a written report detailing the methodology, results and conclusions of the dispersion modelling and a timetable for implementing any resulting recommendations.

IC7	The operator shall provide the Agency with written proposals for a programme of monitoring for particulate releases from emission points A12 (Earth Silo no.1), A13 (Powder bin vent) and A14 (Earth Silo no.2). Monitoring shall be carried out to an appropriate recognised standard. The proposals shall include a justification for the frequency and method of monitoring and a timetable for its implementation.
IC8	The Operator shall undertake a review of the abatement options available to further reduce emissions of VOCs from release point A20 in order to achieve benchmark emission limits associated with the use of BAT, having regard for the Agency Sector Guidance Note IPPC S6.10. A written report shall be submitted to the Agency that shall include details of any proposed improvements and the timetable for their implementation.
IC9	The Operator shall resubmit the 'in-combination' H1 assessment for discharges to air which assesses the impacts of the existing discharges from the site and incorporates the discharge from the new emission point A33/201. The operator shall undertake air dispersion modelling of substances identified as significant from the H1 screening and shall provide an addendum to the management system for the site to include any additional recommendations resulting from the air dispersion modelling. The addendum shall include timeframes for recommendations to be implemented, these timeframes are to be agreed in writing by the Agency.

The following improvement conditions have added to the permit as a result of the variation.

<b>Improvement programme requirements</b>		
<b>Reference</b>	<b>Reason for inclusion</b>	<b>Justification of deadline</b>
IC10	<p>The operator shall use refrigerants without ozone depletion potential and with a low global warming potential (GWP) in accordance with BAT 9 from the Food, Drink and Milk Industries BATCs.</p> <p>To demonstrate compliance against BAT 9, the operator shall develop a replacement plan for the refrigerant system(s) at the installation. This shall be incorporated within the existing environmental management system by the specified date.</p> <p>The plan should include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li>Where practicable, retro filling systems containing high GWP refrigerants e.g. R-404A with lower GWP alternatives as soon as possible.</li> </ul> <p>An action log with timescales, for replacement of end-of-life equipment using refrigerants with the lowest practicable GWP.</p>	04/12/2023
IC11	The operator shall submit to the Environment Agency for approval a risk assessment considering the possibility of soil and groundwater contamination at the installation where the activity involves the use,	12 months from date of permit issue of other date as

	<p>production or release of a hazardous substances (as defined in Article 3 of Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures).</p> <p>A stage 1-3 assessment should be completed (as detailed within the EC Commission Guidance 2014/C 136/-3) as follows;</p> <ul style="list-style-type: none"> <li>• Stage 1 – Identify hazardous substance(s) used / stored on site.</li> <li>• Stage 2 – Identify if the hazardous substance(s) are capable of causing pollution. If they are capable of causing pollution, they are then termed Relevant Hazardous Substances (RHS).</li> <li>• Stage 3 – Identify if pollution prevention measures &amp; drains are fit for purpose in areas where hazardous substances are used / stored.</li> </ul> <p>If the outcomes of Stage 3 identifies that pollution of soil / ground water to be possible. The operator shall produce and submit a monitoring plan to the Environment Agency for approval detailing how the substance(s) will be monitored to demonstrate no pollution. The operator shall commence monitoring of the RHS within a timescale as agreed by the Environment Agency.</p>	<p>agreed in writing with the Environment Agency</p>
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