

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/YP3200BH
The Operator is: Refresco Drinks UK Limited
The Installation is: Northfield Drinks
This Variation Notice number is: EPR/YP3200BH/V002

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 4th 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 09/11/2021 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 18/03/2022.

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 1, 2, 3, 6, and 9. In relation to these BAT Conclusions, we do not fully agree with the Operator in respect of their current stated capability as recorded in their response to the Regulation 61 Notice. We have therefore included Improvement Conditions IC8 and IC9 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered within 3 months of the variation being issued.

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 16/01/2024 concerning BATCs 6(b), 9, 11, 12, 33, production capacity, medium combustion plants (MCPs) capacity, containment measures, type of products produced, updated site plan, cooling towers, and carbon dioxide (CO₂) generation. A copy of the further information request was placed on our public register.

In addition to the response to our further information request, we received additional information during the determination from the Operator on 31/01/2024 concerning the Installation's capacity, and ETP process description. We made a copy of this information available to the public in the same way as the response to our information request.

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
GENERAL BAT CONCLUSIONS (BAT 1-15)			
1	<p>Environmental Management System - Improve overall environmental performance.</p> <p>Implement an EMS that incorporates all the features as described within BATc 1.</p>	FC	<p>The operator has provided information to support compliance with BATc 1. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 1.</p> <p>The Operator declared that an Environmental Management System (EMS) containing all BATc 1 requirements would be developed and implemented.</p> <p>Improvement condition IC8 has been included in the permit to demonstrate compliance with BATc 1 is achieved (see Annex 3).</p>
2	<p>EMS Inventory of inputs & outputs. Increase resource efficiency and reduce emissions.</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>	FC	<p>The operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 2.</p> <p>The Operator declared that they are compliant with the following BATc points:</p> <ul style="list-style-type: none"> I. Simplified process flow sheet and description of integrated processes II. Information about water consumption and usage to identify efficiency opportunities III. Characterisation of wastewater chemical composition IV. Characterisation of waste gases composition <p>However, The Operator declared that compliance with BATc 2 points V and VI was not achieved at the time of submitting the Reg.61 Response.</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
			Improvement condition IC8 has been included in the permit to demonstrate compliance with BATc 2 (V) and (VI) is achieved (see Annex 3).
3	<p>Monitoring key process parameters at key locations for emissions to water. 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>	FC	<p>The operator has provided information to support compliance with BATc 3. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 3.</p> <p>The Operator declared that monitoring of key parameters is undertaken but there is no logging system to recall the values recorded for the parameters observed. Compliance with BATc 3 will be achieved through the implementation of an electronic monitoring and recording system.</p> <p>Improvement condition IC8 has been included in the permit to demonstrate compliance with BATc 3 is achieved (see Annex 3).</p>
4	<p>Monitoring emissions to water to the required frequencies and standards. 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>This site has discharges to sewer, under consent, of processes effluent from the on-site Effluent Treatment Plant (ETP) therefore, BATc 4 is not applicable as it is concerned only with discharges to surface water of process effluent.</p>
5	<p>Monitoring channelled emissions to air to the required frequencies and standards. 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>This BATc is concerned only with emissions from production and handling of raw materials.</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
			Because this installation produces soft drinks, there are no dust emitting processes therefore, BATc 5 is not applicable.
6	<p>Energy Efficiency</p> <p>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>	FC	<p>The operator has provided information to support compliance with BATc 6. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 6.</p> <p>In relation to BATc 6(a), the Operator declared that an Energy Management Plan was being developed at the time of submitting the Reg.61 Response, and will be implemented.</p> <ul style="list-style-type: none"> • In respect to BATc 6(b), the Operator declared a power factor has been installed to improve the cost and to reduce the emissions from electricity usage. • Burner regulation and control • Energy efficient motors • Variable speed drives • Heat recovery from condensation • LED • Minimising blowdown from the boiler • Optimised steam distribution • Process control systems • Reducing compressed air systems leaks • Reducing of heat loss through insulation • Solar tubes to produce lighting <p>The Operator declared that compliance with BATc 6 will be achieved. We have included improvement condition IC8 in the permit to</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
			demonstrate compliance with BATc 6(a) is achieved (see Annex 3).
7	<p>Water and wastewater minimisation</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 (b) Optimisation of water flow (c) Optimisation of water nozzles and hoses (d) Segregation of water streams</p> <p>Techniques related to cleaning operations:</p> <p>(e) Dry cleaning (f) Pigging system for pipes (g) High-pressure cleaning (h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP) (i) Low-pressure foam and/or gel cleaning (j) Optimised design and construction of equipment and process areas (k) Cleaning of equipment as soon as possible</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 following water and wastewater minimisation techniques have been declared by the Operator:</p> <ul style="list-style-type: none"> • Water recycling/reuse – final CIP rinse is recovered for CIP first flush • Optimisation of water flow – all process plant has orifice plates to control the maximum flow of each plant • Optimisation of water nozzles – across the installation nozzles are fitted with a water saving function • Segregation of water streams to some production lines, dependant on recipes • High pressure cleaning – pressure washers are used for external cleaning of equipment such as tanks, floors, and walls. • Optimisation of chemicals used in Cleaning in Place (CIP) – conductivity meters are calibrated periodically and installation has been CIP optimised where possible during the installation/maintenance of lines • Low pressure foam cleaning – used for external cleaning of machinery across site • Optimised design and construction of equipment and process areas - all machinery/equipment is designed specifically for the intended product, process plants are also designed for the intended products

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"> • Cleaning of equipment as soon as possible.
8	<p>Prevent or reduce the use of harmful substances</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>	CC	<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 declared the following techniques are used:</p> <ul style="list-style-type: none"> • Reuse of cleaning chemicals in CIP • Optimised design and construction of equipment and process areas
9	<p>Refrigerants</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>	FC	<p>The operator has provided information to support compliance with BATc 9. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 9.</p> <p>The Operator has planned for the replacement of those refrigerants with a high Global Warming Potential (GWP) which are still in use at this installation in a number of assets and processes:</p> <ul style="list-style-type: none"> • R134A, R407A, and R410A <p>Because the refrigerants replacement plan has not been submitted as part of the Reg.61, we have included Improvement condition IC9 in the permit to demonstrate compliance with BATc 9 is achieved (see Annex 3).</p>
10	<p>Resource efficiency</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> <p>(b) Use of residues</p> <p>(c) Separation of residues</p>	CC	<p>The operator has provided information to support compliance with BATc 10. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 10.</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
	(d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading		The Operator declared that they are using the following resource efficiency techniques: <ul style="list-style-type: none"> • Use of residue – residues reworked into product mixtures where appropriate • Separation of residue – residues are separated from other waste water streams
11	Waste water buffer storage In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.	CC	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. The Operator declared there is sufficient buffer capacity (143 m ³) in addition to automated alarms and slam-shut vales used to prevent environmental contamination in case of accidental spillages. In addition, the Operator has a penstock valve and slam-shut valve.
12	Emissions to water – treatment In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below. Preliminary, primary and general treatment (a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc) Aerobic and/or anaerobic treatment (secondary treatment) (d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitrification and/or denitrification (f) Partial nitration - anaerobic ammonium oxidation Phosphorus recovery and/or removal (g) Phosphorus recovery as struvite	CC	The operator has provided information to support compliance with BATc 12. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 12. The Operator declared that the water treatments used on site are equalisation, neutralisation, multimedia filtration, carbon filtration and 5 micron filters. The water is UV treated before use. On site, there is an RO plant of 120m ³ . The influent is sugar that is used in the production of the soft drinks.

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										
	(h) Precipitation (i) Enhanced biological phosphorus removal Final solids removal (j) Coagulation and flocculation (k) Sedimentation (l) Filtration (eg sand filtration, microfiltration, ultrafiltration) (m) Flotation												
12	<p>Emissions to water – treatment BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body</p> <table border="1" data-bbox="277 676 1086 999"> <thead> <tr> <th>Parameter</th> <th>BAT-AEL ⁽¹⁵⁾ ⁽¹⁶⁾ (daily average)</th> </tr> </thead> <tbody> <tr> <td>Chemical oxygen demand (COD) ⁽¹⁷⁾ ⁽¹⁸⁾</td> <td>25-100 mg/l ⁽¹⁹⁾</td> </tr> <tr> <td>Total suspended solids (TSS)</td> <td>4-50 mg/l ⁽²⁰⁾</td> </tr> <tr> <td>Total nitrogen (TN)</td> <td>2-20 mg/l ⁽²¹⁾ ⁽²²⁾</td> </tr> <tr> <td>Total phosphorus (TP)</td> <td>0,2-2 mg/l ⁽²³⁾</td> </tr> </tbody> </table> <p>(16) The BAT-AELs may not apply to the production of citric acid or yeast (17) No BAT-AEL applies for biochemical oxygen demand (BOD). As an indication, the yearly average BOD5 level in the effluent from a biological waste water treatment plant will generally be ≤ 20 mg/l. (18) The BAT-AEL for COD may be replaced by a BAT-AEL for TOC. The correlation between COD and TOC is determined on a case-by-case basis. The BAT-AEL for TOC is the preferred option because TOC monitoring does not rely on the use of very toxic compounds. (20) The lower end of the range is typically achieved when using filtration (e.g. sand filtration, microfiltration, membrane bioreactor), while the upper end of the range is typically achieved when using sedimentation only. (21) The upper end of the range is 30 mg/l as a daily average only if the abatement efficiency is ≥ 80 % as a yearly average or as an average over the production period. (22) The BAT-AEL may not apply when the temperature of the waste water is low (e.g. below 12 °C) for prolonged periods.</p>	Parameter	BAT-AEL ⁽¹⁵⁾ ⁽¹⁶⁾ (daily average)	Chemical oxygen demand (COD) ⁽¹⁷⁾ ⁽¹⁸⁾	25-100 mg/l ⁽¹⁹⁾	Total suspended solids (TSS)	4-50 mg/l ⁽²⁰⁾	Total nitrogen (TN)	2-20 mg/l ⁽²¹⁾ ⁽²²⁾	Total phosphorus (TP)	0,2-2 mg/l ⁽²³⁾	NA	<p>We are satisfied that BAT-AELs to water are not applicable to this installation.</p> <p>The BAT-AELs are applicable only to discharges to water of process effluent. This installation discharged treated effluent to sewer under consent from Anglian Water therefore, BAT-AELs are not applicable.</p>
Parameter	BAT-AEL ⁽¹⁵⁾ ⁽¹⁶⁾ (daily average)												
Chemical oxygen demand (COD) ⁽¹⁷⁾ ⁽¹⁸⁾	25-100 mg/l ⁽¹⁹⁾												
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Total nitrogen (TN)	2-20 mg/l ⁽²¹⁾ ⁽²²⁾												
Total phosphorus (TP)	0,2-2 mg/l ⁽²³⁾												
13	<p>Noise management plan 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</p>	NA	<p>We are satisfied that BATc 13 is not applicable to this Installation.</p> <p>A noise management plan is only required where noise nuisance at sensitive receptors is</p>										

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	<p>part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> - a protocol containing actions and timelines; - a protocol for conducting noise emissions monitoring; - a protocol for response to identified noise events, eg complaints; - 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. 		<p>expected or has been substantiated. There have been no substantiated noise nuisance from the site therefore an NMP is not a requirement for this site.</p>
14	<p>Noise management</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"> (a) Appropriate location of equipment and buildings (b) Operational measures (c) Low-noise equipment (d) Noise control equipment (e) Noise abatement 	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 declared:</p> <ul style="list-style-type: none"> • Machinery and equipment with noise generating potential are appropriately located to minimise the risk of noise pollution • Low noise equipment is chosen for the replacement of exiting assets.
15	<p>Odour Management</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"> - a protocol containing actions and timelines; - a protocol for conducting odour monitoring. - a protocol for response to identified odour incidents eg complaints; - 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. 	NA	<p>We are satisfied that BATc 15 is not applicable to this Installation.</p> <p>An odour management plan is only required where odour nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated odour nuisance from the site recently, therefore this BATc is not applicable.</p>
SOFT DRINKS AND NECTAR/ JUICE MADE FROM PROCESSED FRUIT AND VEGETABLES BAT CONCLUSIONS (BAT 33)			

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														
33	<p>Energy efficiency – Soft drinks and nectar/ juice made from processed fruit and vegetables</p> <p>In order to increase energy efficiency, BAT is to use an appropriate combination of the techniques specified in BAT 6 and of the techniques given below.</p> <table border="1" data-bbox="277 427 1227 772"> <thead> <tr> <th>Technique</th> <th>Description</th> <th>Applicability</th> </tr> </thead> <tbody> <tr> <td>(a)</td> <td>Single pasteuriser for nectar/juice production</td> <td>Use of one pasteuriser for both the juice and the pulp instead of using two separate pasteurisers.</td> <td>May not be applicable due to the pulp particle size.</td> </tr> <tr> <td>(b)</td> <td>Hydraulic sugar transportation</td> <td>Sugar is transported to the production process with water. As some of the sugar is already dissolved during the transportation, less energy is needed in the process for dissolving sugar.</td> <td rowspan="2">Generally applicable.</td> </tr> <tr> <td>(c)</td> <td>Energy-efficient homogeniser for nectar/juice production</td> <td>See BAT 21b.</td> </tr> </tbody> </table>	Technique	Description	Applicability	(a)	Single pasteuriser for nectar/juice production	Use of one pasteuriser for both the juice and the pulp instead of using two separate pasteurisers.	May not be applicable due to the pulp particle size.	(b)	Hydraulic sugar transportation	Sugar is transported to the production process with water. As some of the sugar is already dissolved during the transportation, less energy is needed in the process for dissolving sugar.	Generally applicable.	(c)	Energy-efficient homogeniser for nectar/juice production	See BAT 21b.	CC	<p>The operator has provided information to support compliance with BATc 33. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 33.</p> <p>The Operator declared:</p> <ul style="list-style-type: none"> Using single pasteurisers for each production line <p>BATc points (b) and (c) are not applicable to this installation because (b) sugar is dissolved in the factory with no transportation required, and (c) nectar juice is delivered on site, ready to use.</p>
Technique	Description	Applicability															
(a)	Single pasteuriser for nectar/juice production	Use of one pasteuriser for both the juice and the pulp instead of using two separate pasteurisers.	May not be applicable due to the pulp particle size.														
(b)	Hydraulic sugar transportation	Sugar is transported to the production process with water. As some of the sugar is already dissolved during the transportation, less energy is needed in the process for dissolving sugar.	Generally applicable.														
(c)	Energy-efficient homogeniser for nectar/juice production	See BAT 21b.															
Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector Environmental Performance Levels																	
EPL	<p>Environmental Performance Level – Energy consumption for the Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector</p> <table border="1" data-bbox="277 983 1182 1072"> <thead> <tr> <th>Unit</th> <th>Specific energy consumption (yearly average)</th> </tr> </thead> <tbody> <tr> <td>MWh/hl of products</td> <td>0.01 – 0.035</td> </tr> </tbody> </table>	Unit	Specific energy consumption (yearly average)	MWh/hl of products	0.01 – 0.035	CC	<p>The operator has provided information to support compliance with BAT-EPL for energy. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BAT-EPL.</p> <p>The Operator declares for 2021 energy consumption recorded was 0.027 MWh/hl, which is within the EPL range of 0.01-0.035 MWh/hl of product.</p>										
Unit	Specific energy consumption (yearly average)																
MWh/hl of products	0.01 – 0.035																

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	<p>Environmental Performance Level – Specific waste water discharge for the Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector</p> <table border="1" data-bbox="277 368 1182 459"> <thead> <tr> <th data-bbox="277 368 636 411">Unit</th> <th data-bbox="636 368 1182 411">Specific waste water discharge (yearly average)</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 411 636 459">m³/hl of products</td> <td data-bbox="636 411 1182 459">0.08 – 0.20</td> </tr> </tbody> </table>	Unit	Specific waste water discharge (yearly average)	m ³ /hl of products	0.08 – 0.20	CC	<p>The operator has provided information to support compliance with BAT-EPL for wastewater. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BAT-EPL.</p> <p>The Operator declare a volume of wastewater discharged in 2021 of 0.13 m³/hl of product, which is within the EPL range of 0.08-0.2 m³/hl.</p>
	Unit	Specific waste water discharge (yearly average)					
m ³ /hl of products	0.08 – 0.20						

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

Updating permit during permit review consolidation

- Activity name
- Introductory note updated
- Site plan
- Table S1.1 overhaul
 - Activity Reference (AR) renumbering
 - Updated listed activities
 - Addition of production capacity
 - Directly associated activities (DAAs) standardisation

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.

Capacity 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 Operator has completed a H1 assessment of emissions for typical figures of production at the time of permitting.

The existing H1 assessment of particulate emissions to air remains valid for the revised capacity threshold now placed within table S1.1 of the permit.

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

For the existing combustion plant with a rated thermal input less than 1 MW we will not be including any emission limit values or monitoring requirements within the permit, unless any site specific conditions require us to do this.

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(s) below:

Boilers

1. Rated thermal input (MW) of the medium combustion plant.	10.1 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler 1: 3.6 MWth Boiler 2: 3.6 MWth Boiler 3: 2.9 MWth
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	All boilers use 100% 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 unknown, proof of the fact that the operation started before 20 December 2018.	Boiler 1 – January 2003 Boiler 2 – January 2002 Boiler 3 – January 1976

We have reviewed the information provided and we consider that the declared combustion plant qualify as “existing” medium combustion plant.

For existing MCP with a rated thermal input of less than or equal to 5 MW, Boilers 1, 2 and 3, the emission limit values set out in tables 1 and 3 of Part 1 of Annex II MCPD shall apply from 1 January 2030.

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 [Document reference CO1010004A from February 2005] during the original application duly made on 21/03/2005. 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 submitted a summary report which referenced the site condition report and baseline report. We have reviewed the information and we consider that it adequately describes the current condition of the soil and groundwater. Consequently, we are satisfied that the baseline conditions have not changed.

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 has confirmed there has been no change in the hazardous substances used, their capability of causing pollution and/or the pollution prevention measures at the installation since the risk assessment was submitted in February 2005.

The operator has confirmed there has been no change in the hazardous substances used, their capability of causing pollution and/or the pollution prevention measures at the installation since the risk assessment was submitted on 17/03/2006. Consequently, we are satisfied there has been no change to the assessment of risk for hazardous 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.

We do not consider the operator to have submitted a suitable climate change adaptation plan for the installation. We have included an improvement condition into

the permit (IC10) to request a climate change adaptation plan is submitted by the operator for approval from the Environment Agency.

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.

We reviewed the information provided by the operator and their findings. We are not satisfied that the existing tanks and containment measures on site meet the standards set out in CIRIA C736 as some tanks shown in the Reg. 61 Response are not bunded, including none of the ETP tanks listed in the Reg.61 Response are bunded, as well as other tanks, e.g., CIP caustic solution, or heavy load of organic compounds found in sugar-based solutions.

We have set improvement conditions in the permit to address the deficiencies in the existing tanks and containment measures on site (IC11). See Improvement conditions in Annex 3 of this decision document.

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.

Superseded Improvement Conditions – Removed from permit as marked as “complete”	
Reference	Improvement Condition
IC1	The Operator shall install adequate bunding (to the requirements given in Box 5 of Agency Technical Guidance Note IPPC H7, August 2003), or similar containment method to be approved in writing by the Agency, for the storage of liquid sugar, sodium hydroxide, sodium hypochlorite, sulphuric acid, diesel, waste product (BOD, COD, pH, hydrocarbons) lube oil and waste oil tanks within the installation. In particular the fills points for the waste oil and sulphuric acid tanks should be contained within the bunds.
IC2	The Operator shall provide the Agency with an updated written accident management plan, to include at least but not limited to the following hazards: failure of containment of any of the activities identified in the Application Site Report; pipe leak; accidental spillage or lead threatening contamination of the surface water drainage system; accidental release of volatile or gaseous substances, accidental release of ammonia; and the risk of fire from the quantities of oil stored on site. The accident management plan shall address the indicative BAT requirements described in Sector Guidance Note IPPC S6.10.
IC3	The Operator shall undertake an assessment of surfacing, containment measures and subsurface structures on site and their potential to cause fugitive emissions to surface water and ground water. The assessment will take into account the requirements of section 2.2.5 of the Agency Guidance Note IPPC S6.10, Dec 2002. A written report summarising the findings with proposals and timescales for any improvements shall be submitted to the Agency.
IC4	The Operator shall provide the Agency with a BAT options appraisal for the reduction of CO2 emissions from the installation (mainly from the carbonation and canning processes). A written report detailing any proposed improvements and timescales for implementation shall be submitted to the Agency.
IC5	The Operator shall provide the Agency with a description of the measures in place to ensure that run off to the surface water sewer cannot receive contaminated water, addressing as a minimum: contaminated firewater; cleaning chemicals; and minor spills. A written report shall be submitted to the Agency.
IC6	The Operator shall provide the Agency with a BAT options appraisal for the storage and handling of waste. A written report detailing any proposed improvements and timescales for implementation shall be submitted to the Agency.

IC7	The Operator shall develop a written Site Closure Plan with regard to the requirements set out in Section 2.11 of the Agency Guidance Note IPPC S6.10, Dec 02. Upon completion of the plan a summary of the document shall be submitted to the Agency in writing.
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The following improvement conditions have added to the permit as a result of the variation.

Improvement programme requirements		
Reference	Reason for inclusion	Justification of deadline
IC8	The operator shall confirm, achievement of the 'Narrative' BAT conclusions as identified in the Food, Drink and Milk Bref published on 4 December 2019 where BAT is currently not demonstrated or achieved with respect to BATcs 1, 2, 3, and 6. Refer to BAT Conclusions for a full description of the BAT requirement.	3 months from date of issue or as agreed in writing by the Environment Agency
IC9	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. To demonstrate compliance against BAT 9, the operator shall produce a plan for the onsite refrigerant system(s) at the installation. The plan is to be assessment by the Environment Agency and shall be incorporated within the existing environmental management system. The plan should include, but not be limited to, the following: <ul style="list-style-type: none"> • Where practicable, retro filling systems containing high GWP refrigerants e.g. R-404A with lower GWP alternatives as soon as possible. • An action log with timescales, for replacement of end-of-life equipment using refrigerants with the lowest practicable GWP. 	3 months from date of issue or as agreed in writing by the Environment Agency
IC10	The operator shall produce a climate change adaptation plan, which will form part of the EMS. The plan shall include, but not be limited to: <ul style="list-style-type: none"> • Details of how the installation has or could be affected by severe weather; • The scale of the impact of severe weather on the operations within the installation; • An action plan and timetable for any improvements to be made to minimise the impact of severe weather at the installation. 	12 months from permit issue

	<p>The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency.</p>	
<p>IC11</p>	<p>The Operator shall undertake a survey of the primary, secondary and tertiary containment at the site and review measures against relevant standard including:</p> <ul style="list-style-type: none"> • CIRIA Containment systems for the prevention of pollution (C736) – Secondary, tertiary and other measures for industrial and commercial premises, • EEMUA 159 - Above ground flat bottomed storage tanks <p>The operator shall submit a written report to the Environment Agency approval which outlines the results of the survey and the review of standard and provide details of</p> <ul style="list-style-type: none"> • current containment measures • any deficiencies identified in comparison to relevant standards, • improvements proposed • time scale for implementation of improvements. <p>The operator shall implement the proposed improvements in line with the timescales agreed by the Environment Agency.</p>	<p>12 months from permit issue</p>