Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Lanxess Chemical Ltd

Widnes Aromachem
Dans Road
Widnes
Cheshire
WA8 0RF

Variation application number

EPR/BS3751IW/V009

Permit number

EPR/BS3751IW

Widnes Aromachem
Permit number EPR/BS3751IW

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. Only the variations specified in schedule 1 are subject to a right of appeal.

The permit has been reviewed against the requirements of the Medium Combustion Plant Directive (MCPD) for 2025 and 2030 and relevant conditions and monitoring requirements have been added.

The installation includes three Medium Combustion Plant (MCP), two of which are fired on Liquid fuels other than gas oil, with gas oil as a backup fuel, whilst Boiler 3 is natural gas fired. Boilers 1 and 2 have a thermal input of 5.1 MWth each, and Boiler 3 has a thermal input of 10.1MWth. Boiler 1 was first put into operation in 1964, Boiler 2 was put into operation in 1965, and Boiler 3 was put into operation in 1997, and therefore all are classed as existing MCP.

The operator also requested for an early permitting of their onsite natural gas fired hot oil heater, to incorporate Medium Combustion Plant (MCP) controls and Emission Limit Values (ELVs) and eliminate the requirement for a variation in future years. The heater has a thermal input of 4.7MWth.

The Installation is situated in an industrial area approximately 1.5km east of Widnes covering an area of 6.6 hectares.

A range of chemicals are produced for the flavours and fragrance industry and the fine chemicals sector, namely producing organic chemicals containing oxygen with the majority of production being classified as the production of aldehydes. Production processes are multi- stage, batch operations.

Many of the products from the Installation are sold on and blended with other materials for eventual use in household products such as detergents, soaps and perfume.

The Installation also includes steam raising boilers and hot oil heaters; storage areas for raw materials, products and liquid and solid waste; facilities for the treatment of process effluent prior to discharge to sewer and a purpose built storm water collection lagoon.

The site is accredited with ISO 14001 environment management system.

The following habitat sites are within screening distance:

- Special Protection Areas: Mersey Estuary (3562m);
- Ramsar Sites: Mersey Estuary (3385m);
- Local Wildlife Sites: St Helens Canal (512m), Widnes Warth saltmarsh (545m), Upper Mersey Estuary Intertidal Areas and Mudflats (690m), Astmoor Saltmarsh and Swamp (1280m), Land off Lunts Heath Road (1762m), St Helens Canal Disused (530m), Upper Mersey Estuary (600m).
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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 the permit		
Description	**Date**	**Comments**
Permit BS3751IW	Issued 26/03/04	
Variation AP3439SM (EPR/BS3751IW/V002)	Issued 04/11/04	Deletion of monitoring requirements for releases to sewer
Variation MP3535SC (EPR/BS3751IW/V003)	Issued 19/11/04	Inclusion of inorganic salts and a multi- product protocol
Application for variation	Received 19/04/05	
Schedule 7 notice requiring further information	16/06/05	Notice requiring further information to ensure the application demonstrated compliance with the WID. Responses received 18/07/05 and 20/07/05
Variation XP3532SE (EPR/BS3751IW/V004)	Issued 04/11/05	
Agency variation determined EPR/BS3751IW/V005	07/02/14	Agency variation to implement the changes introduced by IED
Notified of change of company name	03/07/15	Name change from Innospec Widnes Limited to Emerald Kalama Chemical Limited
Variation Issued EPR/BS3751IW/V005	27/07/15	Varied permit issues to Emerald Kalama Chemical Limited
Application EPR/BS3751IW/V007	Duly made 02/12/22	Application to increase production capacity.
Additional information received	01/03/23	Further increase in production capacity and additional emission points.
Additional information received	28/03/23	Additional details regarding the increase in production.
Variation determined and consolidation issued EPR/BS3751IW/V007	31/05/23	Varied and consolidated permit issued in modern format
Application EPR/BS3751IW/V009 (variation and consolidation)	Regulation 61 Notice response received 09/08/2024	Environment Agency initiated variation following Medium Combustion Plant permit review.
Variation determined and consolidation issued EPR/BS3751IW/V009	23/01/2025	Varied permit issued

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/BS3751IW

Issued to

Lanxess Chemical Ltd ("the operator")

whose registered office is

Dans Road
Widnes
Cheshire
WA8 0RF

company registration number 04178371

to operate a regulated facility at

Widnes Aromachem
Dans Road
Widnes
Cheshire
WA8 0RF

to the extent set out in the schedules.

The notice shall take effect from 23/01/2025

Name	Date
Beccy Brough	**23/01/2025**

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions are amended as detailed, following an Environment Agency initiated variation:

- Table S1.1, as referenced by conditions 2.1.1, 2.3.11, and 3.6.5 is amended to add details of MCP and add activity reference numbers.
- Table S3.1, as referenced by conditions 2.3.6, 2.3.9, 3.1.1, 3.2.1, 3.2.2, 3.6.1, 3.6.3 and 3.6.4, is updated to include MCP emission limits and monitoring requirements.
- Table S4.1, as referenced by condition 4.2.3 is amended to add MCP reporting requirements.
- Table S4.2, as referenced by condition 4.2.2, is amended to add air monitoring reporting form
- Schedule 6, as referenced by condition 4.4.1, is amended to add additional definitions relating to MCP.

The following conditions are added following an Environment Agency initiated variation:

- Condition 2.3.11 is added to apply operating techniques for MCP.
- Condition 3.6.5 and 3.6.6 is added to specify monitoring requirements for existing MCP.
- Condition 4.1.3 is added to specify annual operating hour and record requirements for MCP.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BS3751IW

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BS3751IW/V009 authorising,

Lanxess Chemical Ltd ("the operator"),

whose registered office is

Dans Road
Widnes
Cheshire
WA8 0RF

company registration number 04178371

to operate an installation at

Widnes Aromachem
Dans Road
Widnes
Cheshire
WA8 0RF

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

Name	Date
Beccy Brough	**23/01/2025**

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 recovered with a high level of energy efficiency and 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.

1.5 Multi product protocol

1.5.1 Where the operator proposes to make a change under a multi product protocol that is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified of the proposed change;

(b) the notification shall contain a description of the change including: an assessment of its environmental impact; any relevant supporting assessments and drawings; and the proposed implementation date;

(c) the change shall not be implemented unless approved in writing by the Environment Agency;

(d) as from any approved implementation date, the operator shall operate in accordance with the changed multi product protocol in place of the previously approved version.

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 Waste shall not be charged if:

(a) the combustion chamber temperature is below 850°C,

(b) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or

(c) continuous emission monitors to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation.

2.3.7 The operator shall record the beginning and end of each period of “abnormal operation”.

2.3.8 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as soon as possible.

2.3.9 The operator shall interpret the start of the period of “abnormal operation” as the earliest of the following:

(a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors.

(b) a technically unavoidable stoppage, disturbance, or failure of the activated carbon abatement system

(c) Any other technically unavoidable stoppage, disturbance, or failure of the plant which is causing or could lead to an exceedance of an emission limit value in table S3.1.

(d) Any other technically unavoidable stoppage, disturbance, or failure of the plant which could lead to an exceedance of an emission limit value in table S3.1.

2.3.10 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:

(a) when the failed equipment is repaired and brought back into normal operation;

(b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;

(c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line

(d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line;

2.3.11 For the following activities referenced in Schedule 1 Table S1.1 (AR8, and AR9 (SA3 only):

(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.

3.2 Emissions limits and monitoring for emission to air for incineration plant

3.2.1 The limits for emissions to air apply as follows:

(a) The limits in table S3.1 shall not be exceeded except during periods of abnormal operation.

(b) The limits in table S3.1 (a) shall not be exceeded.

3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 and S3.1(a); the Continuous Emission Monitors shall be used such that;

(a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:

- Carbon monoxide 10%
- Sulphur dioxide 20%
- Oxides of nitrogen (NO & NO_2 expressed as NO_2) 20%
- Particulate matter 30%
- Total organic carbon (TOC) 30%
- Hydrogen chloride 40%
- Ammonia 40%

(b) valid half-hourly average values or 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.2.2 (a).

(c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour or 10 minute period, the half-hourly average or 10-minute average shall in any case be considered valid if measurements are available for a minimum of 20 minutes or 7 minutes during the half-hour or 10-minute period respectively. The number of half-hourly or 10-minute averages so validated shall not exceed 5 or 15 respectively per day;

(d) daily average values shall be calculated as follows:

(i) the average of valid half hourly averages or 10 minute averages over calendar day excluding half hourly averages or 10 minute averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average or fifteen 10-minute average values in any day have been determined not to be valid;

(e) no more than ten daily average values per year shall be determined not to be valid.

3.3 Emissions of substances not controlled by emission limits

3.3.1 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.

3.3.2 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.

3.3.3 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.

3.4 Odour

3.4.1 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.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to 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.

3.5 Noise and vibration

3.5.1 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.

3.5.2 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.

3.6 Monitoring

3.6.1 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;

(b) process monitoring specified in table S3.4.

3.6.2 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.

3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and unless otherwise agreed in writing by the Environment Agency have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges. Newly installed Data handling and acquisition systems (DAHS), or DAHS replacing existing DAHS, shall have MCERTS certification.

3.6.4 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, S3.3 unless otherwise agreed in writing by the Environment Agency.

3.6.5 For the following activities referenced in Schedule 1 Table S1.1 (AR8 and AR9 (SA3 only):

(a) For existing MCP 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.

3.6.6 Monitoring of MCP shall not take place during periods of start-up or shut down.

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.

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

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 S4.3 using the forms specified in table S4.4 of that schedule; and

(d) the functioning and monitoring of the incineration plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.

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:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

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 4.1 A(1)(a)(i): Producing hydrocarbons	Production of a range of organic compounds a number of specific reactions are defined in the application.	Receipt of raw materials to dispatch of finished product.
AR2	Section 4.1 A(1)(a)(ii): Producing organic chemicals containing oxygen	Production of a range of organic compounds a number of specific reactions are defined in the application.	Receipt of raw materials to dispatch of finished product. Does not allow use of Abbalide process.
AR3	Section 4.1 A(1)(a)(iii): Producing organic chemicals containing Sulphur	Production of a range of organic compounds a number of specific reactions are defined in the application.	Receipt of raw materials to dispatch of finished product.
AR4	Section 4.1 A(1)(a)(iv): Producing organic chemicals containing nitrogen	Production of a range of organic compounds a number of specific reactions are defined in the application.	Receipt of raw materials to dispatch of finished product.
AR5	Section 4.2 A(1)(a)(iv): Producing inorganic salts	Production of a range of inorganic salts.	Receipt of raw materials to dispatch of finished product.
AR6	Section 4.1 A(1)(a)(ii): Producing organic chemicals containing oxygen	Production of Benzyl benzoate	Production of 3000t/year Benzyl benzoate From the receipt of raw materials to dispatch of finished product.
	Directly Associated Activity		
AR7	Small Waste Incineration Plant	Use of process derived fuel produced from still residues and still front ends in a boiler to produce steam.	Less than 10 tonnes a day. Boilerhouse.
AR8	Generation of steam	2 x 5.1 MWth Liquid fuels other than gas oil fired boilers, which are existing MCP, with gas oil as back up fuel. 1 x 10.1Wth natural gas boiler, which is an existing MCP	Generation of steam to provide heat for use in the stationary technical unit. From receipt of fuel to release of products of combustion to air.
AR9	Heating oil	SA2 – No. 1& 2 Beverley: 0.88MWth each SA3 Beverley: 1 x 4.7MWth, which is an	Hot oil heaters burning natural gas or gas oil to heat oil for use in the stationary technical unit

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
		existing MCP	
AR10	Waste storage and handling	Storage and handling of solid and liquid wastes.	Production of waste to dispatch from the permitted installation.
AR11	Liquid effluent collection and treatment	Collection and treatment of liquid effluent	From entry to site drainage system to discharge to public sewer including the use of the storm water lagoon

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	Section 2.1 & 2.2	31/03/03
Application	Appendix 1 pages 129-131 & 134	31/03/03
Application for variation dated 11 November 2004 and the additional information dated 18 November 2004	Information regarding the production of inorganic salts E25 – Multi-product protocol	15/11/04 and 18/11/04
Application for variation XP3532SE	The response to question 2.1 of the Application form for variation XP3532SE	19/04/05
Response to Schedule 7 Notice	Responses to questions 1 through 8	20/07/05
Application	Non Technical Summary, Manufacture of Benzyl Benzoate document provided in response to section 3a – technical standards, Part C3 of the application form	Duly Made 02/12/22
Additional information	Lanxess Widnes 2023 Abatement Improvement Plans document Emergency Response document BOB Process Environmental Risk Assessment document	01/03/23 30/03/23 31/03/23

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC 14	The Operator shall calibrate and verify the performance of Continuous Emission Monitors for release points and parameters as specified in Table 2.2.2 to BS EN 14181 and submit a summary report to the Environment Agency as evidence of compliance with the requirements of BS EN 14181	Completed
IC 15	The Operator shall submit to the Environment Agency for approval a Monitoring Plan for emissions from reactors and tanks in SA1. Once the EA approval is given, the Operator shall undertake air emission monitoring of emission from reactors and tanks in SA1, as defined in table S3.1.	In progress

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	This monitoring will be for the duration of one day shift when Benzyl Benzoate is produced and shall be repeated for two such shifts and shall include measurement of concentration and efflux velocity. The Operator shall submit a written report to the Agency detailing the monitoring undertaken and results obtained, and contain a comparison with, and justification for, the data used in the Operators original H1 assessment of this emission point.	
IC 16	The Operator shall update the existing Environment Management System considering, but not limited to, the following: - The increase in used raw materials, product, waste and associated storage and emissions, - The operation of the two new scrubbers, - Management procedures and accidents, including training of personnel.	Awaiting review
IC 17	After commissioning of the two scrubbers (HCl day tank scrubber for the ETP in SA2 and HCl storage tank scrubber SA1 Plant) is complete, the Operator shall submit to the Environment Agency the operating instructions for both scrubbers. The operating instruction will include, but not limited to: - Commitment to running the scrubber at appropriate times, - Definition of appropriate times, - Schedule for sampling and changing of the scrubber medium. Once submitted and approved by the Environment Agency, these operating instructions will become part of the Operating techniques in table S1.2.	Awaiting review

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Liquid fuels	Less than 0.1% sulphur content.

Table S2.2 Permitted waste types and quantities for incineration at Boiler No. 2	
Maximum quantity	Maximum combined waste throughput 3000 tonnes/year
Waste code	**Description**
07 07 04*	Hydrocarbon produced from distillation column producing lilestralis – maximum 1000 tonnes/year
07 07 08*	Still residues consisting of high boiling point hydrocarbons from distillation unit – maximum 3000 tonnes/year

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location as shown on Site plan in Schedule 7	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1	Boiler No 1 and 2 when fuelled on Liquid fuel other than gas oil	Particulate matter	18 mg/m^3	Daily average	Continuous	EN 14181
		TOC	18 mg/m^3	Daily average	Continuous	EN 14181
			36 mg/m^3	½-hr average	Continuous	
		Hydrogen chloride	18 mg/m^3	Hourly average	Annual	BS EN 1911
		Hydrogen fluoride	2 mg/m^3	Hourly average	Annual	CEN TS 17340
		Carbon monoxide	89 mg/m^3	Daily Mean	Continuous	EN 14181
			178 mg/m^3	½-hr average	Continuous	
		Sulphur dioxide	89 mg/m^3	Hourly average	Annual	BS EN 15267-3
		Oxides of Nitrogen (NO and NO2 expressed as NO2)	650 mg/m^3	Daily average	Continuous	EN 14181
		Cadmium, thallium and their compounds (total)	0.06 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Every 2 years	BS EN 14385
		Mercury and its compounds	0.06 mg/m^3	Periodic over minimum 30 minute, maximum 8 hour period	Every 2 years	BS EN 13211

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location as shown on Site plan in Schedule 7	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.6 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Every 2 years	BS EN 14385
		Dioxins/furans (I-TEQ)	0.12 ng/m^3	Periodic over minimum 6 hours, maximum 8 hour period	Annual	BS EN 1948 Parts 1, 2 and 3
		Exhaust gas temperature	No limit set	Daily average	Continuous	Traceable to national standards
		Exhaust gas pressure	No limit set	Daily average	Continuous	Traceable to national standards
		Exhaust gas Oxygen content	No limit set	Daily average	Continuous	EN 14181
		Exhaust gas water vapour[3]	No limit set	Daily average	Continuous	EN 14181
		Dioxin like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)	No limit set	Periodic over minimum 6 hours, maximum 8 hour period	Annual	EN 1948 Parts 1, 2 and 3
		Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	No limit set	Periodic over minimum 6 hours, maximum 8 hour period	Annual	BS ISO 11338 Parts 1 and 2.

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location as shown on Site plan in Schedule 7	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)	No limit set	Periodic over minimum 6 hours, maximum 8 hour period	Annual	EN 1948 Parts 1, 2 and 3
A1	Boiler No 1 and 2 when fuelled on gas oil	Oxides of Nitrogen (NO and NO2 expressed as NO2)	200 mg/m^3 Limit applies from 01/01/2025	Periodic	Every 3 years	MCERTS BS EN 14792
		Carbon monoxide	No limit set			MCERTS BS EN 15058
	Boiler No 1 and 2 when fuelled on liquid fuel	Oxides of Nitrogen (NO and NO2 expressed as NO2)	650 mg/m^3 added for NO_x	Periodic	Every 3 years	MCERTS BS EN 14792
		Carbon monoxide	No limit set			MCERTS BS EN 15058
A2	Boiler No 3	Oxides of Nitrogen (NO and NO2 expressed as NO2)	200 mg/m^3 Limit applies from 01/01/2025	Periodic	Every 3 years	MCERTS BS EN 14792
		Carbon monoxide	No limit set	Periodic	Every 3 years	MCERTS BS EN 15058
A3	SA2 Beverley No.1 (hot oil heater)	No parameter set	No limit set	–	–	–
A4	SA2 Beverley No.2 (hot oil heater)	No parameter set	No limit set	–	–	–

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location as shown on Site plan in Schedule 7	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A5	SA3 Beverley (hot oil heater) When fuelled by natural gas	Oxides of Nitrogen (NO and NO2 expressed as NO2)	200 mg/m^3 Limit applies from 01/01/2030	Periodic	Every 3 years	MCERTS BS EN 14792
		Carbon monoxide	No limit set			MCERTS BS EN 15058
	SA3 Beverley (hot oil heater) When fuelled by gas oil	Oxides of Nitrogen (NO and NO2 expressed as NO2)	250 mg/m^3 Limit applies from 01/01/2030	Periodic	Every 3 years	MCERTS BS EN 14792
		Carbon monoxide	No limit set			MCERTS BS EN 15058
A6	Emission points from reactors and tanks in SA1[Note1]	Benzaldehyde as VOC class A	20 mg/Nm^3	Daily average	Quarterly	CEN TS 13649
		Benzyl Alcohol as VOC class B	75mg/ m^3 expressed as carbon	Daily average	Quarterly	CEN TS 13649
A7	Emission points from reactors and tanks in SA2[Note 2]	No parameter set	No limit set	–	–	–
A8	Emission points from reactors and tanks in SA3[Note 3]	No parameter set	No limit set	–	–	–
A9	HCl day tank scrubber for the ETP in SA2	No parameter set	No limit set	–	–	–

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location as shown on Site plan in Schedule 7	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A10	HCl storage tank scrubber SA1 Plant	No parameter set	No limit set	–	–	–

Note 1: emission points referenced in the permit application issued 26/03/04 as 61600, 61601,61700, 61800,61801,61809, 61810,R3601, R3602, R3604,R3605, R3606,R3607, R3610, R3614, R3615, R3619, R3620, R3621,S3501,S3502,S3503,S3504, S3505,S3601, T3601, T3602, T3705, T3708, T3901, T4204, T4205, T4206, T4212, T4307, T5901, T5904, V3606, V3609, V3611, V3644, V3653, V3654, V3655, V3656, V3674, V3677, V3681, V3903, V3904, V3905, V3906, V3907, V3912, V3913, V3917, V3918, V3919

Note 2: emission points referenced in the permit application issued 26/03/04 as R4501, R4503, R4601, R4605, R5201, R5401, S4601, S4602, S4604, S4605, T4305, T4308, T4309/10, V4508, V4510, V4511, V4648, V4649, V5201, V5401

Note 3: emission points referenced in the permit application issued 26/03/04 as 30111,30200,30209,30213,30300, 30303,30400,30500,30503,30504, 30505,30509,30510,30600,30800, 30802,30805,30900,30903,30904, 30907, 309C1, 3T201, 3T203/4/8, 3T209,3T502,3T503,3T505,3T506, 3T509,3T510,3T511,3T515,3T516, T5909

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 O_2 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 Emission to unnamed controlled water, tributary of the river Mersey. Grid Reference 5369 8596	Storm water balancing lagoon	No parameter set	No limit set	–	–	–

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 as shown on Site plan in Schedule 7	**Source**	**Parameter**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
S1 on site plan in schedule 7 emission to United Utilities Water PLC	Effluent treatment plant and storm water balancing lagoon	Mercury and its compounds, expressed as mercury (Total Hg)	No limit set	–	–	–
		Cadmium and its compounds, expressed as cadmium (Total Cd)	No limit set	–	–	–

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (°C)	Continuous	Traceable to national standards	As agreed in writing with the Agency.
Boiler Sweeps (Boiler No 1 and 2)	Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Before use of a new disposal or recycling route	Sampling and analysis as per Agency ash Sampling protocol.	–

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air Parameters as required by condition 3.5.1.	A1 A6	Annually, Every 2 years Annually	1 January
	Boiler sweeps	Before use of a new disposal or recycling route	1 January
	A1, A2, A5 (MCP)	Every 3 years from date of acceptance of first monitoring measurements under condition 3.6.5	
Emissions to water Parameters as required by condition 3.5.1	W1	Every 12 months	1 January
Emissions to sewer Parameters as required by condition 3.5.1	S1	Every 12 months	1 January

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Waste disposed and/or recovered	Annually	tonnes
VOCs	Annually	VOCs per tonne of chemical product
Hazardous waste	Annually	Tonnes of waste per tonne of chemical product
Non-Hazardous waste	Annually	Tonnes of waste per tonne of chemical product
Bottom Ash residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
Periods of abnormal operation	Annually	No of occasions and cumulative hours for current calendar year for each line.

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
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
Water and Land	Form water 1 or other form as agreed in writing by the Environment Agency	31/05/23
Sewer	Form S1 or other form as agreed in writing by the Environment Agency	18/03/04
Water usage	Form WU1 or other form as agreed in writing by the Environment Agency	18/03/04
Energy usage	Form E1 or other form as agreed in writing by the Environment Agency	18/03/04
Waste return	Form R1 or other form as agreed in writing by the Environment Agency	18/03/04
Other performance indicators	Form P1 or other form as agreed in writing by the Environment Agency	18/03/04

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

“abatement equipment” means that equipment dedicated to the removal of polluting substances from releases from the installation to air or water media.

“abnormal operation” means: any technically unavoidable stoppages, disturbances, or failures of the plant or the measurement devices. Abnormal operation starts as defined in condition 2.3.9 and ends as defined in condition 2.3.10. Abnormal operation is limited to 4 hours for a single occurrence and a total of 60 hours per year per line.

“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 5MWth or 01/01/2030 for existing MCPs with a net rated thermal input of less than or equal to 5MWth.

“CEM” Continuous emission monitor

“CEN” means Commité Européen de Normalisation

Daily average emissions value means ‘the average of at least 43 valid half hourly averages or for CO the average of at least 43 valid half hourly averages or 129 valid 10 min averages’

“dioxin and furans” means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016

“existing medium combustion plant” means an MCP in operation before 20 December 2018.

“emissions to land” includes emissions to groundwater.

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

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

“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.

“Hazardous property” has the meaning in Annex lll of the Waste Framework Directive as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005.

“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.

“ISO” means International Standards Organisation.

“limited operating hours MCP” means an MCP that meets the requirements of paragraph 8 of Part 2 of Schedule 25A of the Environmental Permitting Regulations.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016

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

“Multi-Product Protocol” (MPP) - means a procedure written by an operator and approved by the Environment Agency, which is referenced in the operational techniques table of this permit. It describes the operator’s management process which can be used to request changes, within the limits in that document only, to the original permit without the need for a formal permit variation application.

“medium combustion plant” or ”MCP” means a combustion plant with a net 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, into the air from medium combustion plants, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

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

“PAH” means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene, Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, Dibenzo[ah]anthracene, Dibenzo[a,i]pyrene Fluoranthene, Indo[1,2,3-cd]pyrene, Naphthalene

“PCB” means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in the table below.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“start up” is any period, where the plant has been non-operational, until waste has been fed to the plant in a sufficient quantity to initiate steady-state conditions as described in the application or agreed in writing with the Environment Agency.

“shut down” is any period where the plant is being returned to a non-operational state as described in the application or agreed in writing with the Environment Agency.

“TOC” means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC. In respect of Bottom Ash, this means the total carbon content of all organic species present in the ash (excluding carbon in elemental form).

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

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

“year” means calendar year ending 31 December.

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:

(a) 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

(b) 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

(c) in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry, in relation to gases from co-incineration plants the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 6% dry

(d) where hazardous wastes are burned in plant covered by Schedule 13 of Environmental Permitting Regulations and the emissions of pollutants are reduced by gas treatment, standardisation of the gas with respect to oxygen content shall be carried out only if the oxygen concentration measured over the same period exceeds the relevant oxygen content defined in conditions (a) – (c) above. In other cases, the measured emissions shall be standardised only for moisture, pressure and temperature.

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				
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

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

When the following terms appear in the waste code list in Schedule 2, table 2.2, for that table, they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘PCBs’ means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

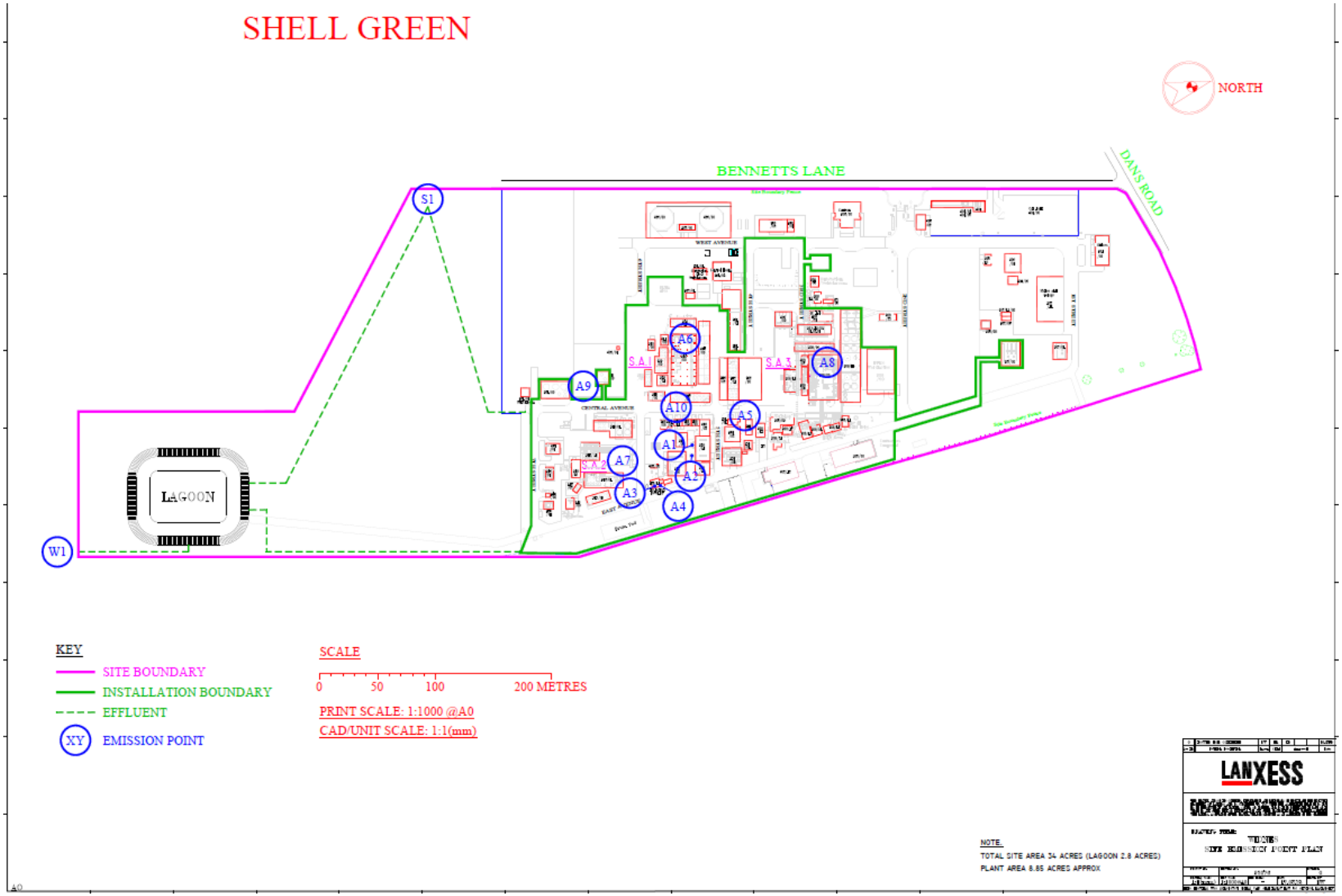
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term

Schedule 7 – Site plan



END OF PERMIT