

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Pura Foods Limited
Purfleet Vegetable Oil Refinery
London Road
Purfleet
Essex
RM19 1SD

Variation application number

EPR/BU7677IZ/V009

Permit number

EPR/BU7677IZ

Purfleet Vegetable Oil Refinery

Permit number EPR/BU7677IZ

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

This consolidated permit has been issued following a full review against the best available techniques (BAT) conclusions for the Food, Drink and Milk Industries published on 4th December 2019 in the official journal of the European Union.

We have implemented the requirements of the Medium Combustion Plant directive, and incorporated post-dated requirements for 2025 (for Wartsila CHP Engine, Waste heat recovery Boiler, and Standby Boiler) and 2030 (for Lurgi Boiler 1 and Lurgi Boiler 2).

The schedules specify the changes made to the permit.

The main features of the permit are as follows.

The installation is located on the northern bank of the river Thames in an industrial area of Purfleet, Essex, at approximately 24km East from London City at Nation Grid Reference TQ 56918 77042. The site processes oils for the scope of producing refined oils, pastry and cake margarines, shortenings, frying oils and fats from vegetable raw material oils by blending of crude vegetable oils, by-products from the refining of vegetable oils and oils and fats recovered from the production of edible oils, fats, and margarines.

For the operation of the installation there are combustion plants comprising of one Combined Heat and Power (CHP) and associated waste heat boiler and two standalone Boilers with an aggregated input of 40.8 MWth fuelled by natural gas entirely. The combustion gases produced by these plants are released into the atmosphere via the air emission points A16, A17, and A18; the former is a shared stack servicing the CHP, Waste heat recovery Boiler, and the Standby Boiler.

Process wastewater generated during the production process and cleaning activities is treated in the onsite effluent treatment plant (ETP) consisting of neutralisation, physical separation in fat-traps, chemical dosing, coagulation and flocculation, Direct Air Flotation (DAF), sedimentation, and flotation prior to discharge under consent to the foul sewer for further treatment by Anglian Water. For the cooling process, water is abstracted from the river Thames and returned contaminated to the river via water emission point W1 without having been treated as it does not enter into contact with any solutions or products. Uncontaminated run-off waters from roofs and yards is discharged to river Thames via emission point W2, while through emission point W3 jetty water is discharged via a three-stage interceptor.

There are two Sites of Special Scientific Interest (SSSI) in the vicinity of the installation, Purfleet Chalk Pits and West Thurrock Lagoon and Marshes, twelve Local Wildlife Sites, and two Ancient Woodlands, and a Marine Conservation Zone (MCZ), Swanscombe, all within 2km from the site.

The Operator has an Environmental Management System (EMS) externally accredited at ISO 14001 standard.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application received EPR/BU7677IZ/A001	30/03/2005	Application received for production of food products from vegetable raw materials.
Request to extend determination	23/08/2025	--
Additional information received	28/11/2005 03/01/2006	--
Permit determined EPR/BU7677IZ/A001	12/01/2006	Permit issued to Pura Foods Limited.
Application EPR/BU7677IZ/V002	Duly made 07/03/2012	Minor technical variation.
Variation determined EPR/BU7677IZ/V002	29/03/2012	Varied permit issued.
Application EPR/BU7677IZ/V003 (variation and consolidation)	24/03/2013	Application to vary and consolidate previous variations into one permit.
Variation determined EPR/BU7677IZ/V003	27/06/2013	Varied and consolidated permit issued.
Application EPR/BU7677IZ/V004	Duly made 21/08/2014	Minor technical variation, inclusion of new loading and blending area for entering feed market.
Variation determined EPR/BU7677IZ/V004	25/09/2014	Varied permit issued.
Variation application EPR/BU7677IZ/V005	Duly made 14/02/2018	Application to add a DAA for temporary glycol water chilling units.
Further information received	13/04/2018	Additional BAT assessment details.
	22/05/2018	Waste handling procedure.
Variation determined EPR/BU7677IZ	23/05/2018	Varied permit issued.
Variation application EPR/BU7677IZ/V006	Duly made 11/08/2020	Application to add an Effluent Treatment Plant and associated Fat Traps.
Response to request for further information dated 27/07/20	14/09/2020	Supply discharge consent, tanker filling procedures, chemicals storage, BAT assessment.
Variation determined EPR/BU7677IZ	29/09/2020	Varied permit issued.
Part surrender application (EPR/BU7677IZ/S007)	Duly made 24/04/2020	Application to surrender the fat traps and associated land.
Part surrender determined EPR/BU7677IZ	16/10/2020	Part surrender complete.
Variation application EPR/BU7677IZ/V008	Duly made 13/07/2021	Application to add Jetty Operations (accepting ship pre-wash waste water) as a directly associated activity.
Further information received	12/07/2021	EMS summary
Variation determined EPR/BU7677IZ	08/09/2021	Varied permit issued.

Status log of the permit		
Description	Date	Comments
Application EPR/BU7677IZ/V009 (variation and consolidation)	Regulation 61 Notice response received 28/10/2022	Environment Agency initiated variation and consolidation following the Food, Drink & Milk Industries sector permit review.
Further information request (dated 21/08/2023)	14/09/2023	Information regarding BATcs 1, 3, 6, 11, 32, MCPs stack emissions, nitrogen generation plant, cooling towers, product lines, and non-technical description.
	03/10/2023	Containment measures.
	13/10/2023	Updated site plan.
Variation determined and consolidation issued EPR/BU7677IZ (Billing ref. LP3549QV).	08/12/2023	Varied and consolidated permit issued in modern format

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies:

Permit number

EPR/BU7677IZ

Issued to

Pura Foods Limited (“the operator”)

whose registered office is

Adm International Offices

Church Manorway

Erith

Kent

DA8 1DL

company registration number 02158570

to operate a regulated facility at

Purfleet Vegetable Oil Refinery

London Road

Purfleet

Essex

RM19 1SD

to the extent set out in the schedules.

The notice shall take effect from 08/12/2023.

Name	Date
Marcus Woodward	08/12/2023

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BU7677IZ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BU7677IZ/V009 authorising,

Pura Foods Limited (“the operator”),

whose registered office is

Adm International Offices

Church Manorway

Erith

Kent

DA8 1DL

company registration number 02158570

to operate an installation/part of an installation at

Purfleet Vegetable Oil Refinery

London Road

Purfleet

Essex

RM19 1SD

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Marcus Woodward	08/12/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme or other approval issued by the Environment Agency.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 The activities shall be undertaken in accordance with best available techniques.
- 2.1.3 All process plant and equipment shall be commissioned, operated and maintained and shall be fully documented and recorded in accordance with the manufacturer’s recommendations.
- 2.1.4 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.
- 3.1.4 For the following activities referenced in schedule 1, table S1.1 (AR3 - Wartsila CHP engine, Waste heat recovery Boiler, and Standby Boiler) the first monitoring measurements shall be carried out within four months of 01/01/2025, and 01/01/2030 for Lurgi Boiler 1 and Lurgi Boiler 2, or of the date when the MCP is first put into operation, whichever is later.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1, S3.2 and S3.3.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2, and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.6.2 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production/treatment data set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Following the detection of an issue listed in condition 4.3.1, the operator shall review and revise the management system and implement any changes as necessary to minimise the risk of re-occurrence of the issue.

4.3.4 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.5 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

- 4.3.6 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.7 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.
- 4.3.8 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity and waste types
AR1	Section 6.8 A(1) (d)(ii)	Treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed (where the weight of the finished product excludes packaging) – (ii) only vegetable raw materials with a finished product production capacity greater than 300 tonnes per day or 600 tonnes per day where the installation operates for a period of no more than 90 consecutive days in any year.	From receipt of raw vegetable oil to removal of unrefined oil from storage tanks and production of refined oils, pastry and cake margarines, shortenings, frying oils, and fats. In addition, blending of crude oils and by-products from the refining of vegetable oils and fats recovered from the production of edible oils, fats, and margarines, to dispatch of finished product. Production capacity is limited to 959 tonnes per day.
AR2	Section 5.4 Part A1 (a)(ii)	Physico-chemical Treatment of non-hazardous waste waters by dissolved air flotation	From generation of wastewater and ship pre-wash wastewater (as specified by Table S2.2) via fat traps to discharge to the foul sewer following treatment in on-site ETP, including neutralisation, physical separation in fat traps, chemical dosing, coagulation and flocculation in DAF, sedimentation, and flotation.
Directly Associated Activity			
AR3	Steam and electrical power supply	Medium Combustion plants: Wartsila CHP Engine: 19.5 MWth Waste heat recovery Boiler: 17.5 MWth Standby Boiler: 17.6 MWth Lurgi Boiler 1: 2.3 MWth Lurgi Boiler 2: 2.3 MWth MCPs are fired on natural gas	From receipt of fuel to release of products of combustion to air. Standby Boiler will be operated in case of emergency, breakdown, or maintenance of the CHP or Waste Heat Recovery Boiler only.
AR4	Nitrogen generation plant	Use of nitrogen to purge air from void space to minimise product degradation and reduce waste.	From the air inlet to the nitrogen outlet via pressure swing adsorption.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity and waste types
AR5	Raw material storage and handling	Storage and handling of raw materials at the installation	From receipt of raw materials to dispatch of final product.
AR6	Use of refrigerants	Use of refrigerants in cooling, chilling and/or freezing systems at the installation.	From receipt of raw materials to dispatch of final product.
AR7	Glycol chilling plant	Glycol water cooling system	Operation of four cooling units for the deodorisers' chilled condenser system.
AR8	Storage and use of chemicals and oils	Storage and use of chemicals and oils at the installation.	From receipt of chemicals and oils to disposal of wastes arising.
AR9	Waste storage and handling	Storage and handling of waste materials.	From generation of waste to storage pending removal for disposal or recovery.
AR10	Process cooling waters	Operation of four cooling tower and three cooling condensers.	From operation of cooling towers, including chemical dosing.
AR11	Surface water drainage	Collection of uncontaminated site surface run-off, jetty, and cooling water.	Handling and storage of site drainage until discharge to the site surface water system leading to River Thames.
AR12	Jetty operations	Handling of oil delivered to and from the site via ship and barge.	Off-loading of refined and unrefined oil from ships to dispatch Group 3 tank farm.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application for variation EPR/BU7677IZ/V002	Document reference PV-c and PV-d	02/03/2012
Application for variation EPR/BU7677IZ/V003	Response to Form C3, question 3a	01/03/2013
Application for variation EPR/BU7677IZ/V004	Response to Form C2 and C3	21/08/2014
Application for variation EPR/BU7677IZ/V005	Response to Form C3, question 3a – Summary of permit variation, ref. FP14b	09/02/2018
Additional information	Waste handling procedure – QuNoEu 4.3.4 Providing a TC Solution v2 May 2016	22/05/2018
Application for variation EPR/BU7677IZ/V006	Application form responses in Form parts: C2 and C3	11/08/2020
Request for further information contained within Not Duly Made letter.	Response to further questions in Not Duly Made letter dated 27/07/20 re discharge consent, tanker filling procedures, chemicals storage & BAT Assessment.	14/09/2020

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application for variation EPR/BU7677IZ/V008	WM3 Assessment: Classification and Assessment of Ship's Pre-wash Waste Water – document reference 20449164601/B.1	26/02/2021
Application for variation EPR/BU7677IZ/V008	Work instructions – Document reference no: 176756	26/02/2021
Regulation 61 (1) Notice – Responses to questions dated 08/06/2022	All parts	Received 28/10/2022
Request for further information dated 21/08/2023	Information provided in relation to BATcs 1, 3, 6(a), 11, 32, operating hours, bunding capacity, nitrogen generation plant, cooling towers, and non-technical description.	14/09/2023
	Containment measures	03/10/2023
	Updated site plan	13/10/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC13	<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"> • 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. 	One month from permit issue
IC14	<p>The operator shall produce a climate change adaptation plan, which will form part of the EMS.</p> <p>The plan shall include, but not be limited to:</p> <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. <p>The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency.</p>	12 months from permit issue of other date as agreed in writing with the Environment Agency

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
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Table S2.2 Permitted waste types and quantities for AR2.	
Maximum quantity	The total quantity of pre-wash wastewater accepted at the site shall not exceed 3,000 tonnes a year.
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing.
02 03	Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation.
02 03 01	Sludges from washing, cleaning, peeling, centrifuging and separation.

Schedule 3 – Emissions and monitoring

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in Schedule 7]	Lurgi area odour control vents (biofilter)	Odour	No limit set	--	--	--
A2 [Point A2 on site plan in Schedule 7]	Bleacher area odour control vents (biofilter)	Odour	No limit set	--	--	--
A3 [Point A3 and on site plan in Schedule 7]	Bleacher filter blowing	No parameter set	No limit set	--	--	--
A4 [Point A4 on site plan in Schedule 7]	Refinery upper floor MPV	No parameter set	No limit set	--	--	--
A5 [Point A5 on site plan in Schedule 7]	Refinery upper floor Bleaching	No parameter set	No limit set	--	--	--
A6 [Point A6 on site plan in Schedule 7]	Acid oil tank scrubber	No parameter set	No limit set	--	--	--
A7 [Point A7 on site plan in Schedule 7]	Hydrochloric acid vent via scrubber	No parameter set	No limit set	--	--	--
A8 and A9 [Points A8 and A9 on site plan in Schedule 7]	Bleaching earth silos via bag filters	No parameter set	No limit set	--	--	--
A10 [Point A10 on site plan in Schedule 7]	Carbon silo via bag filter	No parameter set	No limit set	--	--	--
A16 [Point A16 on site plan in Schedule 7]	Lurgi Boiler 1 2.3 MWth Natural gas [Note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO _x)	250 mg/m ³	Periodic	Every three years	BS EN 14792
		Carbon monoxide	No Limit	Periodic	Every three years	MCERTS BS EN15058
A17 [Point A17 on site plan in Schedule 7]	Lurgi Boiler 2 2.3 MWth Natural gas [Note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO _x)	250 mg/m ³	Periodic	Every three years	BS EN 14792
		Carbon monoxide	No Limit	Periodic	Every three years	MCERTS BS EN15058

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A18 [Point A18 on site plan in Schedule 7]	Wartsila Engine (CHP) 19.5 MWth, shared stack Natural gas [Note 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO _x)	190 mg/m ³	Periodic	Every year	BS EN 14792
		Carbon monoxide	No Limit	Periodic	Every year	MCERTS BS EN15058
A18 [Point A18 on site plan in Schedule 7]	Waste heat recovery Boiler 17.5 MWth, shared stack Natural gas [Note 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO _x)	200 mg/m ³	Periodic	Every year	BS EN 14792
		Carbon monoxide	No Limit	Periodic	Every year	MCERTS BS EN15058
A18 [Point A18 on site plan in Schedule 7]	Standby Boiler 17.6 MWth shared stack Natural gas [Note 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO _x)	200 mg/m ³	Periodic	Every year	BS EN 14792
		Carbon monoxide	No Limit	Periodic	Every year	MCERTS BS EN15058

Note 1: This emission limit and/or monitoring requirement applies from 1 January 2030, unless otherwise advised by the Environment Agency.

Note 2: This emission limit and/or monitoring requirement applies from 1 January 2025, unless otherwise advised by the Environment Agency.

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 on site plan in schedule 7 emission to River Thames	Cooling water abstracted from River Thames	Total daily volume of discharge	4,467 m ³ /day	24-hour total	Continuous	MCERTS self-monitoring of effluent flow scheme
		Fat, oil, and grease	No visible sign of oil or grease	Spot sample	Weekly	Visual inspection
		Fat, oil, and grease	20 mg/l	Spot sample	Quarterly [Note 1]	SCA Blue Book No. 77 (ISBN 0117517275)

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
		BOD	10 mg/l	Average	Monthly	EN 1899-1
		Temperature	35 °C	24h rolling average	Continuous	--
			37 °C	Hourly average		
W2 on site plan in schedule 7 emission to River Thames	Uncontaminated surface water run-off	No parameter set	No limit set	--	--	--
W3 on site plan in schedule 7 emission to River Thames	Surface water discharge from 4-stage interceptor on jetty.	No parameter set	No limit set	--	--	--

Note 1: Or on any sample if oil or grease is detected visually and/or BOD>10mg/l.

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 [Point S1 on site plan in schedule 7] emission to Anglian Water Sewage Treatment Works	Treated process effluent from onsite effluent treatment plant	No parameters Set	No limit set	--	--	--

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Point source emissions to air Parameters as required by condition 3.5.1	From 01/01/2025 A18: Wartsila Engine (CHP) A18: Waste heat recovery Boiler A18: Standby Boiler	Annually	From first monitoring requirements in accordance with Condition 3.1.4
	From 01/01/2030 A16: Lurgi Boiler 1 A17: Lurgi Boiler 2	First monitoring undertaken in accordance with Condition 3.1.4 to be reported within 3 months, and then every 3 years thereafter.	
Point source emissions to water (other than sewer) Parameters as required by condition 3.5.1	W1	Quarterly	1 January, 1 April, 1 July & 1 October

Parameter	Units
Edible oils and fats	tonnes
Packed pastry	tonnes
Cake margarines	tonnes
Shortenings	tonnes
Fraying oils	tonnes
Lecithin	tonnes
Animal feed oil blends	tonnes

Parameter	Frequency of assessment	Units
Water usage	Annually	m ³
Energy usage	Annually	MWh
Waste	Annually	tonnes
Food waste	Annually	tonnes
COD efficiency	Annually*	COD te/te product

*COD efficiency to be calculated on a weekly frequency, reported annually

Table S4.4 Reporting forms		
Parameter	Reporting form	Form version number and date
Point source emissions to air	Emissions to Air Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Point source emissions to water (other than sewer)	Emissions to Water Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Water usage	Water Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Energy usage	Energy Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Food waste	Food waste Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1 06/02/2023
Other performance parameters	Other Performance Parameters Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“average over the sampling period” means the average value of three consecutive measurements of at least 30 minutes each, unless otherwise stated, as defined in the General Considerations section of the Food, Drink & Milk Industries BAT Conclusions.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“Food waste” reporting: Reporting of food waste to use a methodology such as the global Food Loss and Waste Accounting and Reporting Standard (FLW standard) , WRAP’s Target Measure Act initiative or similar.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“Medium Combustion Plant” or “MCP” means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW. An “existing medium combustion plant” is combustion plant operating before 20 December 2018.

“Medium Combustion Plant Directive” or “MCPD” means Directive 2015/2193/EU of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from medium combustion plants, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

Pests” means Birds, Vermin, and Insects.

“Waste code” means the six-digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels other than gas engines or gas turbines, 6% dry for solid fuels; and/or
- in relation to emissions from gas engines or gas turbines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

“year” means calendar year ending 31 December.

