

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Vynova Runcorn Limited

Runcorn Manufacturing Site PO Box 9 Runcorn Cheshire WA7 4JE

Variation application number

EPR/GP3536AC/V004

Permit number

EPR/GP3536AC

Runcorn Manufacturing Site Permit number EPR/GP3536AC

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 introduced by this variation notice/statutory review

This variation is to implement a major site technology upgrade (Project Summer). Ethylene dichloride manufacture has ceased on EDC1/2 Plant. DC3 plant has been modified with new reactor technology (now known as HPE Plant) and a new effluent treatment plant. There has also been some rationalisation and improvement changes across the Vynova site including closure of the VDC Plant road-loading and conversion of the 6th Avenue road-loading facility to dual-bay operation.

Overview of the main features of the installation

The Installation is located in Runcorn, Cheshire. The centre of the Vynova site being at National Grid Reference SJ 505 801. The site is within 2km of the Mersey Estuary Special Protection Area/RAMSAR site/Site of Special Scientific Interest. The installation is located in a central position on the industrial chemicals complex known as the Runcorn Manufacturing Site.

The primary purpose of the Installation is the production of high purity ethylene dichloride (1,2dichloroethane, EDC), which is exported by road from the site to ship loading facilities to supply other Vynova production plants in Europe or external customers. The production facility is referred to as the HPE Plant (High Purity EDC Plant). Steam is generated using hot combustion gases from the vents incinerator and also imported from elsewhere on the multi-operator site. There are no steam or power generation combustion plants in the installation.

The HPE plant includes a liquid residues incineration plant, compliant with the Industrial Emissions Directive. A separate vents incinerator (thermal oxidiser) treats process vents from the Vynova Runcorn installation. The combustion gases from this equipment are scrubbed to form hydrochloric acid which is reused on plant or sold to third parties for use elsewhere on the Runcorn multi-operator Site. Hydrochloric acid can also be imported to the stock tanks from road tankers.

The permit enables the import of residues from elsewhere in the Vynova group or external companies as part of the incinerator feedstock provided they are similar (including same EWC code) to those produced by the EDC process on site and there is no increase in the originally assessed throughput.

Process descriptions

HPE Plant

Direct chlorination (on the 200 Unit) produces EDC by the reaction of ethene and chlorine in liquid EDC in two reactors. EDC is recovered from reactor off-gas by refrigeration condensation. The non-condensable gas stream passes to the vent incinerator (or a sodium hydroxide scrubber at times of incinerator unavailability). The HPE reactors have a crude EDC production capacity of approximately 440,000 tonnes per annum. The crude EDC produced is washed with water and sodium hydroxide then sent to temporary buffer storage. Up to 335,000 tonnes per annum of high purity EDC is produced by drying and distillation which limits the overall production capacity. The pure EDC is stored and exported.

An Effluent Treatment Plant (ETP) receives effluent from around the Vynova site, which contains various aqueous acidic and caustic effluents which may also contain EDC, as well as rainwater from potentially contaminated bunds.

The main purpose of the ETP is to pass the effluent through a steam stripping column to remove the EDC and recycle it back into the main plant wash system. The plant also neutralises the effluent and removes carbonate. The vent gases are sent to the vents incinerator or diverted to a local scrubber if the main header is off-line. The stripped effluent passes to the Runcorn site Central Effluent Plant (EIP), which is owned and operated by INEOS Inovyn, for solids removal and final discharge to the Weaver Canal. Uncontaminated surface water from the installation, including the HPE plant area, passes either to Outfall 49 (south areas) or to Outfall 56 (north areas).

There are two incinerators at the HPE plant; the vents incinerator, which destroys the volatile organic compounds (VOCs) in the plant vents, and the residues incinerator which destroys the liquid residues from the HPE plant. Some similar permitted wastes from off-site may also be accepted for treatment.

Process gases passing through the vents incinerator combustion chamber are maintained at about 1100°C for at least two seconds to ensure efficient destruction. Hot combustion exhaust gases generate steam for use on the HPE plant (further site steam is provided by the neighbouring operator). The combined incinerator exhaust gases are quenched and scrubbed by successive contact with water (which generates hydrochloric acid by-product for use on site or sold to third parties on the Runcorn site), followed by caustic soda plus sodium bisulphite. The resulting gases pass through a demister before venting to atmosphere, with the gases from the vents incinerator, via a 60 metre stack. Whenever the incinerator is unavailable for operation the process gases pass to local vents.

Up to 30,000 tonnes per annum of process liquid residues pass to a separate combustion chamber for incineration at about 1200°C for at least two seconds. In order to minimise the formation of dioxins and furans, there is no heat recovery on the exhaust and gases pass directly to a quench. Exhaust gases then pass to the scrubbing system which also serves the vent incinerator. There is a 1,900m³ residue stock tank giving buffer storage to allow for maintenance on the residues incinerator.

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

Status log of the permit			
Description	Date	Comments	
Application BM0567IF	Received 08/12/2004		
Supplementary application in accordance with the Waste Incineration (England and Wales) Regulations 2002, SI2980	Received 01/03/2005		
Permit BM0567IF issued	01/07/2005		
Variation TP3337UR issued	01/09/2008	Consolidated permit correcting typographical errors.	
Application EPR/AP3931FT/T001	Duly Made 17/10/2011	Full transfer of permit BM0567IF	
Transfer determined EPR/AP3931FT/T001	03/11/2011	Full transfer complete	
Variation EPR/AP3931FT/V002 (PAS QP3932ES)	03/01/2014	Agency initiated variation to implement the changes introduced by Industrial Emissions Directive	
Application EPR/AP3931FT/V003	Duly Made 09/01/2014	New sources of residues for incinerator	
Variation EPR/AP3931FT/V003	27/02/2014		

Status log of the permit				
issued (PAS BP3031EE)				
Application EPR/AP3931FT/V004	Duly Made 22/12/2014	Variation and Consolidation to remove Vinyl Chloride production and polymerisation activities (and rearrangement of some activities from BS5428IP)		
Variation and Consolidation EPR/AP3931FT/V004 issued	15/05/2015			
Application EPR/GP3536AC/T001	Duly Made 19/05/2015	Full transfer of permit AP3931FT		
Transfer determined EPR/GP3536AC/T001	02/06/2015	Full transfer complete		
Notified of change of company name	13/07/2015	Name changed to Vynova Runcorn Limited.		
Variation issued EPR/GP3536AC/V002	03/08/2015	Varied permit issued to Vynova Runcorn Limited.		
Regulation 61 Notice dated 04/05/2018 (Notice requiring information for statutory review of permit)	Response Received 10/08/2018 26/10/2018	Technical standards detailed in response to the information notice.		
EPR/GP3536AC/V003 (variation and consolidation)	Environment Agency Initiated Variation	Statutory review of permit occasioned by LVOC BAT Conclusions published 07 December 2017		
Variation determined EPR/GP3536AC/V003	07/12/2021	Varied and consolidated permit issued		
Variation Application EPR/GP3536AC/V004	Duly Made 29/08/2024	Substantial Variation to implement a major site technology upgrade (Project Summer).		
Variation determined EPR/GP3536AC/V004	12/062025	Varied and consolidated permit issued		

Other Part A installation permits relating to this installation			
Operator	Permit number	Date of issue	
INEOS ChlorVinyls Limited	BS5428IP	July 2005	
Industrial Chemicals Limited (Iron Salts) (formerly INEOS Chlor Limited)	EP3635TU	May 2010	
Mexichem UK Limited (formerly INEOS Fluor Limited)	QP3535TE	July 2010	
Runcorn MCP Limited	RP3736WB	May 2015	
INEOS ChlorVinyls Limited	KP3634WC	Sept 2016	

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/GP3536AC

Issued to

Vynova Runcorn Limited ("the operator")

whose registered office is

Bankes Lane Office Bankes Lane Runcorn WA7 4EL

company registration number 09117971

to operate a regulated facility at

Runcorn Manufacturing Site PO Box 9 Runcorn Cheshire WA7 4JE

to the extent set out in the schedules.

The notice shall take effect from 12/06/2025

Name	Date
Matthew John	12/06/2025

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/GP3536AC

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/GP3536AC/V004 authorising,

Vynova Runcorn Limited ("the operator"),

whose registered office is

Bankes Lane Office Bankes Lane Runcorn WA7 4EL

company registration number 09117971

to operate an installation at

Runcorn Manufacturing Site PO Box 9 Runcorn Cheshire WA7 4JE

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

Name	Date
Matthew John	12/06/2025

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 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 Multiple operator installations

1.5.1 Where the operator notifies the Environment Agency under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

2 **Operations**

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").
- 2.1.2 For the activities referenced in schedule 1, table S1.1 waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land labelled as 2 on the site plan at schedule 7 to this permit, which is within the area edged in red on the site plan that represents the extent of the installation covered by this permit and that/those of (the) other operator(s) of the installation.

2.3 Operating techniques

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

- 2.3.6 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.
- 2.3.7 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.
- 2.3.8 The operator shall burn only those hazardous wastes where the throughputs, calorific values and pollutant compositions are within the ranges specified in table S2.2 of schedule 2, unless otherwise agreed in writing with the Environment Agency.
- 2.3.9 The operator shall ensure that prior to accepting waste subject to condition 2.3.8 at the site, it has obtained sufficient information about the hazardous wastes to be burned to demonstrate compliance with the characteristics described in condition 2.3.8.
- 2.3.10 The operator shall take representative samples of all hazardous waste deliveries to the site unless otherwise agreed in writing with the Environment Agency and test a representative selection of these samples to verify conformity with the information obtained as required by condition 2.3.9. These samples shall be retained for inspection by the Environment Agency for a period of at least 1 month after the material is incinerated and results of any analysis made of such samples will be retained for at least 2 years after the material is incinerated.
- 2.3.11 Waste shall not be charged, or shall cease to be charged, if:
 - (a) the combustion chamber temperature is below, or falls below, 1100°C; or
 - (b) the oxygen level is below 3% (wet) by volume; or
 - (c) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded; or
 - (d) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation or periods of OTNOC; or
 - (e) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation.
- 2.3.12 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.11 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.11 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.
- 2.3.13 The operator shall record the beginning and end of each period of "abnormal operation".
- 2.3.14 During a period of "abnormal operation" or OTNOC, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.15 Where, during "abnormal operation", on an incineration line, any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:
 - (a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 due to stoppages, disturbances or failures of the abatement plant, or continuous emission monitor(s) or continuous effluent monitoring device(s) are out of service, as the case may be, for a total of 4 hours uninterrupted duration;
 - (b) the cumulative duration of "abnormal operation" periods over 1 calendar year has reached 60 hours;
 - (c) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 (a).
- 2.3.16 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 shutdown of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
- (c) when a period of four hours has elapsed from the start of the "abnormal operation";
- (d) when, in any calendar year, an aggregated period of 60 hours "abnormal operation" has been reached on an incineration line.

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 except in "abnormal operation", when there shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1(a), S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 3 table S3.2 or S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 Total annual emissions from the emission point(s) set out in schedule 3 tables S3.1, S3.1a, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.5 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

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

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1, S3.1(a) S3.2 and S3.3;
 - (b) ambient air monitoring specified in table S3.5;
 - (c) process monitoring specified in table S3.6;
- 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. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and 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.

- 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, S3.1(a), S3.2, S3.3 and S3.5 unless otherwise agreed in writing by the Environment Agency.
- 3.5.5 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%
•	Oxides of nitrogen (NO & NO ₂ expressed as NO ₂)	20%
•	Particulate matter	30%
•	Total organic carbon (TOC)	30%
•	Hydrogen chloride	40%

- (b) valid half-hourly average values 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 3.5.5 (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 period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the halfhour. The number of half-hourly averages so validated shall not exceed 5 per day;
- (d) daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly 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.

3.6 Closure and Decommissioning

- 3.6.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by
 - (a) attention to the design of new plant or equipment;
 - (b) the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and
 - (c) the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.
- 3.6.2 Notwithstanding condition 3.6.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.
- 3.6.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.
- 3.6.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

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 28 February (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
 - (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
 - (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.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

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;
 - (d) of any incident which has led to a period of abnormal operation of incineration plant, 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.
- 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 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
 - (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.
- 4.3.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:
 - (a) a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.
 - (b) a failure to comply with an annual target under that Agreement at the end of the trading compliance period.

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 "without delay" 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 4.1A(1)(a)(vi)	Production of ethylene dichloride (1,2- dichloroethane)	From receipt and storage of raw materials to storage and despatch of product.	
AR2	Section 4.2A(1)(b)	Manufacturing hydrogen chloride and hydrochloric acid	From collection and production of gases and acid to the next stage of the manufacturing process or despatch.	
AR3	Section 5.1A(1)(a)	Incineration of liquid residues from hazardous waste	Receipt of liquid residues to the absorption and scrubbing of the combustion gases.	
AR4	Section 5.4 A(1)(a)(ii)	Disposal of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by physico- chemical treatment.	Receipt of aqueous effluent into treatment facilities to discharge to third party EIP plant for further treatment.	
	Directly Associated Activity			
AR5	Handling and storage of waste material	Storage and handling of all waste material	Production of waste to the disposal from the Permitted Installation as described in the application	
AR6	Utilities and services provision	Provision of utilities and services to support all operations	Utilities and services used in the Permitted Installation as described in the application	

Table S1.2 Operating techniques			
Description	Parts	Date Received	
Application	The response to questions 2.1 and 2.2 given in sections 2.1 and 2.2 of the application	08/12/2004	
	The additional information in the supplementary WI Regulations application in respect of the Residues Incinerator	01/03/2005	
Application BS5428IP	The response to questions 2.1 and 2.2 given in each of the sections 2.1 and 2.2 of the Chlorinated Ethanes/Ethylenes part of the application describing: a) 1,2 Dichloroethane (EDC) plant	14/12/2004	
Application BS5428IP	The response to questions 2.10 in respect of monitoring methods and monitoring frequency described in section 2.10.1 of the Chlorinated Ethanes/Ethylenes part of the application	14/12/2004	

Table S1.2 Operating techniques			
Description	Parts	Date Received	
Additional information BS5428IP	Additional information supplied by the operator in several letters	07/02/2005, 07/03/2005, 06/07/2005	
Additional information	The information supplied in the letter dated 13 May 2005	13/05/2005	
Supporting information to the application for variation FP3837GB (EPR/BS5428IP/V003)	Process Description Part 4 – Chlorinated Ethanes Updated July 2009 for closure of the Per-Tri and ß-Tri plants (post Bison Project) and July 2010	July 2009, July 2010	
Application for variation EPR/AP3931FT/V003	The information describing modified operating techniques supplied in the application	09/01/2014	
Supporting information to the application for variation EPR/AP3931FT/V004 (submitted as a partial surrender)	The information describing modified operating techniques supplied in the application (including arrangements for moving operations from permit BS5428IP into this annex)	09/12/2014	
Supporting information to the application for variation EPR/AP3931FT/V004 (submitted as a partial surrender)	The information describing modified operating techniques supplied in the application.	09/12/2014	
Draft permit operator review response	AP3931FT comments. Descriptions of modified operation leading to changes in Ethene and Vinyl Chloride emission mass discharges and vent monitoring.	18/03/2015	
Application for variation EPR/GP3536AC/V004	The information describing modified operating techniques supplied in the application: VRL_PartC2_2b Proposed changes to current permitted activities. VRL_PartC3_3a Op Tech and Tech stds for the proposed changes. VRL_PartC3_3b OTNOC for process vents (revised June 2025). VRL_PartC3_2 EmissionsVRL_HPEBlockDiagram.	Duly Made 29/08//2024	

Table S1.3 Improvement programme requirements			
Reference	Requirement	Date	
IC7	The Operator shall develop and implement a 5 year rolling plan to deliver environmental improvements for the EDC part of the Runcorn Manufacturing Site, such that the installation can achieve BAT standards which are relevant to the industrial sectors in which it operates.	Completed	
IC9	The operator shall submit, for approval by the Environment Agency, a report, as part of a permit variation, setting out how the facility to be constructed will achieve the 'Narrative BAT' and the BAT conclusion AELs. The report shall include, but not be limited to, the following:	Completed	

Table S1.3 Improvement programme requirements				
Reference	Requirement	Date		
	 Methodology for achieving BAT Performance against the BATc AELs. Methodology for reaching the AELs. The report of the new facility shall address the following BAT Conclusions: Production of Large Volume Organic Chemicals (LVOC) BAT 2 (Monitor channelled emissions to air), BAT 10 (Reduce channelled emissions of organic compounds) and more specifically on how all the process off gases are monitored and feed to the thermal oxidiser to achieve compliance, LVOC BAT 14 (Reduce the waste water volume), BAT 79 (Monitor emissions to water), BAT 90 (Reduce the load of chlorinated compounds discharged to water) by commissioning an improved waste water treatment plant and a waste water management system, Common waste water and waste gas treatment/management systems in the chemical sector (CWW) BAT 3 (monitor key process parameters at key locations), CWW BAT 5 (monitor diffuse VOC emissions to air) by including EDC1/2 Plants, and/or any other relevant Plants in the existing monitoring routine, CWW BAT 7 (reduce usage of water and the generation of waste water), BAT 8 (segregation of uncontaminated waste water and reduction of emissions to water from W2), BAT 10 (integrated waste water treatment techniques) by commissioning an improved waste water treatment plant and a waste water management system, CWW BAT 13 (prevent and reduce the quantity of waste being sent for disposal), CWW BAT 15, (recovery of compounds and the reduction of emissions to air), BAT 19 (Prevent or reduce diffuse VOC emissions to air) by feeding process off gases to the thermal oxidiser. Refer to BAT Conclusions for a full description of the BAT requirement. 	20/00/2025		
IC10	 The Operator shall submit a written report to the Agency detailing measures and proposed improvements to their Environmental Management System. The improvements proposed in this review will ensure that: all the applicable features described in CWW BAT1 are incorporated the existing inventory of wastewater and waste gas streams is updated to comply with all the requirements of CWW BAT2. The Operator shall confirm in writing to the Agency when these procedures are in place. 	30/09/2025 or otherwise as agreed with the Environment Agency, for submission of report Confirmation of implementation date to be agreed with the		

Table S1.3 Improvement programme requirements				
Reference	Requirement	Date		
		Environment Agency		
IC11	The operator shall submit a written proposal to the Environment Agency to undertake monitoring to investigate EDC and VCM channelled emissions to air. The objective of the monitoring is to obtain quantitative data regarding EDC and VCM emissions and investigate a possible correlation between analytical results for TOC and EDC/VCM emissions.	31/10/2025 or otherwise as agreed with the Environment Agency, for submission of		
	The quantity of monitoring data considered must be justified and be sufficient to demonstrate that the results are representative of emissions during normal operation.	Teport		
	On receipt of written approval from the Environment Agency to the proposal, the operator shall carry out the monitoring and submit to the Environment Agency an interpretive report on the environmental significance of the results within three months of completion of the monitoring.	Monitoring report submission date to be agreed with the Environment Agency		
	The operator shall implement the monitoring requirements for EDC and VCM based on the above mentioned report and as advised by the Environment Agency. The monitoring frequency for EDC/VCM and TOC may be lowered if the correlation is established and TOC emissions have been consistently stable.			
IC12	The operator shall submit a written proposal to the Environment Agency to undertake monitoring to investigate adsorbable organically bound halogens (AOX) emissions from its wastewater. The objective of the monitoring is to establish the correlation between analytical results for total CHCs and AOX.	31/10/2025 or otherwise as agreed with the Environment Agency, for submission of		
	The quantity of monitoring data considered must be justified and be sufficient so as to demonstrate that the results are representative of emissions during normal operation.	report		
	On receipt of written approval from the Environment Agency to the proposal, the operator shall carry out the monitoring and submit to the Environment Agency an interpretive report on the environmental significance of the results within three months of completion of the monitoring.	Monitoring report submission date to be agreed with the Environment Agency		
	The operator shall implement the monitoring requirements for either AOX or total CHCs if a correlation has been established, based on the above mentioned report and as advised by the Environment Agency.			
IC13	The operator shall submit a written proposal to the Environment Agency to undertake monitoring of its emissions of individual metals to the receiving water body in accordance with CWW BAT12.	31/10/2025 or otherwise as agreed with the Environment		
	The quantity of monitoring data considered must be justified and be sufficient so as to demonstrate that the results are representative of emissions during normal operation.	Agency, for submission of report		
	On receipt of written approval from the Environment Agency to the proposal, the operator shall carry out the monitoring and submit to the Environment Agency an interpretive report on the environmental	Monitoring report submission date to be agreed with		

Table S1.3	able S1.3 Improvement programme requirements								
Reference	Requirement	Date							
	significance of the results within three months of completion of the monitoring.	the Environment Agency							
	The operator shall implement the monitoring requirements for metals, based on the above mentioned report and as advised by the Environment Agency.								
IC14	The operator shall submit a written proposal to the Environment Agency to undertake monitoring of its emissions of VCM to the receiving water body.	31/10/2025 or otherwise as agreed with the Environment							
	The quantity of monitoring data considered must be justified and be sufficient to demonstrate that the results are representative of emissions during normal operation. The monitoring equipment/techniques used shall have appropriate detection levels considering the BAT AEPLs listed at LVOC BAT 80.	Agency, for submission of report							
	On receipt of written approval from the Environment Agency to the proposal, the operator shall carry out the monitoring and submit to the Environment Agency an interpretive report on the environmental significance of the results within three months of completion of the monitoring.	Monitoring report submission date to be agreed with the Environment Agency							
	The operator shall implement the monitoring requirements for VCM, based on the above mentioned report and as advised by the Environment Agency.								
IC15	The operator shall submit a written proposal to the Environment Agency for technical assessment and written approval describing the commissioning of the upgraded Hygiene Monitoring mass spectrometer system for monitoring diffuse/fugitive emissions and its integration into the LDAR programme. This should include how it addresses the requirements of CWW BAT Conclusion 5.	31/10/2025 or otherwise as agreed with the Environment Agency							
	On receipt of written approval from the Environment Agency to the proposal, the operator shall carry out the monitoring in accordance with the agreed methods.								
IC16	The operator shall submit a written report to the Environment Agency for technical assessment and written approval describing the commissioning of the HPE Plant and associated equipment	4 months after start of chemical process							
	The report must include, but not be limited to:	otherwise as							
	 An assessment of operational plant performance against expected design parameters and any operational technique changes made during commissioning. 	Agency							
	 An assessment of monitored emissions against expected performance. 								
	In particular, the performance of the new Effluent Treatment Plant shall be part of this assessment and report.								
	The operator must implement any proposals identified within the report in accordance with the Environment Agency's written approval and within the approved timescales.								

Table S1.3 Improvement programme requirements							
Reference	Requirement	Date					
IC17	The operator shall submit a written report to the Environment Agency for technical assessment and written approval describing a survey of the impact of noise from typical operation of the varied plant. The survey shall be conducted in accordance with BS4142:2014 +A1:2019	31/12/2025 or otherwise as agreed with the Environment Agency.					
	This shall include a comparison of the impact of the measured noise against typical lowest level background noise.						
	The operator shall update the Noise Management Plan, if necessary, in accordance with the conclusions of the noise survey.						
	The operator must implement any proposals identified within the report in accordance with the Environment Agency's written approval and within the approved timescales.						
IC18	The operator shall submit a report to the Environment Agency for technical assessment and written approval comparing emitted particulate matter concentrations arising from combustion activity, by periodic sampling over a minimum period of 1 hour, against the inferred particulate concentration from 50% of the continuous emissions monitoring averaged over the same period for emission point HPE-1	31/12/2027 or otherwise as agreed with the Environment Agency.					
	The report shall be based on biannual sampling over a period of a least two years.						
	If the average sampled percentage of particulate matter concentrations arising from combustion activity is not less than the inferred 50%, the operator must implement any proposals within the Environment Agency's written approval and within the approved timescales.						

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels					
Raw materials and fuel description	Specification				

Table S2.2 Pe	rmitted waste types and quantities					
Maximum quantity	In total 30,000 tonnes per annum (to include on-site generated residues for incineration) Maximum flow = 3400 kg/h Minimum flow = 1000 kg/h	Calorific value as a mixed blend: Maximum CV = 11000 kJ/kg; Minimum CV = 3000 kJ/kg				
Waste code	Description					
07 01 07*	Ethylene dichloride, chloroform, chlorinated ethylenes, chloroprenes, benzene - HPE plant "lights" Note 1					
07 01 07*	Ethylene dichloride, tri-, tetra-, penta, and hexachloroethane, chlorinated C4's, 1-bromo-2- chloroethane, chlorobenzene, tars and non-volatiles; traces of iron, copper and sodium - HPE plant "heavies" Note 1					
07 01 07*	Ethylene dichloride, tri-, tetra- and pentachlor tetrachlorobutadiene - Inovyn Norge, - "heavie	oethane, perchloroethylene, chlorobenzene, es" ex Rafnes, Norway				
07 01 07*	Ethylene dichloride, chloroform, ethyl chloride, ethylene oxide, chlorinated ethylenes chloroprene - Vynova, "lights" ex Tessenderlo, Belgium					
07 01 07*	Ethylene dichloride, 1,1 – dichloroethane, chloroprene, bromochloroethane, trichlorobutene, trichloroethane, dichlorobutene, tetrachloroethane - Vynova, "heavies" ex Tessenderlo, Belgium					

Note 1: This waste is excluded from the reporting requirement under condition 4.2.5 provided it is neither removed from, nor accepted to, the installation.

Schedule 3 – Emissions and monitoring

Table S3.1 Point sour	ce emissions to air	 emission limits and moni 	toring requirements			
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
HPE-1 on Site plan in Schedule 7	Incinerator vent stack	Incinerator vent Particulate matter stack (contribution from combustion activity)	30 mg/m ³	½-hr average	Continuous measurement (inferred) ^{Note 2}	BS EN 14181 and BS EN 15267-3 (previous BS EN
			10 mg/m ³	Daily average	Continuous measurement (inferred) ^{Note 2}	BS EN 14181 and BS EN 15267-3 (previously 12619)
		Particulate matter (total contribution from combustion and non- combustion activity)	20 mg/m ³	Daily average	Continuous measurement	
		Total Organic Carbon (TOC)	20 mg/m ³	½-hr average	Continuous	
			5 mg/m ³	Daily average	measurement	
		Sum of EDC and VCM	1 mg/m ³	Periodic	Monthly Note 3	CEN TS 17337 and US EPA method 18
		Hydrogen chloride	60 mg/m ³	½-hr average	Continuous measurement	BS EN 14181 and BS
			10 mg/m ³	Daily average		EN 15267-3
		Hydrogen fluoride	2 mg/m ³	Periodic over minimum 1- hour period	Bi-annual	BS EN 1911
		Carbon monoxide Note 1	100 mg/m ³	½-hr average	Continuous	BS EN 14181 and BS
			50 mg/m ³	daily average	measurement	EN 15267-3
		Sulphur dioxide	50 mg/m ³	Periodic over minimum 1- hour period	Bi-annual	BS EN 14791

Table S3.1 Point source	ce emissions to air –	emission limits and monito	oring requirements			
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Chlorine	4 mg/m ³	Periodic over minimum 1- hour period	Bi-annual	US EPA 26a, CEN TS 17337
		Oxides of nitrogen (NO	400 mg/m ³	½-hr average	Continuous	BS EN 14181 and BS EN 15267-3
		and NO ₂ expressed as NO ₂)	200 mg/m ³	Daily average	measurement	
		Cadmium & thallium and their compounds (total)	0.05 mg/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
		Mercury and its compounds	0.05 mg/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 13211
		Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
		Dioxins / furans (I-TEQ), (WHO-TEQ Humans / Mammals), (WHO-TEQ Fish), (WHO-TEQ Birds)	0.08 ng/m ³	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948 Parts 1, 2 and 3
		Dioxin-like PCBs (WHO- TEQ Humans / Mammals), (WHO-TEQ Fish), (WHO-TEQ Birds)	-	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948-4

Table S3.1 Point source emissions to air – emission limits and monitoring requirements									
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method			
		Specific individual poly- cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	-	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS ISO 11338 Parts 1 and 2.			

Note 1: Carbon monoxide limits only apply during incineration of residues

Note 2: Particulate matter (contribution from combustion activity) parameters are derived from particulate matter (total contribution from combustion and noncombustion activity) monitoring by applying a standard factor of 50% (or otherwise as agreed in writing with the Environment Agency).

Note 3: Monitoring frequency will be based on IC11

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements								
Emission point ref. & location	Source	Parameter		Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method	
HPE-1 on Site Plan in Schedule 7	Incinerator vent stack	Particulate matter Total organic carbon (TOC) Carbon monoxide		150 mg/m ³	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3	
				20 mg/m ³	½-hr average	Continuous measurement		
				100 mg/m ^{3 Note 1}	½-hr average	Continuous measurement		
HPE-15 on Site Plan in Schedule 7	Stock tank vents from T201 and T703 plus other dry non-chlorine containing vents	ed limit	EDC	5300 kg/day	_	4-Hourly when in use	CEN TS 17337 and US EPA method 18	
HPE-21 on Site Plan in Schedule 7	Wet vents header caustic scrubber	nbine	Ethene	3000 kg/day	-		BS EN 12619	
HPE-22 on Site Plan in Schedule 7	Reactor dry vents header caustic scrubber	Con	VOCs Note 2	1000 kg/day	-		BS EN 12619	

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements								
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method		
HPE-23 on Site Plan in Schedule 7	ETP Caustic scrubber							

Note 1: Carbon monoxide limits only apply during incineration of residues

Note 2: Total VOCs (excluding those specifically limited) expressed as the simple sum of component masses

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		
W49 discharge to Weston Canal on Site	Surface water from south HPE Plant area	Flow	No limit set	Weekly Total	Continuous measurement	As agreed with the Environment Agency		
Plan in Schedule 7		Total suspended solids	35 mg/ml ^{note 1}	Spot sample	Weekly	BS EN 872		
		рН	6-9	Spot sample	Weekly	BS6068-2.50		
		Temperature	35 °C	Spot sample	Weekly	ISO 17025		
		Available Chlorine	5 mg/l	Spot sample	Weekly	BS EN ISO 7393-3		
		Total Organic Carbon (TOC)	33 mg/l	Spot sample	Weekly	BS EN 1484		
		Total chlorinated hydrocarbons (including EDC) _{Note 3}	1 mg/l	Spot sample	Weekly	ISO 17025 by GC FID/MS		
		Chromium	25 µg/l	Spot sample	Monthly Note 2	BS EN 1233		
		Copper	50 µg/l	Spot sample	Monthly Note 2	BS EN ISO 15586		
		Total Heavy Metals ^{Note 4}	1 mg/l	Spot sample	Weekly	ISO 17025 by ICP-AES		
		AOX	1 mg/l	Spot sample	Monthly Note 5	EN ISO 9562		

Table S3.2 Point Source	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		
		Hydrocarbon oils and greases	None visible	-	Weekly	Visual check		
W56 discharge to Weston Canal on Site	Cooling Tower purge/drain (X102A/B,	Flow	No limit set	Weekly Total	Continuous measurement	As agreed with the Environment Agency		
Plan in Schedule 7	X133) Surface water from north HPE Plant area	Total suspended solids	35 mg/ml Note 1	Spot sample	Weekly	BS EN 872		
	and further north/east	рН	6-9	Spot sample	Weekly	BS6068-2.50		
	areas (Ineos/Inovyn areas within installation boundary and former EDC Plant 1/2 areas.)	Temperature	35 °C	Spot sample	Weekly	ISO 17025		
		Available Chlorine	5 mg/l	Spot sample	Weekly	ISO 17025 by iodometric titrimetry		
		Total Organic Carbon (TOC)	33 mg/l	Spot sample	Weekly	ISO 17025 by infra-red techniques		
		Total chlorinated hydrocarbons (including EDC) _{Note 3}	1 mg/l	Spot sample	Weekly	ISO 17025 by GC FID/MS		
		Chromium	25 µg/l	Spot sample	Monthly Note 2	BS EN 1233		
		Copper	50 µg/l	Spot sample	Monthly Note 2	BS EN ISO 15586		
		Total Heavy Metals ^{Note 4}	1 mg/l	Spot sample	Weekly	ISO 17025 by ICP-AES		
		AOX	1 mg/l	Spot sample	Monthly Note 5	EN ISO 9562		
		Hydrocarbon oils and greases	None visible	-	Weekly	Visual check		

Note 1: ELVs for TSS don't apply during or immediately after heavy rainfall.

Note 2: Monitoring frequency will be based on IC13.

Note 3: Chlorinated hydrocarbons include VCM; CFM; CTC; 1,1 dichloroethane; EDC; 1,1,2-trichloroethane; trichloroethylene; tetrachloroethylene; trichlorobenzene; hexachlorobenzene and hexachlorobutadiene.

Note 4: Total heavy metals including arsenic, boron, chromium, copper, lead, nickel and zinc.

Table S3.3 Point source er	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			
E1 discharge to INEOS Inovyn Central Effluent Plant (EIP) on Site Plan in Schedule 7	HPE Effluent Treatment Plant (comprising process liquid effluent streams)	Dioxin / furans	WHO-TEQ Human / mammals WHO-TEQ Fish WHO-TEQ Birds	24-hour total	Every 6 months	BS ISO 18073, BS ISO 17858 or otherwise as agreed in writing with the Environment Agency			
		Total suspended solids	No limit set	Spot sample	Weekly	BS EN 872			
		рН	6-9	Spot sample	Weekly	BS6068-2.50			
		Available Chlorine	5 mg/l	Spot sample	Weekly	BS EN ISO 7393-3			
		Total Organic Carbon (TOC)	33 mg/l	Spot sample	Weekly	BS EN 1484			
		Total chlorinated hydrocarbons (including EDC) ^{Note}	1 mg/l	Spot sample	Weekly	ISO 17025 by GC FID/MS			
		EDC	0.4 mg/l	Monthly average of spot samples	Daily Note 6	BS EN ISO 10301			
			0.05 g/t EDC purified ^{Note 1}	Yearly average ^{Note 2}	Daily Note 2				
		VCM	0.05 mg/l	Monthly average of spot samples	Daily Note 8	BS EN ISO 10301			
		Chromium	25 µg/l	Spot sample	Monthly Note 3	BS EN 1233			
		Copper	50 µg/l	Spot sample	Monthly Note 3	BS EN ISO 15586			
		Total Heavy Metals	1 mg/l	Spot sample	Weekly	ISO 17025 by ICP- AES			

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
		AOX	1 mg/l	Spot sample	Monthly Note 7	EN ISO 9562
		Hydrocarbon oils and greases	None visible	_	Weekly	Visual check

Note 1: Purified EDC is the sum of EDC produced by direct chlorination.

Note 2: The average of values obtained during one year is calculated from the averages of values obtained during each day (at least three spot samples taken at intervals of at least half an hour).

Note 3: Monitoring frequency will be based on IC13.

Note 4: Chlorinated hydrocarbons include VCM, CFM, CTC, 1,1 dichloroethane, EDC, 1,1,2-trichloroethane, trichloroethylene, tetrachloroethylene, trichlorobenzene, hexachlorobenzene and hexachlorobutadiene.

Note 5: Total heavy metals including arsenic, boron, chromium, copper, lead, nickel and zinc.

Note 6: The average of values obtained during 1 month is calculated from the averages of values obtained during each day (at least three spot samples taken at intervals of at least half an hour).

Note 7: Monitoring frequency will be based on IC12

Note 8: Monitoring frequency will be based on IC14

Table S3.4 Annual limits			
Substance	Medium	Limit (including unit)	
EDC	Combined emissions to air from HPE-15, HPE-1, HPE-21, HPE-22 and HPE-23	100 t in a year (excluding duration of TAR event)	
		150 t during TAR event	
Total VOCs (other than EDC)	Combined emissions to air from HPE-15, HPE-1, HPE-21, HPE-22 and HPE-23	80 t in a year (excluding duration of TAR event)	
		120 t during TAR event	

Table S3.5 Ambient air monitoring requirements				
Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Weston Hill Brine Reservoir	VCM ^{Note 1} EDC	Daily	Aspirated air passed over suitable adsorption medium; Analysis by standard method	Maximum and average of daily monitoring reported annually

Note 1: Monitoring of Vinyl Chloride Monomer may cease if confirmed in writing by the Environment Agency that concentrations from Vynova operations after Project Summer are consistently insignificant.

Table S3.6 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
As identified in the Application	Wind Speed and Direction	Continuous	Anemometer	
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.
HPE-1	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with the Agency.
HPE-1	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with the Agency.
HPE-1	Exhaust gas oxygen content	Continuous	BS EN 15267-3 BS EN 14181	
HPE-1	Exhaust gas water vapour content	Continuous	BS EN 15267-3 BS EN 14181	Unless gas is dried before analysis of emissions.

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 Table S3.1 Parameters as required by condition 3.5.1	HPE1	Quarterly, Every 6 months, Annually	1 January, 1 April, 1 July, 1 October
Emissions to air Table S3.1a Parameters as required by condition 3.5.1	HPE1, HPE15, HPE21, HPE22, HPE23	Quarterly	1 January, 1 April, 1 July, 1 October
Emissions to water Parameters as required by condition 3.5.1	W49, W56	Quarterly	1 January, 1 April, 1 July, 1 October
Emissions to off-site transfer to EIP Parameters as required by condition 3.5.1	E1	Quarterly	1 January, 1 April, 1 July, 1 October
Ambient air Parameters as required by condition 3.5.1	Weston Hill Brine Reservoir	Annually	1 January
Functioning and monitoring of the incineration plant as required by condition 4.2.2		Annually	1 January

Table S4.2: Annual production/treatment		
Parameter	Units	
Quantity of waste residues incinerated	tonnes	

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Annual Report as required by condition 4.2.2	Annually	
Time vents diverted to air, away from incinerator: HPE-15, HPE-21, HPE22, HPE-23	Quarterly	Hours to air
Duration of Turnaround/Overhaul (TAR) event(s)	Annually	Start and End Date/Time of vent redirection
Availability of Vents incinerator	Quarterly	Total hours per quarter above 1000 °C
Availability of Residues Incinerator	Quarterly	Total hours per quarter above 1100 °C
Periods of abnormal operation	Annually	No of occasions and cumulative hours for

Table S4.3 Performance parameters			
Parameter	Frequency of assessment	Units	
		current calendar year for each line.	
Water usage	Annually	tonnes	
Energy usage	Annually	MWh	

Table S4.4 Reporting forms			
Media/parameter	Reporting format ^{Note1}	Date of form	
Emissions to Air	DC3/Air1 (HPE plant main stack HPE1)	-	
	DC3/Air1 (HPE plant releases during vent diversion)		
	DC3/Air2 (HPE plant duration of vent diversion)		
	DC3/Air2 (Dioxins etc.)		
	DC3/Annual1 (HPE plant all emissions – annual)		
Emissions to Water (other	DC3/Water1 (Discharge via W49)	-	
than sewer)	EDC/Water1 (Discharge via W56)		
Emissions to EIP Plant	DC3/Water1 (Dioxins etc. E1)	-	
Incinerator utilisation	DC3/Air2 (HPE plant vents & residues incinerator)	-	
Residues incinerated	DC3/Annual 1	-	
Water usage	EDC/Annual2 (Total plant - annual usage)	-	
Energy usage and efficiency	EDC/Annual2 (Total plant - annual consumption)	-	
Other environmental performance indicators	DC3/Annual1 (HPE plant – annual)	-	
Waste disposal and recovery	DC3/Annual1 (HPE plant – hazardous waste)	-	
Ambient Air Quality monitoring	EDC/Annual1 (Off-site monitoring – 'Air Env')	-	

Note1: Or otherwise as agreed in writing with the Environment Agency

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

Part C – in respect of Residues Incinerator operation

Permit Number	
Name of Operator	
Location of Installation	

Time at which ab	normal operatio	n commence	ed				
Time at which ab	normal operatio	n ceased					
Duration of this ir	ncidence of abno	ormal operat	ion				
Cumulative abno year (at end of pr	rmal operation d esent incidence	luration in cเ)	urrent				
Reasons for abno	ormal operation						
How did the abno repaired, reachin initiation of shutd	ormal operation og g maximum peri own, etc.)	end? (e.g. pl mitted durati	lant on,				
Where the abnorn failure of the part copy of the altern used to demonstr operation emissio	mal operation w iculate, CO or T ate monitoring o rate compliance on limit values.	as caused b OC CEM, at data which w with the abr	y the tach a vas normal				
Where abatemen during the abnorr	it plant has failed nal operation in	d, give the h the rows be	alf-hourly low	average emiss	sions for poll	utants of rele	evance
Pollutant 1 st ½ hour	2 nd ½ hour	3 rd ½ hour	4 th ½ hour	5 th ½ hour	6 th ½ hour	7 th ½ hour	8 th ½ hour

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Operator

Schedule 6 – Interpretation

"accident" means an accident that may result in pollution.

"Abatement system" 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 abatement plant or the measurement devices, during which the concentrations in the discharges into air and the purified waste water of the regulated substances may exceed the normal emission limit value.

"annually" means once every year.

"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.

"BAT-AELs" means BAT-associated emission levels, i.e. the emission levels associated with the best available techniques for emissions to air and/or water.

"Common waste water and waste gas treatment/management systems in the chemical sector BAT Conclusions or CWW" means Commission Implementing Decision (EU) 2016/902 of 30 May 2016 establishing Best Available Techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for Common Waste Water And Waste Gas Treatment/ Management Systems in the Chemical Sector

"CEM" Continuous emission monitor

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

"diffuse emissions" means non-channelled emissions which can result from 'area' sources (e.g. tanks) or 'point' sources (e.g. pipe flanges).

"Dioxin and Furans" means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

"disposal". Means any of the operations provided for in Annex I to the Waste Framework Directive.

"EIP" means Environmental Improvement Project, an abatement plant which treats aqueous and gaseous material produced by the chlorinated hydrocarbon plants on the Runcorn site.

"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.

"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.

"EWC code" means the code number from the European Waste Catalogue.

"fugitive emissions" means diffuse VOC emissions from 'point' sources.

"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 III of the Waste Framework Directive

"Hazardous waste" has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

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

"Large Volume Organic Chemicals BAT Conclusions or LVOC" means The Commission Implementing Decision (EU) 2017/2117 of 21 November 2017 establishing Best Available Techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the Production of Large Volume Organic Chemicals.

"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 amended from time to time.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"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

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

"recovery" means any of the operations provided for in Annex II to the Waste Framework Directive.

"TAR" means Turnaround. A planned process plant overhaul shutdown lasting from when chemical feeds are turned off until they are turned on again. For the vents incinerator the 'feeds on' is when the incinerator is up to temperature and ready to accept the process vent streams again.

"Total Organic Carbon" means Total Organic Carbon. In respect of releases to air this means the gaseous and vaporous organic substances, expressed as TOC.

'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.

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

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 gases from incineration plants and other combustion plants, the concentration at a temperature of 273K and at a pressure of 101.3kPa, in a dry gas stream of 11% oxygen content. Where the measured oxygen content is less than 11%, there shall be no correction to 11%.
- 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.
- 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.

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	
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 /	Fish	Birds		
	mammals				
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		

TEF schemes for dioxin-like PCBs					
Congener	WHO-TEF				
	2005	1997/8			
	Humans /	Fish	Birds		
	mammals				
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



Emission Points



Key: 1. EDC 1 – Closed 2. EDC 2 – Closed 3. VDC 4 loading – Closed 4. 6th Ave loading – Upgraded 5. No 5 Cooling Tower – Closed
6. EDC Tank farm – Closed (except T302 to firewater duty) 7. DC3 Tank Farm – Upgraded 8. DC3 Control – New DCS/SIS 9. Incineration – Refurbished
10. DC Reactors – Closed 11. EDC Wash – Closed 12. EDC Distillation – Refurbished
A. New HPE Reactors, Wash, Vent scrubbers, Fridge, etc. B. New Effluent Treatment plant C. New Firewater Deluge Pumps
END OF PERMIT