

# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

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British Sugar PLC  
Newark Sugar Factory  
Newark  
Nottinghamshire  
NG24 1DL

**Variation application number**

EPR/BK9385IH/V007

**Permit number**

EPR/BK9385IH

# Newark Sugar Factory

## Permit number EPR/BK9385IH

### 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 4<sup>th</sup> December 2019 in the official journal of the European Union.

We have also implemented the requirements of the relevant BAT Conclusions from the Large Combustion Plant, Cement, Lime and Minerals, and Waste Treatment BRefs.

The schedules specify the changes made to the permit.

The main features of the permit are as follows.

The British Sugar factory at Newark produces crystalline sugar, which is despatched in bulk or packaged on site in a packaging plant. In addition, it produces and sells animal feed (from the beet residues after extraction of the sugar), lime products for agricultural use (from the lime used to purify the sugar juice), topsoil for agricultural and horticultural use (reclaimed from the soil that comes in with the beet) and stones (that come in with the beet) for use for construction purposes.

Beet is delivered from September to late February (a period known as the 'campaign'). During the campaign both sugar and concentrated sugar juice (thick juice) are produced in a twenty-four hour process. Some of the thick juice is processed into crystalline sugar during the campaign and the rest is stored and processed into crystalline sugar during the juice refining period (or juice run), usually between May and July. Outside the campaign and juice refining period the sugar production process closes down and maintenance is carried out.

The sugar production process comprises:

- Receipt, handling, unloading and storage of sugar beet. The beet is stored on a concrete flat pad until it is required in the process. It is transported to the beet slicing station by water flume.
- Feedstock cleaning. The beet is cleaned during fluming. Soil, stones, and weed/leaf material is removed and reclaimed. Pieces of broken beet are recovered via screens and returned to the process. The water used in the flume is known as the transport water and is treated and re-used repeatedly. Antifoam, recycled water from the anaerobic digester and alkali if necessary are added to the transport water to maintain the quality of the water and improve the fluming characteristics.
- Beet slicing. The beet is sliced into thin slices known as cosettes using power driven drum slicers.
- Extraction (diffusion and pulp pressing). The cosettes and reclaimed broken beet pieces are passed into a continuous counter-current extraction process that uses recycled pressed pulp water supplemented by recycled condensed vapour from the evaporation stage. The pH is adjusted with sulphuric acid. Microbial growth is inhibited with biocides. Antifoam is added to control foaming caused by saponins from the beet. Wet pulp from the extractor goes to mechanical pulp presses. After the addition of pressing aids, the pulp is mechanically pressed, the pressed pulp going on to conversion into animal feed, the water pressed from the process passing through screens to reclaim pieces of pulp, with the water being recycled into the diffuser. The sugar juice emerging from the extraction process is called 'raw juice' and passes to the purification stage

- Purification, including beet end filtration. Soluble and insoluble impurities are removed by a two-stage carbonatation process. The raw juice is treated with milk of lime from the lime slaking process, then passed to a gassing tank where carbon dioxide from the lime kilns is added. Impurities are removed by the calcium carbonate, which is formed by the reaction between the milk of lime and the carbon dioxide. The calcium carbonate is allowed to settle in a clarifier. The juice from the clarifier goes through a second gassing tank where addition of further carbon dioxide precipitates out the remainder of the lime. The calcium carbonate from this stage is filtered out. Calcium carbonate from the first clarifier is pressed to increase dry substance in the lime cake, which is sold as LimeX. Water from the LimeX filter press ('sweet water') is recycled to make the slaked lime. Small amounts of antifoam, flocculants, colour inhibitor, alkali and filtration aids may be added to assist processing.
- Sulphitation. Solid sulphur is burned in an enclosed stove, to form sulphur dioxide. The sulphur dioxide is added to the sugar juice via a counter-current juice absorption column before the evaporator station to inhibit the colour forming reactions that take place at high temperatures. The exhaust gasses from the scrubber are scrubbed in a second packed bed column fed by condensed vapour from the sugar process.
- Evaporation. The thin juice is concentrated from 15% dry solids to 67-69% by a series of evaporators. These are heated by steam from the onsite combined heat and power unit and incorporate a high degree of heat reclamation.
- Filtration and dissolving – sugar end. The thick juice is filtered in a two-stage process using filter aid to remove any small particles prior to crystallisation. Crystallised sugar and sugar syrups are recycled to the main process flow via a continuous high shear dissolving process.
- Thick juice export. During the campaign some of the thick juice is sent to store for later processing (normally out of campaign). The export system conditions the juice for this by concentrating the juice to within a tightly controlled range of solids content ('brix'), correcting the pH, and reducing its temperature to below 20°C.
- Thick juice import. The thick juice import system ensures the juice is returned in the correct condition for further processing by pre-heating the juice using recycled condensate, correcting the pH with alkali and sometimes the addition of a colour inhibitor.
- Sugar crystallisation and centrifuging. Crystallisation takes place in batch pans in up to three stages. Syrup is boiled under vacuum (to minimise the temperature required). Sugar crystals are removed from the liquid phase by centrifuging and washing with recycled condensate. The syrup is either recycled for further crystallisation or sold as a product. There is extensive scope for reclaiming out of specification sugar and syrup in this process. As well as crystalline sugar, the process produces molasses which is either sold as a product or applied to the animal feed.
- Sugar drying and cooling. The hot, damp sugar is dried in rotary dryers in a counter-current stream of warm air. The dried sugar is cooled with filtered ambient air in a rotary cooler. Sugar dust from the process is trapped in filters and recycled.
- Bulk sugar is stored on site in 4 silos. Each silo is supplied with conditioned air by an air conditioning unit.
- Animal feed drying. Following extraction of sugar, the sugar beet cossettes are mechanically pressed to reduce the water content. They may then be sold immediately as wet animal feed, or thermally dried. Syrups may be mixed with the pressed pulp prior to drying to increase the nutritional value of the final feed, and it is substances in the syrups which give rise to the characteristic beet drying odour. The pulp is dried in two rotary dryers, using hot gases generated by the burning of natural gas in the No.1 dryer (with light fuel oil and propane for start-up) in the No.2 dryer. The exhaust gases from the dryers are discharged via cyclones to remove particulates.
- Animal feed pelleting and coating. Dried animal feed (shreds) directly from the dryers are extruded to form pellets. These are cooled in ambient air and graded over a screen. The pellets are transferred by conveyor to the warehouse for despatch. The exhaust gas from the coolers is discharged via cyclones to remove particulates and the solids are discharged into bins for removal from the site.

The factory operates a Combined Heat and Power (CHP) system that produces steam and electricity for the site. The system burns natural gas with excess electricity exported to the National Grid. Two Sulzer boilers (LCP 35), each of 41.54 MW thermal input, are used to generate steam for the CHP system and discharge via a common stack (A61/62). LCP 35 can also run on biogas produced by the onsite waste water treatment plant.

Slaked lime is produced on site for use in the sugar production process by calcining limestone with coke or anthracite, and then slaking it with water. The carbon dioxide produced during calcining is consumed in the sugar production process. A vertical shaft kiln is used due to its suitability for the production of both lime and kiln gas of the required quality.

There is an extensive biological treatment system for waste water, which includes the use of an anaerobic digester and aerobic treatment plant as well as a number of lagoons, some of which also serve as water storage reservoirs. Final effluent is discharged to the River Trent.

The installation emits sulphur dioxide, nitrogen oxides, carbon monoxide, ammonia, particulate and volatile organic compounds to air, and ammonia, nitrate, and phosphate to water. The main emissions to air from the installation arise from the Sulzer boilers (A61/62), animal feed dryers (A48 and A49), pelleting plant and the carbonation system control valve and vents. Particulate emissions are abated from the lime slaker, animal feed dryers and a number of other associated sources by the use of cyclones.

The site operates an externally audited environmental management system which is certified to ISO 14001.

The site is located in a predominantly agricultural area approximately 1.3 km to the north-west of Newark-on-Trent, which is situated between Nottingham to the south-west and Lincoln to the north-east. The River Trent flows both to the north and south of the site.

There are no Sites of Special Scientific Interest (SSSIs) within 2 km or European sites within 10 km of the installation. The site is located in an area of predominantly agricultural use, approximately 3 km to the north-east of Newark. The River Trent flows approximately 400 m to the north-west of the site. The site is underlain by a minor aquifer of intermediate vulnerability.

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

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application BK9385IH received (EPR/BK9385IH/A001)	30/03/2005	Issued under the PPC Regulations
Permit determined	29/03/2006	
Variation notice issued EPR/BK9385IH/V002	17/12/2007	To implement the National Emissions Reduction Plan Issued under the EPR 2007 Regulations
Application for variation EPR/BK9385IH/V003 received	29/03/2010	Changes to emission points and installation boundary
Request for further information	29/06/2010	Response received 30/06/2010
Variation notice determined EPR/BK9385IH/V003	09/07/2010	Issued under the EPR 2010 Regulations
Variation notice determined EPR/BK9385IH/V004	06/08/2013	Environment Agency variation to implement the changes introduced by IED
Regulation 60 Notice sent to the Operator	31/10/2014	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.
Regulation 60 Notice response	13/03/2015	Response received from the Operator
Variation determined EPR/BK9385IH/V005	17/12/2015	Varied permit issued. Variation effective from 01/01/2016
Variation determined EPR/BK9385IH/V006	29/05/2020	Environment Agency Variation to introduce the IED Chapter III, Annex V requirements. Variation effective from 01/07/2020
Application EPR/BK9385IH/V007 (variation and consolidation)	Regulation 61 Notice response received 07/10/2022	Environment Agency initiated variation and consolidation following the Food, Drink & Milk Industries sector permit review.
Variation determined and consolidation issued EPR/BK9385IH (Billing ref: KP3143QR)	30/11/2023	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/BK9385IH

### Issued to

**British Sugar PLC** (“the operator”)

whose registered office is

**Weston Centre**

**10 Grosvenor Street**

**London**

**W1K 4QY**

company registration number **00315158**

to operate a regulated facility at

**Newark Sugar Factory**

**Newark**

**Nottinghamshire**

**NG24 1DL**

to the extent set out in the schedules.

The notice shall take effect from 04/12/2023.

Name	Date
Stacey Tapsell	30/11/2023

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/BK9385IH**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BK9385IH/V007 authorising,

**British Sugar PLC** (“the operator”),

whose registered office is

**Weston Centre  
10 Grosvenor Street  
London  
W1K 4QY**

company registration number **00315158**

to operate an installation/part of an installation at

**Newark Sugar Factory  
Newark  
Nottinghamshire  
NG24 1DL**

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

Name	Date
Stacey Tapsell	30/11/2023

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.

### 1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
- (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (d) 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;
- (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”).

### **2.2 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 For the following activities referenced in schedule 1, table S1.1: LCP35. The activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” dated May 2021 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 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.
- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1: LCP35. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.
- 2.3.6 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.
- 2.3.7 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

### **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(a), S3.1(b) and S3.2.
- 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.

#### **3.2 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(a), S3.1(b) and S3.2.
- (b) process monitoring specified in table 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 continuous), 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(a), S3.1(b) and S3.2 unless otherwise agreed in writing by the Environment Agency.

### **3.6 Monitoring for Large Combustion Plant**

3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive and the Large Combustion Plant Best Available Techniques Conclusions.

3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:

- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
- (b) implement the approved proposals.

3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.

3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.

- 3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1(a); the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in table(s) S3.1a the validated hourly, monthly, yearly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
  - (b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
  - (c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
  - (d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
  - (e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period. Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and
  - (f) any day, in which more than three hourly average values are invalid shall be invalidated.

## **3.7 Pests**

- 3.7.1 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.
- 3.7.2 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;
- (c) the performance parameters set out in schedule 4 table S4.3A and S4.3B using the forms specified in table S4.4 of that schedule.
- (d) where conditions 2.3.5, 2.3.6 and 2.3.7 and 2.3.9 applies, the hours of operation in any year.

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.

## 4.3 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 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.
- 4.3.4 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:
- (c) any change in the operator's name or address; and
  - (d) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (e) the death of any of the named operators (where the operator consists of more than one named individual);
  - (f) any change in the operator's name(s) or address(es); and
  - (g) 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.
- 4.3.5 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.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 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.
- 4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

## **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 ref.	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	<b>Section 1.1 Part A(1)(a)</b> Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	<b>LCP 35</b> Burning natural gas, in two Sulzer boilers (A61 & A62) each with a thermal input of 41.54 MWth to generate steam and electricity  Biogas from the site wastewater treatment plant can also be used as a fuel in the two boilers	From the receipt of fuel to the use of steam and electricity in all listed activities and directly associated activities, the export of steam and electricity to other processes on the site, the export of electricity to the National Grid, the discharge of emissions to air and the disposal of waste arising.
AR2	<b>Section 3.1 Part A(1)(b)</b> Producing lime in kilns or other furnaces with a production capacity of more than 50 tonnes per day	Producing lime in a vertical shaft limekiln with a capacity of 300 tonnes per day, for subsequent conversion to slaked lime to be used in the sugar production process.	From the receipt of fuel (anthracite or coke), and limestone to the slaking of the lime produced, the use of the kiln gas in the sugar making process, the discharge of kiln gas to air and the disposal of ash and solid residues.
AR3	<b>Section 4.2 Part A(1)(a)(i)</b> Producing inorganic chemicals such as gases, such as oxides of sulphur	Producing sulphur dioxide to be used in the sugar production process.	From the receipt of sulphur to the use of sulphur dioxide in the sugar making process, the emission of exhaust gas to air and the disposal of waste.
AR4	<b>Section 5.4 Part A(1)(a)(i)</b> Disposal of non-hazardous waste in a facility with a capacity exceeding 50 tonnes per day by biological treatment.	The treatment of waste water by means of anaerobic and aerobic plant, clarifiers and several lagoons.	From the transfer of waste water from the site drains and processes and from the clarifier treating the waste water from the beet fluming process, and the receipt of raw materials and the re-use of treated water in the process or its disposal to river.
AR5	<b>Section 6.8 Part A(1)(d)(ii)</b> Treating and processing materials intended for the production of food products from vegetable raw materials at plant with a finished product production capacity of more than 300 tonnes per day (average value on a quarterly basis)	The production of sugar juice from sugar beet.	From the receipt of sugar beet to the transfer of thick juice to the filtration and dissolving unit, or to storage tank or to tanker.  Maximum sugar beet processed: 12,500 tonnes per day.

<b>Table S1.1 activities</b>			
<b>Activity ref.</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
AR6	<b>Section 6.8 Part A(1)(d)(ii)</b> Treating and processing materials intended for the production of food products from vegetable raw materials at plant with a finished product production capacity of more than 300 tonnes per day (average value on a quarterly basis)	The production of animal feed from sugar beet in two dryers both fired on natural gas.	From the receipt of fuel and the transfer of spent cossettes (pulp) from the sugar diffuser to the despatch of animal feed, emissions to air and disposal of ash and waste, including solid waste from the combustion process used for drying the pulp in two natural gas dryers with a thermal capacity of 32 MWth each.  Maximum production capacity: Pellets: 1050 t/day Pressed pulp: 2,050 t/d
AR7	<b>Section 6.8 Part A(1)(d)(ii)</b> Treating and processing materials intended for the production of food products from vegetable raw materials at plant with a finished product production capacity of more than 300 tonnes per day (average value on a quarterly basis)	The production of sugar crystal from sugar juice.	From the transfer of thick juice from the process or from storage to the dispatch of crystal sugar, the discharge of dust, vapour and incondensable gases to air and the disposal of waste arising.
AR8	<b>Section 3.1 Part B(c)</b> Slaking lime for the purpose of making calcium hydroxide or calcium magnesium hydroxide	The production of slaked lime to be used in the sugar production process.	From the transfer of lime to the slaker to its use in the sugar making process, the emission of dust to air and the disposal of waste arising.
<b>Directly Associated Activities</b>			
AR9	Thick juice storage	Conditioning of sugar juice and storage for later processing during the juice run	From the concentration and cooling of thick juice (thick juice export) to the return of thick juice to the sugar end (thick juice import).
AR10	Soil settlement	The recovery of water and soil from the transport water by means of a clarifier/mud thickener and soil settlement ponds from which topsoil is recovered.	From the generation of waste water to its return from the clarifier to the beet fluming circuit and its transfer from the clarifier to the soil settlement ponds and the settling of soil within them.

<b>Table S1.1 activities</b>			
<b>Activity ref.</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
AR11	Conditioning, storage and handling of soil	The recovery of soil delivered with the beet by washing and settling (for agricultural use), conditioning, blending and, where appropriate, screening (for horticultural use).	From the excavation of soil from the settling ponds to its despatch, and the disposal of waste arising.
AR12	Conditioning, storage and handling of stones	The recovery of stones delivered with the beet.	From the separation of stones from beet to their despatch or use on-site, and the disposal of waste arising.
AR13	Manufacture, conditioning and storage of Limex 70 co-product.	The recovery of impure calcium carbonate from the carbonation process for use as a treatment to improve agricultural land.	From the filtration of the calcium carbonate from thin juice to its despatch, and the disposal of waste arising.
AR14	Composting	The composting of green leaf and straw delivered with the beet.	From the removal of green leaf and straw from the beet prior to processing to the despatch or use on-site of compost and the transfer of leachate to the waste water treatment system. The maximum quantity of material be processed at any one time is 1000m <sup>3</sup> .
AR15	Preparation of wet animal feed as a co-product.	The production of pressed pulp without drying as animal feed.	From the pressing of pulp from the diffuser to the despatch of wet animal feed and the disposal of waste arising.
AR16	Generation of conditioned air for the sugar storage silos	The cooling, dehumidifying and filtration of air	From intake of air to its emission, and the disposal of waste.
AR17	Re-melt of raw cane sugar	Intake of raw cane sugar in bulk and dissolved to form a syrup to be refined by crystallisation within existing permitted activities.	Intake of raw cane sugar in bulk via vehicle delivery for dissolving and blending with beet sugar syrups to produce white sugar of cane and beet origin.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application EPR/BK9385IH/A001	The response to questions 2.1 and 2.2 and unit activity descriptions in Appendix 9 of the application.	30/03/2005
Email describing limits of mercury and cadmium as trace contaminants of raw materials EPR/BK9385IH/A001	Whole	01/12/2005
Information in support of IPPC application BK9385IH EPR/BK9385IH/A001	Whole	14/12/2005
Variation Application EPR/BK9385IH/V003	Application Sections Appendix 8, sub-sections Operating Techniques, Process Controls, Point Source Emissions, Fugitive Emissions and Odour	29/03/2010
Response to Regulation 60(1) Notice – request for information dated 31/10/2014	Compliance route and operating techniques identified in response to questions: 40 xix (fuel options) 42 (start-up and shut-down load) 44 (derogation; no monitoring on stand-by fuels)	13/03/2015
Receipt of additional information to the Regulation 60(1) Notice - requested by letter dated 22/06/2015	Start-up and shut-down criteria (question 42 of Regulation 60(1) Notice)	24/06/2015
Regulation 61 (1) Notice (Food, Drink & Milk Review) – Responses to questions dated 08/06/2022	All parts	07/10/2022

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC25	<p>The operator shall submit a report to the Environment Agency of a review the sources of particulate emissions to air and identify proposals for reduction.</p> <p>The review shall include comprehensive monitoring of emissions of PM10 and PM2.5 from significant emission points on site under representative operating conditions and shall be in accordance with EN ISO 23210 including, but not limited to, those points identified in the Regulation 61 response. The monitoring shall determine the concentration and release rates from these emission points.</p> <p>The operator shall use the results of the monitoring to undertake a feasibility study and develop an action plan to reduce the emissions of particulates to air from the permitted installation.</p>	By 30/11/2025 or other date as agreed in writing with the Environment Agency
IC26	<p>The operator shall submit a report to the Environment Agency of a review the sources of ammonia emissions to air and identify proposals for reduction.</p> <p>The review shall include comprehensive monitoring of emissions of ammonia from significant emission points on site under representative operating conditions and shall be in accordance with BS EN ISO 21877 including, but not limited to, those points identified in the Regulation 61 response. The monitoring shall determine the concentration and release rates from these emission points.</p> <p>The operator shall use the results of the monitoring to undertake a feasibility study and develop an action plan to reduce the emissions of ammonia to air from the permitted installation.</p>	By 30/11/2025 or other date as agreed in writing with the Environment Agency
IC27	<p>The operator shall submit a report of an investigation into the emissions of carbon monoxide and other relevant substances (such as methane and formaldehyde) from the existing beet pulp dryers. The report shall provide an impact assessment of the emissions to air of these parameters and where appropriate consider measures to reduce the emissions.</p>	By 30/11/2025 or other date as agreed in writing with the Environment Agency
IC28	<p>The operator shall submit a report of a review the sources of input of EDTA into the waste water stream and identify proposals to reduce the input of this parameter in accordance with BATc 8 of the Food, Drink and Milk Industries BAT Conclusions.</p>	By 30/05/2025 or other date as agreed in writing with the Environment Agency
IC29	<p>The operator shall undertake an investigation into the fate of the lime kiln gases, including but not limited to:</p> <ul style="list-style-type: none"> <li>• The most representative location of their release into the environment.</li> <li>• The characteristics and composition of the gases as released.</li> <li>• An assessment of the characteristics and composition of the gases against typical lime kiln vent gases, and the representative nature of the release.</li> <li>• An assessment of the concentrations of emissions against the CLM BAT-AELs.</li> </ul> <p>The operator shall submit a report detailing their investigation for review by the Environment Agency.</p>	By 30/11/2025 or other date as agreed in writing with the Environment Agency
IC30	<p>The operator shall submit a report to the Environment Agency of monitoring carried out to determine the size distribution of particulate matter in the exhaust gas emissions to air from emission points A52 &amp; A54 identifying the fractions within the PM10 and PM2.5 ranges. The monitoring shall be carried out under representative operating conditions and shall be in accordance with EN ISO 23210.</p>	By 30/11/2025 or other date as agreed in writing with the Environment Agency

<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC31	<p>The operator shall submit a report to the Environment Agency of a review of the methane emissions to air from the wastewater anaerobic digestion plant.</p> <p>The review shall include comprehensive monitoring of emissions of methane released from the plant under representative operating conditions. The monitoring shall determine the concentration and release rates from relevant sources.</p> <p>The operator shall use the results of the monitoring to undertake a feasibility study and develop an action plan to reduce the emissions of methane to air from the AD operations.</p>	By 30/11/2025 or other date as agreed in writing with the Environment Agency
IC32	<p>The Operator shall submit a report reviewing the methodology for satisfying the process monitoring requirements with regard to the 'pressure relief valves and vacuum systems' as listed within Table S3.3.</p> <p>The report shall consider the appropriate standards and methods required for the calibration of these systems in relation to;</p> <ul style="list-style-type: none"> <li>• Biogas in digester <ul style="list-style-type: none"> <li>○ continuous monitoring of methane</li> </ul> </li> <li>• Pressure relief valves and vacuum systems <ul style="list-style-type: none"> <li>○ Re-seating, weekly inspection</li> <li>○ Inspection, maintenance, calibration, repair and validation following foaming or overtopping, or at 3 yearly intervals</li> <li>○ Inspection, calibration and validation report in accordance with design and construction specifications or after overtopping or foaming event</li> </ul> </li> </ul>	By 30/11/2024 or other date as agreed in writing with the Environment Agency

<b>Emission Point and Unit Reference</b>	<b>“Minimum start up load” When two of the criteria listed below for the LCP or unit have been met.</b>	<b>“Minimum shut-down load” When two of the criteria listed below for the LCP or unit have been met.</b>
<b>A61/62 LCP 35</b>	1.5 MW; 17%	1.5 MW; 17%
<b>No 1 and No 2 Sulzer boilers</b>	<ul style="list-style-type: none"> <li>• Minimum steam pressure of 32 bar</li> <li>• Minimum steam temperature of 290 °C</li> <li>• Minimum feed water flow rate 15 tonnes per hour</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum steam pressure of 32 bar</li> <li>• Minimum steam temperature of 290 °C</li> <li>• Minimum feed water flow rate 15 tonnes per hour.</li> </ul>

## Schedule 2 – Raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
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## Schedule 3 – Emissions and monitoring

Table S3.1(a) Point source emissions to air from Gas boilers - LCP 35						
Emission point ref. & location	Parameter	Source	Limit (including unit) - these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
A61/62	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	<b>LCP 35</b>  No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas or bio gas</b>	100 mg/m <sup>3</sup>	Yearly average	Continuous	BS EN 14181
			100 mg/m <sup>3</sup>	Monthly mean of validated hourly averages		
			110 mg/m <sup>3</sup>	Daily mean of validated hourly averages		
			200 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year		
	Carbon monoxide	<b>LCP 35</b>  No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas or bio gas</b>	40 mg/m <sup>3</sup>	Yearly average	Continuous	BS EN 14181
			100 mg/m <sup>3</sup> Note 2	Monthly mean of validated hourly averages		
			100 mg/m <sup>3</sup> Note 2	Daily mean of validated hourly averages		
			100 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year		
	Sulphur dioxide	<b>LCP 35</b>  No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas or bio gas</b>	No Limit Set	Annual		



			35 mg/m <sup>3</sup>	Monthly		Concentration by calculation, as agreed in writing with the Environment Agency
			38.5 mg/m <sup>3</sup>	Daily	At least every 6 months	
			70 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year		
Particulate matter	<b>LCP 35</b> No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas or bio gas</b>		No Limit Set	Annual	-	Concentration by calculation, as agreed in writing with the Environment Agency
			5 mg/m <sup>3</sup>	Monthly	At least every 6 months	
			5.5 mg/m <sup>3</sup>	Daily		
			10 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year		

	Stack gas volume flow	<b>LCP 35</b> No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas &amp; bio gas</b>	-	-	-	BS EN 16911
A62	Oxygen	<b>LCP 35</b> No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas &amp; bio gas</b>	-	-	Periodic as appropriate to reference	BS EN 14789
	Water vapour	<b>LCP 35</b> No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas &amp; bio gas</b>			Periodic as appropriate to reference	BS EN 14790
	As required by the Method Implementation Document for BS EN 15259	<b>LCP 35</b> No. 1 & No. 2 Sulzer boiler <b>Fired on natural gas &amp; bio gas</b>			Pre-operation and when there is a significant operational change	BS EN 15259
Note 1: See Section 6 of the permit for reference conditions.						

**Table S3.1(b) Point source emissions to air from non-LCP plant**

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A1	-	Antifoam tank breather	-	-	-	-
A2	-	Beet zest LEV	-	-	-	-
A3	-	Knife wash LEV	-	-	-	-
A4	-	Pulp conveying LEV	-	-	-	-
A6	-	Breather vent from Formalin Tank	-	-	-	-
A7	-	2nd Carbonation waiting tank vent	-	-	-	-
A8	-	1st Carbonation tank vent	-	-	-	-
A9	-	Carb gas control vent	-	-	-	-
A10	-	2nd Carbonation tank 1 vent	-	-	-	-
A11	-	2nd Carbonation tank 2 vent	-	-	-	-
A12	-	Magox reaction tank 1 vent	-	-	-	-
A13	-	Magox reaction tank 2 vent	-	-	-	-
A15	-	Filter press feed tank vent	-	-	-	-
A16	-	Lime press relief valve	-	-	-	-
A17	-	Lime press relief valve	-	-	-	-
A18	-	Lime press station LEV	-	-	-	-
A19	-	Cake wash tank vent	-	-	-	-
A20	-	HCl tank scrubber vent	-	-	-	-
A21	-	Cloth wash tank vent	-	-	-	-
A22	-	Clear / Cloudy juice (sweet water) tank vent	-	-	-	-
A23	-	GP filtration backflush head tank vent	-	-	-	-

A25	Sulphur dioxide	Sulphintation system scrubber vent	Sulphur burner scrubber vent	50 mg/m <sup>3</sup>	Hourly average	Annual
A26	-	Evaporation and thin juice heater vents (6)	-	-	-	-
A27	-	Exhaust steam pressure valve (4)	-	-	-	-
A28	-	Exhaust steam vent valve	-	-	-	-
A29	-	1st Evaporation calandria pressure relief (2)	-	-	-	-
A30	-	Thin Juice tank vents (2)	-	-	-	-
A31	-	Schenk dump tank vent	-	-	-	-
A32	-	Thick juice tank 1 vent	-	-	-	-
		Thick Juice tank 2 vent				
A33	-	Thick Juice tank 3 vent	-	-	-	-
A34	-	Thick Juice tank 4 vent	-	-	-	-
--	-	Thick Juice tank 5 vent	-	-	-	-
--	-	Molasses tank 1 vent	-	-	-	-
--	-	Residual Syrup tank vent	-	-	-	-
A35	-	Vacuum pumps vent	-	-	-	-
A36	-	White cents vapour extraction	-	-	-	-
A37	-	Cents scroll vapour extraction	-	-	-	-
A38	-	AP / Raw sugar scroll vapour extraction	-	-	-	-
A39	-	Granulator exit air (2)	-	-	-	-
A40	-	Cooler exit air	-	-	-	-
A42	-	Silo 1, 2, 3 reactivation air	-	-	-	-
A44	-	Silo 4 reactivation air	-	-	-	-
A45	-	Condenser cooling tower	-	-	-	-
A46	-	Condensate cooling tower	-	-	-	-
A47	-	Pressed pulp conveying LEV	-	-	-	-

-	-	Pressed pulp silo vent	-	-	-	-
A48	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	No. 1 Dryer to main stack abated by cyclones when operated on Natural Gas	200 mg/m <sup>3</sup>	Average over sampling period	Annually	BS EN 14792
	Carbon monoxide		2500 mg/m <sup>3</sup>	Average over sampling period	Annually	BS EN 15058
	Particulate matter		70 mg/m <sup>3</sup> [Note1]	Average over sampling period	Annually	BS EN 13284-1
	PM <sub>10</sub>		No limit set	Average over sampling period	Annually	BS EN ISO 23210
	PM <sub>2.5</sub>		No limit set	Average over sampling period	Annually	BS EN ISO 23210
	TVOCs		No limit set	Average over sampling period	Annually	BS EN 12619
A49	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	No. 2 Dryer to main stack abated by cyclones	200 mg/m <sup>3</sup>	Average over sampling period	Annually	BS EN 14792
	Carbon monoxide		2500 mg/m <sup>3</sup>	Average over sampling period	Annually	BS EN 15058
	Particulate matter		70 mg/m <sup>3</sup> [Note1]	Average over sampling period	Annually	BS EN 13284-1

	PM <sub>10</sub>		No limit set	Average over sampling period	Annually	BS EN ISO 23210
	PM <sub>2.5</sub>		No limit set	Average over sampling period	Annually	BS EN ISO 23210
	TVOCs		No limit set	Average over sampling period	Annually	BS EN 12619
A50	--	No. 1 Dryer natural gas purge vent	--	--	--	--
A52	Particulate matter	Pellets cooler abatement (2)	20 mg/m <sup>3</sup>	Average over sampling period	Annually	BS EN 13284-1
A54	Particulate matter	Animal feed nuisance dust abatement	20 mg/m <sup>3</sup>	Average over sampling period Hourly Average	Annually	BS EN 13284-1 BS EN 13284-1 and MID
A55	-	Pellet cooler LEV vent	No limit Set	-	-	-
A56	Particulate matter	Lime slaker vent via hydro cyclone	20 mg/m <sup>3</sup>	Average over sampling period	Annually	BS EN 13284-1
A57	-	Limekiln vent	No limit Set	-	-	-
A58	-	Gas pump emergency vent	No limit Set	-	-	-
A59	-	Gas pump emergency vent	No limit Set	-	-	-
A60	-	Gas pump water separator emergency vent	No limit Set	-	-	-
A64	-	Bulk acid tank vent	No limit Set	-	-	-
A65	-	Bulk caustic tank vent	No limit Set	-	-	-
A66	-	Demin plant degasser vent	No limit Set	-	-	-
A67	-	De-aerator tank vent	No limit Set	-	-	-

A68	-	Sulzer boilers blowdown tank vent	No limit Set	-	-	-
A70	-	No. 1 Sulzer natural gas purge vent	No limit Set	-	-	-
A71	-	No. 2 Sulzer natural gas purge vent	No limit Set	-	-	-
A72	-	Main natural gas purge vent	No limit Set	-	-	-
A73	-	Boilerhouse safety valves (14)	No limit Set	-	-	-
A74	-	General Hot Water storage tank vent	No limit Set	-	-	-
A75	-	Heavy Fuel Oil tank vent	No limit Set	-	-	-
A76	-	Light Fuel Oil tank vent	No limit Set	-	-	-
A77	-	Anaerobic digester tank vent	No limit Set	-	-	-
A79	-	Milk of Lime storage tank vent	No limit Set	-	-	-
A80	-	Raw sugar handling LEV	No limit Set	-	-	-
A81	-	CIP boiler flue	No limit Set	-	-	-
A82	-	Combined CIP boilers flue	No limit Set	-	-	-
A83	-	Raw sugar dissolver heater vents	No limit Set	-	-	-

Note 1: The Oxygen reference condition is 16-vol % with no correction for water.

**Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements**

Emission point ref. & location	Parameter	Source	Limit (including unit) during the periods below as specified <sup>[Note 1]</sup>		Reference period	Monitoring frequency	Monitoring standard or method
			Beet processing campaign period	Non-beet processing period			
W1 on site plan in Schedule 7 - emission to River Trent	Maximum discharge volume	Treated effluent	6,000 m <sup>3</sup> /day	4,000 m <sup>3</sup> /day	Daily	Continuous	Calibrated flow meter
	Biochemical Oxygen Demand (concentration)		40mg/l	35mg/l	Spot sample	Weekly	BS EN ISO 5815-1
	Biochemical Oxygen Demand (Mass emission load)		240 kg/day	140 kg/day	Calculated daily load	Daily	--
	Chemical Oxygen Demand (concentration)		155mg/l <sup>[Note 3]</sup>	155mg/l <sup>[Note 3]</sup>	Spot sample	Daily	BS EN ISO 6060
	Chemical Oxygen Demand (Mass emission load)		750 kg/d	400 kg/d	Calculated daily load	Daily	--
	Ammoniacal nitrogen (concentration)		30mg/l	20mg/l	Spot Sample	Three times a week	BS EN ISO 11732
	Ammoniacal nitrogen (Mass emission load)		180 kg/d	80 kg/d	Calculated daily load	Daily	--
	Total Nitrogen (concentration)		30 mg/l <sup>[Note 3]</sup>	30 mg/l <sup>[Note 3]</sup>	Spot sample	Daily	BS EN20236



	Total Nitrogen (Mass emission load)		180 kg/d	120 kg/d	Calculated daily load	Daily	--
	Total suspended solids (concentration)		50mg/l	50mg/l	Spot Sample	Daily	EN 872
	Total suspended solids (Mass emission load)		300 kg/d	200 kg/d	Calculated daily load	Daily	--
	Total phosphorus (concentration)		2 mg/l	2 mg/l	Spot Sample	Daily	BS EN ISO 6878
	Total phosphorus (Mass emission load)		12 kg/d	8 kg/d	Calculated daily load	Daily	--
	pH		5 to 9 pH units	5 to 9 pH units	Instantaneous	Three times a week	BS ISO 10523
	Chloride		No limit set	No limit set	Spot sample	Monthly	EN ISO 10304-1, EN ISO 15682
	Neonicotinoids [Note 2]		No limit set	N/A	Spot sample	Twice per campaign with a minimum of 28 days between samples	As agreed by the Environment Agency

Emission point ref. & location	Parameter	Source	Limit (including unit) during the periods below as specified <sup>[Note 1]</sup>	Reference period	Monitoring frequency	Monitoring standard or method
W2 [Point W2 on site plan in Schedule 7 - emission of spent cooling water to River Trent]	Biochemical Oxygen Demand	Spent cooling water	Increase of 3 mg/l <sup>Note 4</sup>	Spot sample	Weekly	BOD <sub>5</sub> EN 1889-1
	Total suspended solids		Increase of 5 mg/l <sup>Note 4</sup>	Spot sample	Weekly	Gravimetric
	Temperature		30°C	Instantaneous	Weekly	Calibrated temperature probe
	Daily maximum discharge volume		6820 m <sup>3</sup>	Instantaneous	Continuous	Calibrated flow meter

Note 1: Beet processing period: Typically October to February, Non-beet processing period: Typically March to September, including start-up and shut down.

Note 2: Monitoring of parameter only required when crop has been dressed with neonicotinoids.

Note 3: Based on a yearly average and calculated on a flow weighted basis. For TN if the annual average removal efficiency is <80% then the TN ELV will be 20 mg/l. If the COD removal efficiency is <95% then the COD ELV will be 100 mg/l

Note 4: The increase in the value of the measured parameter shall be no greater than that specified in the limit when compared to the cooling water at the point of abstraction from the River Trent.

<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
LCP 35	Net electrical efficiency; Net total fuel utilisation.	After each modification that could significantly affect these parameters	EN Standards or equivalent, or by calculation	--
W1	Abatement efficiency - COD & TN % removal	Calculated annually from October to September	Refer to Table S3.2	Annual average and calculated on a flow weighted basis, excluding start up and shutdown as defined in EMS
Biogas in digester	Pressure	Continuous	None specified	Process monitoring to be recorded using a SCADA system where relevant.  Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations
	Flow	Continuous	In accordance with EU weights and measures Regulations	
	Quantity of gas sent to combustion plant	Continuous	Quantity can be estimated from gas flow composition, heat content, ratio of assistance, purge gas flow rate, pollutant emissions	
	Quantity of gas vented	Continuous	Quantity can be estimated from gas flow composition, heat content, ratio of assistance, purge gas flow rate, pollutant emissions	
Digester(s) and storage tank(s)	Integrity checks	Weekly	Visual assessment	In accordance with design specification and tank integrity checks.
Diffuse emissions from all sources identified in the Leak Detection and Repair (LDAR) programme	VOCs including methane	Every 6 months or otherwise agreed in accordance with the LDAR programme	BS EN 15446	Monitoring points as specified in a DSEAR risk assessment and LDAR programme.

			In accordance with the LDAR programme	Limit as agreed with the Environment Agency as a percentage of the overall gas production.
Emergency flare	Operating hours	Continuous	Recorded duration and frequency. Recording using a SCADA system or similar system	Date, time and duration of use of auxiliary flare shall be recorded.
	Quantity of gas sent to emergency flare			Quantity can be estimated from gas flow composition, heat content, ratio of assistance, velocity, purge gas flow rate, pollutant emissions.
Pressure relief valves and vacuum systems – Following completion of IC32	Gas pressure	Continuous	Recording using a SCADA system	Continuous gas pressure shall be monitored.
	Re-seating	Weekly inspection	Visual	Operator must ensure that valves are re-seated after release in accordance with the manufacturer's design.
	Inspection, maintenance, calibration, repair and validation	Following foaming or overtopping or at 3 yearly intervals whichever is sooner	Written scheme of examination in accordance with condition 1.1.1	After a foaming event or sticking, build-up of debris, obstructions or damage, operator must ensure that pressure relief valve function remains within designed gas pressure in accordance with the manufacturer's design by suitably trained and qualified personnel.
	Inspection, calibration and validation report	In accordance with design and construction specifications or after over topping or foaming event	Written scheme of examination in accordance with condition 1.1.1	Operator must ensure that valves are re-seated after release, after a foaming event or sticking, build-up of debris, obstructions or damage.  Operator must ensure that PRV function remains within designed operation gas pressure in accordance with the manufacturer's design by suitably trained/qualified personnel.

				Inspection, calibration and validation report. In accordance with industry Approved Code of Practice
Storage lagoons and storage tanks	Volume	Weekly (minimum)	Visual	Records of volume must be maintained, and the levels adequately controlled to prevent "over-topping"
	Flow	Daily	Flow metre measurement	

## Schedule 4 – Reporting

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

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Oxides of nitrogen	A48, A49, A61 and A62	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every 6 months for periodic monitoring	1 January, 1 July
		Every year where there is an annual average	1 January
		Every 2 years for concentration by calculation	1 January
Carbon monoxide	A48, A49, A61 and A62	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every 6 months for periodic monitoring	1 January, 1 July
		Every year where there is an annual average	1 January
		Every 2 years for concentration by calculation	1 January
Sulphur dioxide	A25, A61 and A62	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every 6 months for periodic monitoring	1 January, 1 July
Particulate matter	A48, A49, A52, A54, A56, A61 and A62	Annually	1 January
PM <sub>10</sub>	A48 and A49	Annually	1 January
PM <sub>2.5</sub>	A48 and A49	Annually	1 January
Total Volatile Organic Compounds	A48 and A49	Annually	1 January
Process monitoring requirements	As specified by Table S3.4	Annually	1 January unless otherwise specified
Discharge volume	W1	Every 3 months	1 January, 1 April, 1 July, 1 October

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Discharge rate	W1 and W2	Every 3 months	1 January, 1 April, 1 July, 1 October
BOD	W1 and W2	Every 3 months	1 January, 1 April, 1 July, 1 October
COD	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Ammonia	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Total nitrogen	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Suspended solids	W1 and W2	Every 3 months	1 January, 1 April, 1 July, 1 October
Total phosphorus	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Temperature	W2	Annually	1 January
pH	W1	Every three months	1 January, 1 April, 1 July, 1 October
Chloride	W1	Annually	1 January
Neonicotinoids (as required)	W1	Annually (as required)	1 January

<b>Table S4.2 Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Sugar beet processed	tonnes
Production of crystal sugar	tonnes
Production of wet animal feed	tonnes
Production of dry animal feed	tonnes
Production of soil	tonnes
Production of stones	tonnes
Production of "Lime X"	tonnes

<b>Table S4.3A Large Combustion Plant Performance parameters for reporting to DEFRA</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NOx for each LCP	Annually	t
Total Emissions to Air of SO2 for each LCP	Annually	t
Total Emissions to Air of Dust for each LCP	Annually	t
Operating Hours for each LCP	Annually	hr

<b>Table S4.3B Other Performance parameters for reporting to the Environment Agency</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Water usage	Annually	m <sup>3</sup>
Specific waste water discharge	Annually	m <sup>3</sup> / tonne of beets
Energy usage	Annually	MWh
Specific energy usage	Annually	MWh/tonne of beets.
Power generated	Annually	GWh
Food waste	Annually	tonnes
Total particulate matter to air/tonne beet sliced	Annually	Kg/t
Total PM2.5 to air/tonne beet sliced	Annually	Kg/t



<b>Table S4.4 Reporting forms</b>		
<b>Media/ parameter</b>	<b>Reporting format</b>	<b>Agency recipient</b>
<b>LCP</b>		
Air & Energy	Form IED AR1 – SO <sub>2</sub> , NO <sub>x</sub> and dust mass emission and energy. Form as agreed in writing by the Environment Agency. For all LCPs	National and Area Office
LCP	Form IED HR1 – operating hours. Form as agreed in writing by the Environment Agency. For all LCPs	National and Area Office
Air	Form IED CON 1 – continuous monitoring. Form as agreed in writing by the Environment Agency. CEMs reporting for Utility Boilers Only	Area Office
Air	Form IED CON 2 – continuous monitoring. Form as agreed in writing by the Environment Agency CEMs reporting for Gas Turbines Only	Area Office
Air	Form IED PM1 – discontinuous monitoring and load. Form as agreed in writing by the Environment Agency. Only for sites with periodic monitoring requirements.	Area Office
<b>OTHER</b>		
Water usage	Water Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Area Office
Energy usage	Energy Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Area Office
Water emissions	Water 1 Reporting Form, or other form as agreed in writing by the Environment Agency	Area Office
Food Waste	Food waste Reporting Form, or other form as agreed in writing by the Environment Agency	Area Office
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency.	Area Office

# 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	

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

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

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the breach of permit conditions not related to limits</b>	
<b>To be notified within 24 hours of detection</b>	
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.	

<b>(d) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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 or as agreed in writing with the Environment Agency.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Comité Européen de Normalisation.

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“daily average” means the average over a period of 24 hours of validated hourly averages obtained by continuous measurements.

“DLN” means dry, low NO<sub>x</sub> burners.

“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.

“Energy efficiency” means the annual net plant energy efficiency, the value for which is calculated from the operational data collected over the year.

“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.

“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.

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

“malfunction” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“Net electrical efficiency” means the ratio between the net electrical output (electricity produced minus the imported energy) and the fuel/feedstock energy input (as the fuel/feedstock lower heating value) at the combustion unit boundary over a given period of time.

“Net total fuel utilisation” means the ratio between the net produced energy minus the imported electrical and/or thermal energy and the fuel/feedstock energy input at the gasification unit boundary over a given period of time.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

“pests” means Birds, Vermin and Insects.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“SI” means site inspector.

“Standby fuel” means alternative liquid fuels that are used in emergency situations when the gas fuel which is normally used, is not available.

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, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% 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.

“yearly average” means the average over a period of one year of validated hourly averages obtained by continuous measurements.

For dioxins/furans the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their respective toxic equivalence factors before summing.

TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
		Humans / Mammals	Fish	Birds
<b>Dioxins</b>				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05

TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0003	-	-
<b>Furans</b>				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.3	0.5	1
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0003	0.0001	0.0001

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
<b>Non-ortho PCBs</b>			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0003	0.0001	0.05
3,3',4,4',5 - PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.03	0.00005	0.001
<b>Mono-ortho PCBs</b>			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

# Schedule 7 – Site plan



END OF PERMIT