Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Saffil Limited

Widnes Alumina Fibres
Pilkington Sullivan Site
Tanhouse Lane
Cheshire
WA8 0US

Variation application number

EPR/XP3533CB/V003

Permit number

EPR/XP3533CB

Widnes Alumina Fibres
Permit number EPR/XP3533CB

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.

Changes authorised by the variation:

- The addition of production line 4 producing aluminium oxide and silica fibres.
- The removal of production line 1 producing aluminium oxide fibres (some processing equipment from line 1 has been retained).
- The addition of a Section 5.4 Part A(1) (a) (ii) activity for the neutralisation of wet scrubber liquor with sodium hydroxide.
- Upgrading infrastructure including utilities such as steam production and compressed air.
- The addition of permitting conditions relating to the Medium Combustion Plant Directive (MCPD) 2015.

Site description:

Saffil Limited operate an installation producing aluminium oxide (alumina) and silica fibres for industrial and automotive applications. The site is permitted under a Schedule 4.2 Part A(1) (b) activity within the Environmental Permit Regulations 2016. Fibres are extruded from a gelatinous solution, prior to progressive heat treatment using steaming ovens and furnaces.

The installation is located in an industrial area to the east of the town of Widnes, Cheshire (grid reference: SJ 52908 85287). There are residential areas, including a proposed housing development, to the west and north of the site. The site is bordered to the south by St Helens Canal and the River Mersey. The site is within approx. 2.5 km of the Mersey Estuary SPA, Ramsar, SSSI and there are 9 local nature sites within the 2km screening distance. The impact upon these sites was assessed as part of the permit variation.

Point source emissions to air arise as a result of using/heating organic compounds and dust arising from the treatment (including shredding/milling) of fibres as well as the operation of combustion plant. Combustion plant used on the site consists of 3 steam boilers which are MCPs (all 8.045MWth) fired on natural gas (boiler 1 can be fired on gas oil as a backup fuel). Two of these MCPs are existing (operational before 2018), and one is added by this permit variation to serve production line 4. In addition, a 0.9MWth gas fired furnace serving production line 4 has been added by this variation. Emissions of volatile organic compounds and dioxins/furans arising from the production lines are channelled to thermal oxidisers (6 burners each 0.161MWth fired on natural gas). Emissions of hydrogen chloride are further abated using dual wet scrubbers. Dust extraction systems collect particulate emissions from the production lines and silica fibre processing and packing areas, which are treated using ceramic or bag filters prior to release.

Point source emissions to water arise from the treatment of the wet scrubber effluent (acidic) by neutralisation with sodium hydroxide (under the present variation, this has now reached the threshold of a Section 5.4 Part A(1) (a) (ii) activity). Treated effluent is discharged under a trade effluent discharge consent with United Utilities PLC (S2-5). Clean water streams used to supply the process and site surface run-off are

discharged to the River Mersey (W1 and W3). Water from the cooling tower purge is also discharged to the river (W2).

Processes are carried out predominantly indoors. The impact of noise from the site upon local receptors was assessed as part of the application and a noise management plan incorporated into the operating techniques section of the permit. Wastes arising from the fibre production process are classed as hazardous and are sent to landfill.

The permit has been reviewed against the requirements of the Medium Combustion Plant Directive (MCPD) for 2025 and relevant conditions have been added.

The site is managed under an unaccredited management system which has been implemented in line with our guidance. The site is subject to a climate change agreement.

The schedules specify the changes made to the permit.

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

Status log of permit A: XP3533CB (prior to consolidation)		
Description	**Date**	**Comments**
Application BT1614IW (EPR/BT1614IW)	Received 06/12/04	--
Additional information	Received 24/02/05	Further information regarding performance of line 2 abatement system during initial commissioning stages.
Additional information	Received 14/03/05	Further information detailing proposed abatement system
Additional information	Received 20/05/05	Additional information detailing inter-operator controls for discharges to site drainage system.
Additional information	Received 05/07/05	Further information detailing improvements to Line 2 abatement and proposals for installation of a thermal oxidiser on Line 1.
Request to extend determination (11/04/05)	Accepted 19/04/05	--
Permit issued BT1614IW (EPR/BT1614IW)	04/08/05	
Variation application FP3635XH (EPR/BT1614IW/V002)	Received 28/12/07	Withdrawn.
Variation application EPR/BT1614IW/V003	Received 28/04/08	--
Variation notice issued EPR/BT1614IW/V003	09/07/08	Effective 15/07/08
Variation application EPR/BT1614IW/V004	Received 12/03/09	Withdrawn
Variation application EPR/BT1614IW/V005	Received 08/11/10	--
Variation notice issued EPR/BT1614IW/V005	04/01/11	--
Application EPR/HP3437FA/T001 (full transfer of permit EPR/BT1614IW)	Duly Made 10/11/11	--

Status log of permit A: XP3533CB (prior to consolidation)		
Description	**Date**	**Comments**
Transfer determined EPR/HP3437FA/T001	15/11/11	Full transfer of permit complete
Application EPR/XP3533CB/T001 (full transfer of permit EPR/HP3437FA)	Duly made 05/12/11	Return of permit to Saffil Limited
Transfer determined EPR/XP3533CB/T001	06/12/11	Full transfer of permit complete
Variation and consolidation application EPR/XP3533CB/V002	Duly made 24/01/12	--
Response to schedule 5 notice (01/02/12)	01/03/12	--
Additional information	09/03/12	Additional information on schedule 5 follow up questions and revised H1 assessment to water
Additional information	13/03/12	Site condition walk over report
Additional information	20/04/12	Final information including operating procedure to minimise unabated emissions from process lines 2 and 3.
Variation determined EPR/XP3533CB/V002	03/05/12	Varied and consolidated permit issued (EPR/XP3233CR incorporated into EPR/XP3533CB)

Status log of the permit B: XP3233CR (prior to consolidation)		
Description	**Date**	**Comments**
Application NP3435ST (EPR/NP3435ST)	Received 06/12/04	Dalkia Utilities Services PLC – original operator
Additional information	Received 15/03/05	Further information supplied by application relating to the application site report.
Request to extend determination (11/04/05)	Accepted 03/07/05	--
Permit issued NP3435ST (EPR/NP3435ST)	04/08/05	--
Application EPR/TP3632KU/T001 (full transfer of permit NP3435ST)	Duly made 15/10/09	--
Transfer determined EPR/TP3632KU/T001	22/10/09	--
Application EPR/CP3337FF/T001 (full transfer of permit EPR/CP3337FF)	Duly made 10/11/11	--
Transfer determined EPR/CP3337FF/T001	15/11/11	Full transfer of permit complete.
Application EPR/XP3233CR/T001	Duly made 05/12/11	Return of permit to Saffil Limited.
Transfer determined EPR/XP3233CR/T001	06/12/11	Full transfer of permit complete

Status log of the permit B: XP3233CR (prior to consolidation)		
Description	**Date**	**Comments**
Variation and consolidation application EPR/XP3533CR/V002	Duly made 24/01/12	
Response to schedule 5 notice (01/02/12)	01/03/12	--
Additional information	09/03/12	Additional information on schedule 5 follow up questions and revised H1 assessment to water plus combustion plant operation summary prior to the variation upgrade.
Additional information	20/04/12	Final information including final combustion improvement detail.
Variation determined EPR/XP3533CB/V002	03/05/12	Varied and consolidated permit issued. (EPR/XP3233CR incorporated into EPR/XP3533CB)

Status log of the permit XP3533CB (after consolidation)		
Description	**Date**	**Comments**
Application EPR/XP3533CB/V003	Duly made 15/06/23	Application to add a fourth production line producing silica and alumina fibres.
Response to Schedule 5 Notice dated 31/08/23	13/02/24	Revised noise management and dust management plans, revised air dispersion modelling and H1 risk assessment, revised noise impact assessment, answers to questions 6,7 and 8 on containment and BAT.
Response to Schedule 5 Notice dated 03/01/2024	22/08/24	Revised risk assessment for emissions to air of Class A VOCs and ethylene oxide.
Permit determined EPR/XP3533CB (Billing ref. EPR/XP3533CB)	18/10/24	Permit issued to Saffil Limited.

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/XP3533CB

Issued to

Saffil Limited ("the operator")

whose registered office is

Mill Lane
Rainford
St Helens
Merseyside
WA11 8LP

company registration number **03646114**

to operate a regulated facility at

Widnes Alumina Fibres
Pilkington Sullivan Site
Tanhouse Lane
Cheshire
WA8 0US

to the extent set out in the schedules.

The notice shall take effect from **18/10/2024**

Name	Date
Anne Lloyd	**18/10/2024**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/XP3533CB

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/XP3533CB/V003 authorising,

Saffil Limited (“the operator”),

whose registered office is

Mill Lane
Rainford
St Helens
Merseyside
WA11 8LP

company registration number **03646114**

to operate an installation at

Widnes Alumina Fibres
Pilkington Sullivan Site
Tanhouse Lane
Cheshire
WA8 0US

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

Name	Date
Anne Lloyd	**18/10/2024**

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) 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").

2.2 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 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.

2.3.5 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.

2.3.6 For the following activities referenced in Schedule 1 Table S1.1 (AR3):

(a) the operator must keep periods of start-up and shut down of the combustion plant as short as possible.

(b) there shall be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993.

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):

(a) For existing MCPs, monitoring measurements shall be carried out before the relevant compliance date or within four months of the issue date of the permit whichever is the 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 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.

3.5 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.

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 reports 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 The operator shall maintain a record of the type and quantity of fuel used and the total annual operating hours for each MCP.

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:

(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.

4.3.5 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.

4.4 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**
AR1	Section 4.2 Part A(1) (b) Unless falling within any other Section, any manufacturing activity which is likely to result in the release into the air of any hydrogen halide or which is likely to result in the release into the air or water of any halogen or any of the compounds mentioned in paragraph (a)(vi).	Production of aluminium oxide fibres and silica fibres.	From the receipt and storage of raw materials to solution preparation, spinning, heat treatment (furnaces and steaming ovens), reeling, cutting and packaging of product. Production lines 2,3 and 4.
AR2	Section 5.4 Part A(1) (a) (ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico – chemical treatment	pH adjustment of process effluent prior to discharge. D9 - Physico-chemical treatment which results in final compounds or mixtures which are discarded.	From receipt of process effluent (from scrubbers) to treatment and discharge to foul sewer.
	Directly Associated Activity		
AR3	Steam supplied from the operation of Schedule 25A Medium Combustion Plants.	Steam supplied through the firing of 3 X 8.045MWth boilers which are MCPs: Boiler 1 (emission point A7) is an existing MCP fired on natural gas with gas oil as back up. Boiler 2 (emission point A9) is an existing MCP fired on natural gas. Boiler 3 (emission point A13) is a new MCP fired on natural gas.	From receipt and storage or raw materials to supply of steam, including storage and handling of waste and effluent discharge to surface water and site effluent drains. Dual fuelled boilers shall not be fired using gas oil for purposes other than testing (no more than 50 hours per year) and in emergency (no more than 500 hours per year), unless otherwise agreed in writing with the Environment Agency. Limits to the use of raw materials are specified in Table S2.1.
AR4	Utilities and services	Including provision of utilities and services (unless specified separately) to support all operations.	Provision of instrument air, process water and cooling water.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
AR5	Abatement of air emissions	Use of 3 X regenerative thermal oxidisers and 3 X wet scrubbers (one for each production line) to abate emissions to air.	Provision of abatement of air emissions arising from the heat treatment processes in each of the three production lines (AR1).

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application for EPR/XP3533CB/V002	The response to section 2.1 and 2.2 in the Application For Process Plant plus referenced supplementary report SAF/EPR/2011/1 (covering both the variation and original permit operating techniques).	09/12/11 Application
Application EPR/XP3233CR/V002	The response to section 2.1 and 2.2 in the Application For Combustion Plant plus referenced supplementary report SAF/EPR/2011/1 (covering both the variation and original permit operating techniques).	09/12/11 Application
Combined applications EPR/XP3533CB/V002 and EPR/XP3233CR/V002 additional information in duly making responses	All	Duly Made 24/01/12
Combined Schedule 5 response for EPR/XP3533CB/V002 and EPR/XP3233CR/V002	All	01/03/12
Additional information on Schedule 5 follow up questions and water H1 environmental emissions assessment.	All	09/03/12
Receipt of additional information for the interim operation of combustion facilities prior to upgrade	All	09/03/12
Additional information covering fugitives and accident management plus air and water monitoring techniques	All	20/04/12
Application EPR/XP3533CB/V003	• *(012) Technical Description of Activities* - (parts 5-8) Dated 14/07/2022. • *(007) Technical Standards* - (part 4) Dated 01/07/2022 • *(010) Emissions Monitoring Revised (Version 2)*– (all parts) Dated 15/06/2023 • *Combustion Plant List* - Dated 15/06/2023	Duly Made 19/06/2023

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Response to Schedule 5 Notice dated 31/08/2023	• *Dust Management Plan (Part 1.2 of 013 Fugitive Emissions and Accident Management Plan Version 3)* - Dated 22/11/2023 • *(013) Fugitive Emissions and Accident Management Plan Version 3* - (all other parts) Dated 22/11/2023 • *(008) Noise Management Plan Revised* – (all parts) Dated 22/11/2023 • Responses to Questions 6,7 and 8 of Schedule 5 Notice detailing bunding and response to BAT Conclusions Dated 14/12/2023	14/12/2023
Response to Schedule 5 Notice dated 01/03/2024	• Response to Question 1 of the Notice detailing procedures to minimise emissions of ethylene oxide - Dated 22/08/2024.	22/08/2024

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC 1	The operator shall submit a commissioning report in line with execution of commissioning protocol as agreed in writing by the Environment Agency after pre-operational condition 1 submission.	Complete
IC 2	The Operator shall submit a report on line 2 thermal oxidiser improvement proposals to minimise operational hours per annum running with unabated emissions based on line 3 oxidiser operational experience. The report to include but not be limited to • Hardware specific improvement options and conclusions • Operational procedure improvement options and conclusions including shutdown measures. The details of the improvements shall be provided complete with a quantification of their impact to minimise unabated operational hours. The report shall provide summary action plans with timescales for implementation. The action plan should be implemented as agreed in writing by the Environment Agency.	Complete
IC3 – Review of ethylene oxide emissions	The operator shall conduct a review of emissions of ethylene oxide from the Installation and submit a written report to the Environment Agency for assessment and written approval. The report must contain: a) An appraisal of techniques to prevent, or where that is not possible, minimise emissions of ethylene oxide arising from the Installation. The appraisal shall be based on a review of techniques from the literature (including, but not limited to, those listed as best available techniques for the chemicals sector) and optimisation of the performance of existing techniques. b) A summary specifying the combination of techniques that will achieve the best environmental outcome. c) Proposals to implement the techniques described in (b) or justification of alternative techniques to be implemented. Where improvements are required, suggested timescales shall be provided.	18/04/2025

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The operator must implement the proposals in the report as agreed 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**
Gas oil or an equivalent substitute to be agreed in writing with the Environment Agency.	<0.1 % w/w sulphur content.

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period** note1	**Monitoring frequency**	**Monitoring standard or method**
A2 [as per Schedule 7 site plan]	Line 1 dust extraction	Particulates	5 mg/Nm^3	Average over sample period	Quarterly	BS EN 13284-1
A3 [as per Schedule 7 site plan]	Line 2 heat treatment	Hydrogen chloride	10 mg/Nm^3	Average over sample period	Quarterly	BS EN 1911
		Vinyl chloride	5 mg/Nm^3			CEN TS 13649
		Ethylene oxide	1 mg/Nm^3			CEN TS 13649
		Total Class A Volatile Organic Compounds (expressed as substance)	20 mg/Nm^3			BS EN 12619
		Total Class B Volatile Organic Compounds (expressed as substance)	75 mg/Nm^3			BS EN 12619
		Dioxins and Furans (as I-TEQ)	0.3 ng/Nm^3	Periodic over minimum 6 hours, maximum 8 hour period	Annually	EN 1948 Parts 1, 2 & 3
A4 [as per Schedule 7 site plan]	Line 2 dust extraction	Particulates	5 mg/Nm^3	Average over sample period	Quarterly	BS EN 13284-1
A5 [as per Schedule 7 site plan]	Line 3 heat treatment	Hydrogen chloride	10 mg/Nm^3	Average over sample period	Quarterly	BS EN 1911
		Vinyl chloride	5 mg/Nm^3			CEN TS 13649
		Ethylene oxide	1 mg/Nm^3			CEN TS 13649
		Total Class A Volatile Organic Compounds (expressed as substance)	20 mg/Nm^3			BS EN 12619

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period** note1	**Monitoring frequency**	**Monitoring standard or method**
		Total Class B Volatile Organic Compounds (expressed as substance)	75 mg/Nm^3			BS EN 12619
		Dioxins and Furans (as I-TEQ)	0.3 ng/Nm^3	Periodic over minimum 6 hours, maximum 8 hour period	Annually	EN 1948 Parts 1, 2 & 3
A6 [as per Schedule 7 site plan]	Line 3 dust extraction	Particulates	5 mg/Nm^3	Average over sample period	Quarterly	BS EN 13284-1
A7 [as per Schedule 7 site plan] (3)	Boiler 1: Dual fuelled boiler fired on natural gas with gas oil as backup. Note 2	Oxides of Nitrogen	140 mg/Nm^3	Average over sample period	Annually	BS EN 14792
		Carbon Monoxide	No limit set	Periodic	Annually from the date of acceptance of first monitoring measurements under condition 3.1.4	BS EN 15058
A9 [as per Schedule 7 site plan] (3)	Boiler 2 fired on natural gas Note 2	Oxides of Nitrogen	100 mg/Nm^3	Average over sample period	Annually	BS EN 14792
		Carbon Monoxide	No limit set	Periodic	Annually from the date of acceptance of first monitoring measurements under condition 3.1.4	BS EN 15058
A11 [as per Schedule 7 site plan]	Line 4 heat treatment	Hydrogen chloride	10 mg/Nm^3	Average over sample period	Quarterly	BS EN 1911
		Vinyl chloride	5 mg/Nm^3			CEN TS 13649
		Ethylene oxide	1 mg/Nm^3			CEN TS 13649

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period** note1	**Monitoring frequency**	**Monitoring standard or method**
		Total Class A Volatile Organic Compounds (expressed as substance)	20 mg/Nm^3			BS EN 12619
		Total Class B Volatile Organic Compounds (expressed as substance)	75 mg/Nm^3			BS EN 12619
		Dioxins and Furans (as I-TEQ)	0.1 ng/Nm^3	Periodic over minimum 6 hours, maximum 8 hour period	Annually	EN 1948 Parts 1, 2 & 3
A12a [as per Schedule 7 site plan]	Line 4 dust extraction	Particulates	5 mg/Nm^3	Average over sample period	Quarterly	BS EN 13284-1
A12b [as per Schedule 7 site plan]	Line 4 dust extraction	Particulates	5 mg/Nm^3	Average over sample period	Quarterly	BS EN 13284-1
A13 [as per Schedule 7 site plan]	Boiler 3 fired on natural gas note 2	Oxides of Nitrogen	100 mg/Nm^3	Average over sample period	Annually	BS EN 14792
		Carbon monoxide	No limit set	Periodic	Annually from the date of acceptance of first monitoring measurements under condition 3.1.4	BS EN 15058
A14	Low temperature furnace fired on natural gas	No parameters set	No limit set	--	--	--

Note 1: ‘average over sample period’ is defined as three samples of at least 30 minutes.

Note 2: Monitoring requirements are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases at a standardised O2 content of 6% for solid fuels, 15% for engines and gas turbines and 3% all other MCPs.

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**
W1 [as per Schedule 7 site plan]	Humidifier overflow, water wash tank overflow, steam condensate and surface water (Line 2)	Dry Weather Flow	15 m^3/hour	-	Monthly	Calculation
		Temperature	45 ^{0}C	Spot Sample		Verified Probe
		Suspended Solids	300 mg/l			BS EN 872:2005
		COD	250 mg/l			BS ISO 15705
		pH	6-10			BS ISO 10523:2008
		Mercury	0.005 mg/l			BS EN ISO 17852
		Cadmium	0.01 mg/l			BS EN 5961:1995
W2 [as per Schedule 7 site plan]	Cooling Tower Purge	Dry Weather Flow	2 m^3/hour	-	Monthly	Calculation
		Temperature	-	Spot Sample		Verified Probe
		Suspended Solids	20 mg/l			BS EN 872:2005
		COD	100 mg/l			BS ISO 15705
		pH	6-10			BS ISO 10523:2008
		Mercury	0.005 mg/l			BS EN ISO 17852
		Cadmium	0.01 mg/l			BS EN 5961:1995
W3 [as per Schedule 7 site plan]	Humidifier overflow, water wash tank overflow, steam condensate and surface water (Line 3)	Dry Weather Flow	15 m^3/hour	-	Monthly	Calculation
		Temperature	45 ^{0}C	Spot Sample		Verified Probe
		Suspended Solids	300 mg/l			BS EN 872:2005
		COD	250 mg/l			BS ISO 15705
		pH	6-10			BS ISO 10523:2008
		Mercury	0.005 mg/l			BS EN ISO 17852
		Cadmium	0.01 mg/l			BS EN 5961:1995

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**
S2	Line 2 scrubbing system	1,2 Dichloroethane	0.04 mg/l	Spot Sample	Quarterly	BE EN ISO 10301:1997
		Mercury	0.005 mg/l			BS EN ISO 17852
		pH	6-10	Continuous	-	BS ISO 10523:2008
S3	Line 3 scrubbing system	1,2 Dichloroethane	0.04 mg/l	Spot Sample	Quarterly	BE EN ISO 10301:1997
		Mercury	0.005 mg/l			BS EN ISO 17852
		pH	6-10	Continuous	-	BS ISO 10523:2008
S4	Boiler house effluent	pH	6-10	Continuous	-	BS ISO 10523:2008
S5	Line 4 scrubbing system	1,2 Dichloroethane	0.04 mg/l	Spot Sample	Quarterly	BE EN ISO 10301:1997
		pH	6-10	Continuous	-	BS ISO 10523:2008

Schedule 4 – Reporting

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Hydrogen chloride, vinyl chloride, ethylene oxide, total class A VOCs, total class B VOCs	A3, A5, A11	Quarterly	1st January
Particulates	A2, A4, A6, A12a, A12b	Quarterly	1st January
Dioxins and furans	A3, A5, A11	Annually	1st January
Oxides of nitrogen	A7, A9, A13	Annually	1st January
Carbon monoxide	A7, A9, A13	Annually from the date of acceptance of first monitoring measurements under condition 3.1.4	1st January
Dry weather flow, pH, temperature, cadmium, mercury, suspended solids, chemical oxygen demand.	W1, W2, W3	Quarterly	1st January
1,2 dichloroethane	S2, S3, S5	Quarterly	1st January
Mercury	S2, S3	Quarterly	1st January

Table S4.2: Annual production/treatment	
Parameter	**Units**
Finished product (fibres)	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Dioxins and furans (mg I-TEQ) emitted per unit output of finished product (tonnes)	Annually	mg per tonne of product
Proportion of time (hours/month) Line 2 Thermal Oxidiser is bypassed during operation.	Quarterly	Hours/month
Proportion of time (hours/month) Line 3 Thermal Oxidiser is bypassed during operation.	Quarterly	Hours/month
Proportion of time (hours/month) Line 4 Thermal Oxidiser is bypassed during operation.	Quarterly	Hours/month

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
Point source emissions to sewer	Emissions to Sewer 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
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.

“compliance date” means 01/01/2025 for existing MCPs with net rated thermal input of greater than 5MW or 01/01/2030 for existing MCPs with a net rated thermal input of less than or equal to 5MW.

“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.

“existing medium combustion plant” means an MCP first put into operation before 20/12/2018.

“gas oil” includes diesel and is defined in Article 3(19) of the MCPD.

“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.

“I-TEQ”. For dioxins/furans and dioxin-like PCBs 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. When reporting on measurements of dioxins/furans and dioxin-like PCBs, the toxic equivalence concentrations should be reported as a range based on: all congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum. However the minimum value should be used when assessing compliance with the emission limit value in table S3.1.

TEF schemes for dioxins and furans				
Congener	**I-TEF**	**WHO-TEF**		
	1990	**2005**	**1997/8**	
		Humans / Mammals	**Fish**	**Birds**
Dioxins				
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
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	-	-
Furans				

TEF schemes for dioxins and furans				
Congener	**I-TEF**	**WHO-TEF**		
	1990	**2005**	**1997/8**	
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**
Non-ortho PCBs			
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
Mono-ortho PCBs			
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

“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.

“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.

“new MCP” means an MCP first put into operation on or after 20/12/2018.

“operating hours” means the time, expressed in hours, during which a combustion plant is operating and discharging emissions into the ait, excluding start-up and shut-down periods.

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

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 and 6% dry for solid 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.

Schedule 7 – Site plan

Figure 1: installation boundary (green)

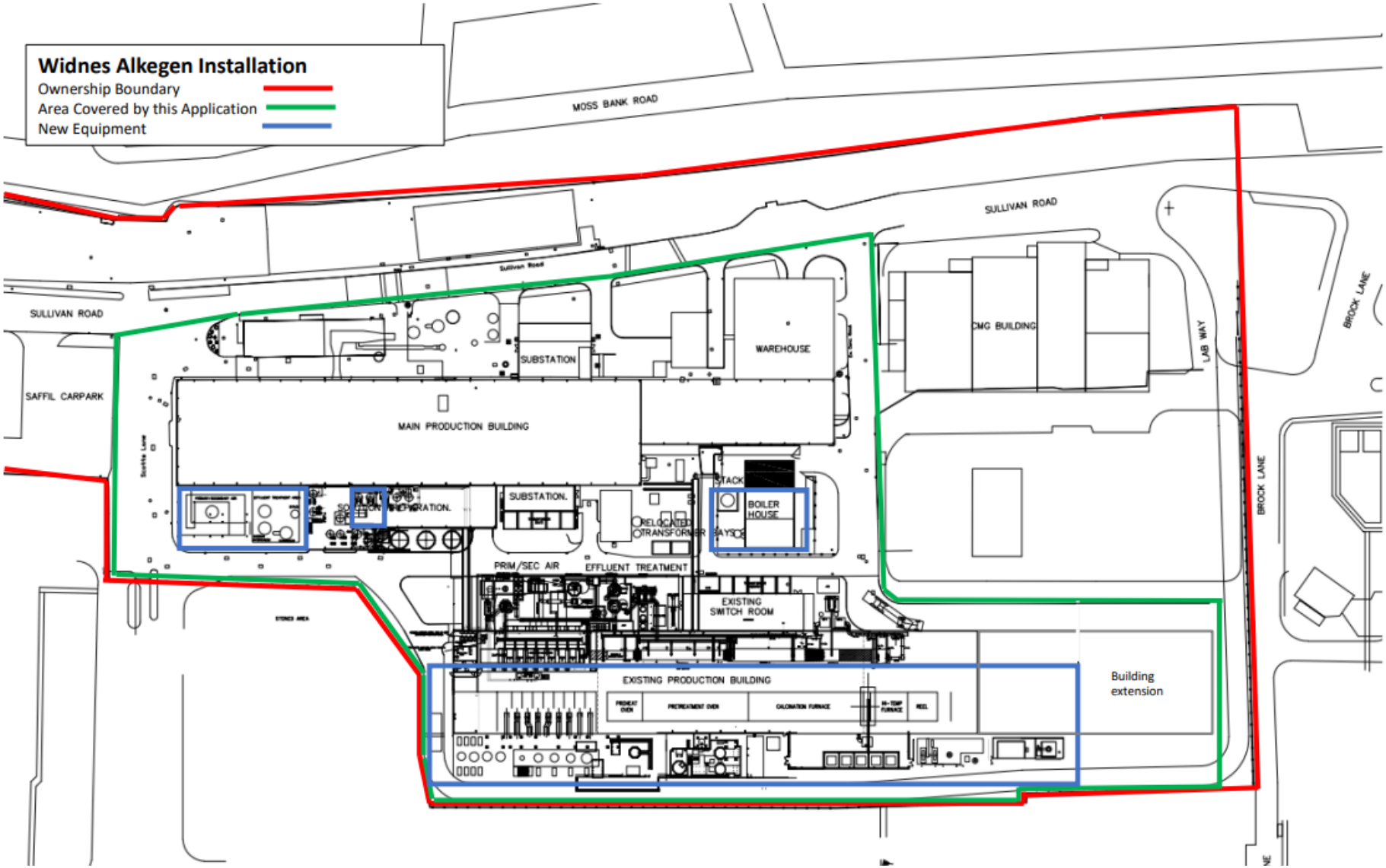


Figure 2: Emission points to air

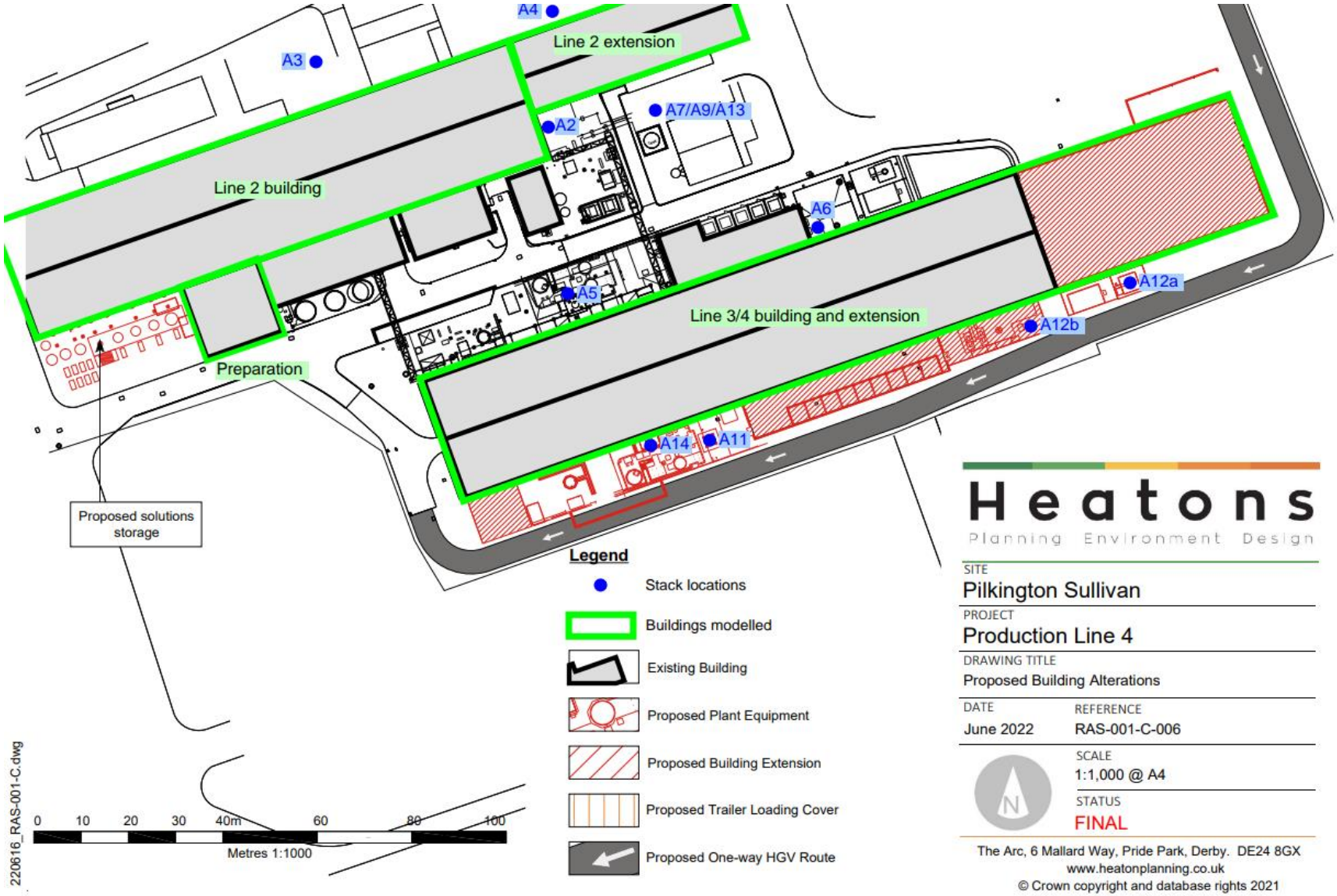
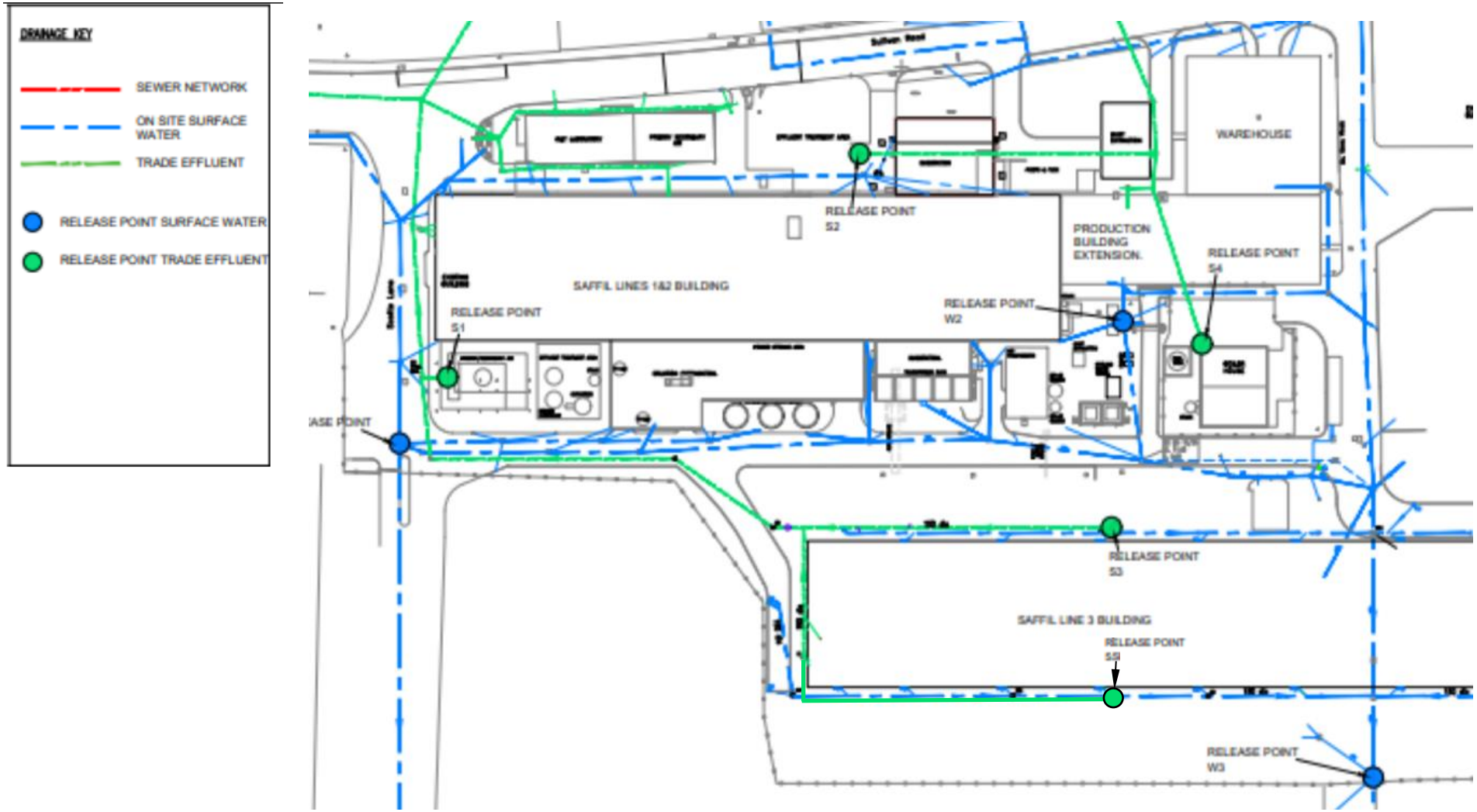


Figure 3: emission points to water (including foul sewer)



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