



Environment
Agency

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Huntsman Polyurethanes UK Limited

PO Box 99
Wilton Redcar
Middlesbrough
TS10 4YA

Variation application number

EPR/BS8656IX/V010

Permit number

EPR/BS8656IX

Huntsman Polyurethanes Limited

Permit number EPR/BS8656IX

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.

Variation V009 implemented the statutory review of the permits in the industry sector for the production of large volume organic chemicals. In this it was stated that the site is permitted a direct discharge of process effluent to the River Tees via emission point to water S1. The operator must meet BAT associated emission levels (BAT-AELs) in the Common wastewater and waste gas treatment/management systems in the chemical sector (CWW) BAT Conclusions by 07/12/2021 unless a derogation is granted.

This variation implements a derogation in accordance with article 15(4) of Industrial Emissions Directive (IED) until the next permit review. The derogation relates to Best Available Techniques Conclusions for Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector Section 3.4 Table 3 direct emissions to a receiving water body of Chromium and Nickel. The derogation covers emission of process effluent from the Aniline & Mononitrobenzene Plant via S1 to Sembcorp drain containing Total Chromium up to 75 µg/l and Total Nickel up to 150 µg/l.

Apart from a few minor corrections and update for the removal of the thermal oxidiser use, this variation only concerns changes directly connected to the granting of the derogation. A brief explanation of the derogation is included in the Annex to the conditions of this permit.

Brief Description of the process

The installation covers the manufacture of two products, aniline and mononitrobenzene (MNB) in two production lines under scheduled activity Section 4.1A(1)(a)(iii) Producing organic chemicals such as organic compounds containing nitrogen. The installation boundary was agreed as the isolation valves on all of the link-lines entering and leaving the installation.

The main raw materials for the manufacture of mononitrobenzene are nitric acid, imported by road tanker, and benzene, imported by pipeline. The mononitrobenzene product is transported by pipeline to the adjacent aniline plant, which uses hydrogen, also imported by pipeline, to manufacture the aniline product. Aniline is exported by pipeline to a bulk storage installation for subsequent use in methylene diphenyl diisocyanate (MDI) manufacture.

A more detailed description of the manufacturing processes is given below.

Mononitrobenzene (MNB)

MNB is produced by the nitration of benzene with nitric acid, in the presence of a sulphuric acid catalyst. The reaction is exothermic. Upon completion of nitration, the sulphuric acid is re-concentrated, using steam generated from the heat of reaction, and recycled into the process. Crude MNB is water washed and steam stripped to remove benzene.

The Strong Effluent Storage Tank allows separation of entrained MNB in aqueous streams for recycle into the process. The Strong Effluent is then diluted and pumped to the Northumbrian Water Bran Sands facility, via a pipeline, for biological treatment.

Aniline

Aniline is produced by the liquid phase hydrogenation of MNB, using aniline as a solvent, in the presence of a nickel on kieselguhr catalyst. The reaction is exothermic and 40% of the heat is removed by generating low pressure steam.

Purge gases from the reactors are vented to another operator (Equans, permit number MP3131RW) to be thermally treated in order to raise steam.

This semi-refined aniline is then fed to a Polishing Reactor which contains a fixed bed of palladium catalyst. The purpose of the Polishing Reactor is to reduce the amount of MNB left unreacted after the main aniline reaction and thus reduce the need to remove it via distillation. The aniline is then further refined by removal of high boiling impurities via distillation in the Refining Stills to produce the product aniline. The product aniline is then pumped offsite to a bulk storage company.

The aqueous amine water streams from the aniline reactors are contacted with MNB to extract dissolved aniline in the NB Extractor. The aqueous effluent is then stripped with steam, in the Amine Water Column System, to remove impurities prior to discharge to drain.

The light and heavy ends from the dehydration and refining stills are treated in the Batch Purge Still by fractional distillation to recover the aniline. Unwanted light and heavy fractions are sent off site for incineration.

Principal releases

Releases to air consist mainly of NO_x, SO_x, and volatile organic compounds (VOCs) (benzene, cyclohexylamine, aniline, MNB) and ammonia. Condensers minimise releases of VOCs. Scrubbing systems are in place to minimise the releases of ammonia and VOCs. Remaining emissions are routed to another operator (Equans, permit number MP3131RW) to be thermally treated in order to raise steam.

Releases to water are via the Wilton Site Drainage System (weak effluent) or to Bran Sands Sewage Treatment Plant (strong effluent).

Huntsman Polyurethanes are a Top Tier Control of Major Accident Hazards (COMAH) site, with a regime of inspections by the Competent Authority (Health and Safety Executive and Environment Agency).

There is an environmental management system in place, which is not formally accredited, but Huntsman Polyurethanes operate a Responsible Care Management System based upon the Chemical Industries Association guidelines.

Sensitive receptors

There are 7 designated habitats which have been considered as part of the habitats risk assessment:

- North York Moors: Special Protection Area (SPA) and Special Area of Conservation (SAC)
- Teesmouth and Cleveland Coast: Site of Special Scientific Interest (SSSI), SPA, Ramsar, proposed SPA and proposed Ramsar

Effluent discharge into the River Tees

The River Tees at the point of discharge is directly into the Teesmouth and Cleveland Coast SPA and as such detailed modelling to assess the risk was required. This applies to both discharge points S1 (direct via Sembcorp) and S2 (indirect via Bran Sands).

The schedules specify the changes made to the permit.

Status log of the permit		
Description	Date	Comments
Application BS86561X received	15/08/03	

Status log of the permit		
Description	Date	Comments
Response to telephone request for supplementary information, revised H1 assessment, dated 14/01/04	Received 06/02/04	Revised assessment provided.
Response to e-mail request for supplementary information, on the site report, dated 05/02/04	Received 03/03/04	Additional information provided.
Permit EPR/BS8656IX issued	15/04/04	Issued to Huntsman Polyurethanes (UK) Limited.
Application for variation ZP3836SG to amend some ELVs	Received 06/05/05	Variation issued 22/06/05
Application for WID variation XP3732SR	Received 31/03/05	Variation issued 07/10/05
Variation RP3035LJ to extend A7 ELV suspension		Variation issued 01/03/06.
Variation YP3735UM to undertake a range of projects	Received 27/02/07	Variation issued 11/05/07.
Variation LP3230XJ for closure of CHA plant and introduction of a new reactor	Received 05/11/07	Variation issued 07/01/08.
Application EPR/BS8656IX/V007 (SP3737ZG)	Duly made 14/02/13	Notified of change of company registered office address.
Variation issued EPR/BS8656IX/V007	04/03/13	Varied permit issued to Huntsman Polyurethanes (UK) Limited.
Part surrender application EPR/BS8656IX/S008	Duly made 19/08/16	Application to surrender an area of land within the installation boundary.
Part surrender determined EPR/BS8656IX	18/10/16	Part surrender complete.
Regulation 61 Notice dated 04/05/18 (Notice requiring information for statutory review of permit)	Response Received 26/04/19	Technical standards detailed in response to the information notice.
EPR/BS8656IX/V009 (variation and consolidation)	Environment Agency Initiated Variation	Statutory review of permit occasioned by LVOC BAT Conclusions published 07 December 2017
Request for Information letter sent dated 13/07/20	Response received 08/12/20	Thermal Oxidiser Dispersion Modelling Presentation
	Response received 24/03/20	Answers (some partial) to questions from RFI letter with the exception of question 2.4 (Review of Operating Techniques)
	Response received 14/04/21	H1 emissions to air modelling data
	Response received 19/04/21	Pdf and excel data for H1 tool outcomes - emissions to water
	Response received 17/06/21	Response to clarification requests with regards to the emissions water risk assessment submission received
	Response received 20/08/21	Submission of 'abatement efficiencies of effluent stripping columns' (partial) data

Status log of the permit		
Description	Date	Comments
	Response received 18/02/22	Update received from operator surrounding emissions to water assessment / data to ascertain relevant BAT-AELs.
	Received 17/03/22	Submission of 'abatement efficiencies of effluent stripping columns' (full 12 months) data
	Received 30/03/22	Response to 'Action 4. TrAC'
	Received 31/03/22	Actions and general updates from meeting
Variation determined EPR/BS8656IX/V009	06/12/22	Varied and consolidated permit issued
EPR/BS8656IX/V010 (variation and consolidation)	Environment Agency Initiated Variation	Derogation for emission of Cr & Ni under IC17 of EPR/BS8656IX/V009 submission of supporting information 12/01/2024
Additional Information	Received 22/10/2024	Response to request for further information (4 questions from Stage 1 first review) sent 19/09/2024
Additional information	Received 23/01/2025	Response to request for further information regarding feasibility of treatment of nitric acid raw material
Variation determined EPR/BS8656IX/V010	Xx/xx/2026	Varied and consolidated permit issued to implement derogation

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
Equans Services Limited	MP3131RW	31/07/17

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/BS8656IX

Issued to

Huntsman Polyurethanes (UK) Limited (“the operator”)

whose registered office is

Ickleton Road
Duxford
Cambridgeshire
CB22 4XQ

company registration number 03767067

to operate a regulated facility at

Huntsman Polyurethanes (UK) Limited
PO Box 99
Wilton Redcar
Middlesbrough
TS10 4YA

to the extent set out in the schedules.

The notice shall take effect from [DD/MM/YYYY]

Name	Date
	[DD/MM/YYYY]

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions have been varied by the consolidated permit EPR/BS8656IX/V010 as a result of an Environment Agency initiated variation:

- The registered address for Huntsman Polyurethanes (UK) Limited Company Number 03767067 has been updated
- Update of Table S1.2 Operating techniques as referenced in condition 2.3.1 to include derogation support document.
- Improvement Conditions IC17 in Table S1.3 referenced in condition 2.4.1 marked complete
- Update to condition 2.2.1 and site plan in Schedule 7 to reflect multi-operator installation
- Update to Table S1.1 Scheduled Activity AR6 referenced in condition 2.1.1
- Update of notes to Table S3.1 referenced in condition 3.5.1
- Deletion of Emission points V1 and A26a from Table S31. Referenced in condition 3.5.1
- Update to Table S3.2 Point Source emissions to water (other than sewer) and land - emission limits and monitoring requirements.
Emission Point S1 – Sembcorp
Chromium (total) is increased from the BAT-Ael of 25 µg/l to 75 µg/l for the duration of the derogation (Note 1)
Nickel (total) is increased from the BAT-Ael of 50 µg/l to 150 µg/l for the duration of the derogation (Note 2)
- Update to Table S4.1 as referenced in condition 4.2.3 to remove emission point V1.

The following conditions are added following an Environment Agency initiated variation

- 1.5.1 Multi-operator installation condition
- Improvement Conditions IC22, IC23 and IC24 in Table S1.3 referenced in condition 2.4.1.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BS8656IX

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BS8656IX/V010 authorising,

Huntsman Polyurethanes (UK) Limited (“the operator”),

whose registered office is

Ickleton Road
Duxford
Cambridgeshire
CB22 4XQ

company registration number 03767067

to operate an installation at

Huntsman Polyurethanes (UK) Limited
PO Box 99
Wilton Redcar
Middlesbrough
TS10 4YA

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

Name	Date
	[DD/MM/YYYY]

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”).

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in blue on the site plan at schedule 7 to this permit, which surrounds, but excludes the area shaded in red on the site plan that represents the extent of the installation covered by the permit of the other operator 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 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.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

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

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment

Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, 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 of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not

practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1, S3.2 and S3.3;

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2, S3.3 unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

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

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

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

4.2 Reporting

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

- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 The operator shall submit an annual solvent management plan in order to demonstrate compliance with the requirements of the Industrial Emissions Directive, by 31 January each year in respect of the previous year.

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 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 4.1A(1)(a)(iv) – producing organic chemicals containing Nitrogen	Producing mononitrobenzene	Receipt of raw materials to despatch/use of finished product
AR2	Section 4.1A(1)(a)(iv) – producing organic chemicals containing Nitrogen	Producing aniline	
Directly Associated Activity			
AR4	Storage and handling of raw materials	Storage of solid and liquid materials in bulk storage tanks, drums, IBC's, bags and other containers	Receipt and storage of raw materials to transfer to processing areas
AR5	Storage, handling and despatch of finished products, wastes and other materials	Storage of finished products. Process waste segregation and storage	Internal and external storage of finished products, storage of waste in designated areas and loading for transit off site
AR6	Control and abatement systems for emissions to air	Abatement of releases to air	Extraction and collection of waste gases and treatment via thermal destruction in steam generation boilers (Equans Services Ltd permit MP3131RW), scrubbers, condensers and coolers, and dust filters.
AR7	Cooling water system	Cooling water supply, treatment and recirculation	Cooling water towers and reservoir
AR8	Utilities and Services	Operation of systems for the supply of utilities and services such as process heating, nitrogen, compressed air, electricity and effluent treatment	Site utility and services systems as far as the installation boundary. (Services supplied to installation by Wilton Site distribution system).

Table S1.2 Operating techniques		
Description	Parts	Date Received

Application EPR/BS8656IX/A001	The response to questions 2.1 and 2.2 given in pages 7 – 35 of the application	15/08/2003
Application EPR/BS8656IX/V002 WID PPC Application	Information given in pages 14 to 50	31/03/2005
Variation EPR/BS8656IX/V009 Regulation 61 Notice – request for further information dated 04/05/18	Technical standards in relation to Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for Production of Large Volume Organic Chemicals BAT Conclusions Numbers 2, 8, 9, 10, 12, 13, 14, 15, 16, 17 & 18 Common waste water and waste gas treatment/management systems in the chemical sector BAT Conclusions 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 19, 22, 23	Received 26/04/2019
Variation EPR/BS8656IX/V009 Response to Request for Information Letter dated 13/07/20	Response to Questions about LVOC BAT 2 & 10 and CWW BAT 3, 4 & 7.	Received 24/03/2020
Variation EPR/BS8656IX/V010	BAT Derogation under Improvement Condition 17 for Chromium and Nickel emissions via Emission Point S1 11 January 2024	Received 12/01/2024

Reference	Requirement	Date
IC1 – 16	-	Complete
IC17	<p><u>Derogation for Chromium and Nickel</u></p> <p>The operator shall submit, for approval by the Environment Agency, reports setting out progress to achieving the BAT conclusion AELs or justification, including a detailed cost benefit assessment, of why the costs of treatment outweigh the environmental benefits, where a derogation has been applied for. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Current performance against the BATc AELs. 2) Methodology for reaching the AELs or justification, including a detailed <u>cost benefit analysis</u> (www.gov.uk/government/publications/industrial-emissions-directive-derogation-cost-benefit-analysis-tool) 	Complete

	<p>3) Why the costs of treatment outweigh the environmental benefits.</p> <p>4) Associated targets / timelines for reaching compliance of the BAT-AELs by 07/12/2023 (or otherwise agreed in writing with the Environment Agency) or justification, including a detailed <u>cost benefit analysis</u>, of why the costs of treatment outweigh the environmental benefits, for discharges from the MNB and Aniline Plant to emission point S1.</p> <p>The report shall address the following BAT Conclusion:</p> <ul style="list-style-type: none"> • <i>Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector BAT Conclusions Document</i> (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1579188127132&uri=CELEX%3A32016D0902) section 3.4, Table 1 (compliance with BAT-AEL for Cr and Ni, emission point S1) under BAT 12 (waste water treatment). <p>Refer to BAT Conclusions for a full description of the BAT requirement.</p> <p><i>Approval of reports under this Improvement Condition does not preclude the need for permit variation application(s) to operate the developed strategy and/or include any necessary ELVs.</i></p>	
IC18	<p><u>Surface water pollution risk assessment</u></p> <p>The operator shall submit a written report to the Environment Agency for approval that includes:</p> <p>The results of an assessment of the impact (using detailed modelling: https://assets.publishing.service.gov.uk/government/uploads/attachment_data/file/509313/LIT_10419.pdf) of the emissions to Transitional and Coastal surface waters from emission points S1 and S2 on the site. The report shall:</p> <p>(a) be based on representative emissions data for any relevant hazardous chemicals and elements and any other relevant substances (i.e. that the effluent is 'liable to contain') that are discharged at concentrations (ensuring the application of Sewage Treatment Reduction Factors, STRF, for discharges to emission point S2) above their relevant EQSs (Environmental Quality Standards) or PNECs (predicted no effect concentrations), Total Suspended Solids and Ammoniacal Nitrogen;</p>	<p>Progress report by 07/01/2023 then at monthly intervals until the risk assessment is complete and compliance with the narrative BAT (points 10-12) is reached, which shall be no later than 07/06/2023.</p> <p>Final report by 07/07/2023 unless otherwise agreed in writing with the Environment Agency.</p>

	<p>(b) include the raw data used in the impact assessment;</p> <p>(c) include proposals for a waste water management and treatment strategy in line with <i>Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector BAT Conclusions Document</i> (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1579188127132&uri=CELEX%3A32016D0902, BAT points 10-12, to mitigate the impact of any emissions where the assessment determines they are liable to cause pollution, including timescales for implementation of individual measures; and</p> <p>(d) include proposals for ELVs and a monitoring plan to mitigate the impact of any emissions where the assessment determines they are liable to cause pollution. Ensure to include the parameters to be monitored, frequencies of monitoring and methods to be used.</p> <p><i>Approval of reports under this Improvement Condition does not preclude the need for permit variation application(s) to operate the developed strategy and/or include any necessary ELVs.</i></p>	
IC19	<p><u>Re-routing of process vent gases from the on-site Thermal Oxidiser to Equans Services Limited.</u></p> <p>The operator shall submit, for approval by the Environment Agency, a report confirming achievement of the re-routing of process vent gases to Equans Services Limited. The report shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • confirmation that the process vent gases are no longer routed to the on-site thermal oxidiser and the thermal oxidiser is permanently isolated from receiving the process vent gases • Date that the vent gases were routed to Equans Services Limited • An updated site plan which includes the pipework to Equans Services Limited <p>A plan including dates of implementation for the decommissioning and/or demolition of the Thermal Oxidiser.</p> <p>Should the vent gases not be routed to Equans, for any reason, the operator shall submit a report that:</p> <ul style="list-style-type: none"> • assesses emissions of Carbon Monoxide, Sulphur Dioxide (and any other relevant 	6 months from permit issue.

	<p>acid gas emissions, e.g. HCl) from the Thermal Oxidiser, and</p> <ul style="list-style-type: none"> include proposals for ELVs and a monitoring plan to mitigate the impact (using wet scrubbing as required by LVOC BAT conclusion 12 or a combination of the described techniques in LVOC BAT conclusion 13) of any emissions where the assessment determines they are liable to cause pollution. Ensure to include the parameters to be monitored, frequencies of monitoring and methods to be used. 	
IC20	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved. The report shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> Methodology for achieving BAT or justification as to why this is deemed unnecessary Associated targets / timelines for reaching compliance (where relevant) Any alterations to the initial plan (in progress reports).. <p>The report shall address the following BAT Conclusion:</p> <ul style="list-style-type: none"> Common waste water and waste gas treatment/management systems in the chemical sector BAT 8 segregation of uncontaminated waste water and reduction of emissions to water from S1 & S2). <p>Refer to BAT Conclusions for a full description of the BAT requirement.</p> <p>You must implement the report as agreed, and from the date stipulated by the Environment Agency.</p>	6 months from permit issue, unless otherwise agreed in writing with the Environment Agency.
IC21	<p>Submit a written plan to the Environment Agency for technical assessment and agreement. The plan must contain details of additional soil and groundwater monitoring programme to focus on areas where there is an increased risk of contamination from the site, as described in condition 3.1.3. permanent groundwater monitoring wells will be installed to permit future groundwater monitoring.</p> <p>The plan must contain dates for the implementation of individual measures.</p> <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan.</p>	6 months from permit issue.

	You must implement the plan as agreed, and from the date stipulated by the Environment Agency.	
IC22	The operator shall submit, for written approval by the Environment Agency, details of the fitting and commissioning of flow proportional sampling on both parts of discharge S1.	31/08/26 or otherwise as agreed in writing with the Environment Agency
IC23	Following completion of Improvement Condition IC22 the operator shall submit, for written approval by the Environment Agency, a report of the pH in 24hour composite sampling of each part of discharge S1 over three months. If these values fall outside the current permitted range 6 to 9 without an other than normal operating conditions explanation the report shall include an assessment of impact on the receiving environment of the out of range values to support a change in the permitted discharge pH range in a subsequent permit variation application.	31/12/26 or otherwise as agreed in writing with the Environment Agency
IC24	The operator shall submit a written report, for written approval by the Environment Agency, of a review of the supporting documentation and conclusions for the derogation application submitted as part of the determination of variation BS8656IX/V010. Where the report shall include, but not be limited to:- <ul style="list-style-type: none"> • identification and reassessment of any changes • a reassessment of available techniques • a reassessment of the cost/benefit analysis with up-to-date values 	Whichever is the sooner of: 6 months after the publication of United Kingdom Large Volume Organic Chemicals BAT Conclusions Or 3 months after a change in the supplier of nitric acid Or 31/12/2029

Schedule 2 – Waste types, raw materials and fuels

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

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Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
V2 on site plan in Schedule 7	Sulphuric Acid Tank Vent	No parameters set	No limit set	--	--	Permanent sampling access not required
V3 on site plan in schedule 7	Caustic Storage Tank Vent	No parameters set	No limit set	--	--	Permanent sampling access not required
V4 on site plan in schedule 7	Effluent Neutraliser Tank Vent	No parameters set	No limit set	--	--	Permanent sampling access not required
V5 on site plan in schedule 7	Caustic Head Tank	No parameters set	No limit set	--	--	Permanent sampling access not required
V6 on site plan in schedule 7	NOx Scrubber Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
V7 on site plan in schedule 7	Strong Effluent Tank Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A1 on site plan in schedule 7	D-3001 Aniline Reactor Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A2a on site plan in schedule 7	D-3002 Aniline Reactor Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A2b on site plan in schedule 7	D-3003 Aniline Reactor	No parameters set	No limit set	--	--	Permanent sampling access not required

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
	Vent (1)					
A2c on site plan in schedule 7	D-3004 Aniline Reactor Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A4 on site plan in schedule 7	Phase 1 Tank Vent	No parameters set	No limit set	--	--	Permanent sampling access not required
A5 on site plan in schedule 7	Purge Still Tanks System	No parameters set	No limit set	--	--	Permanent sampling access not required
A6 on site plan in schedule 7	Vacuum Pumps	Benzene	2500 mg/m ³	Average over sampling period	Quarterly	UNE CEN/TS 13649:2014
A7 on site plan in schedule 7	Amine Water Column Vent Stack	VOC Total Class A (expressed as individual VOCs)	100 g/hr	Average over sampling period	Quarterly	UNE CEN-TS 13649:2014 (Test for Benzene, Nitrobenzene, Aniline and Cyclohexylamine.
A8 on site plan in schedule 7	Purge Still Vacuum Interceptor Pot Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A10 on site plan in schedule 7	Refined Aniline Tanks Common Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A11 on site plan in schedule 7	MNB Storage Tanks	No parameters set	No limit set	--	--	Permanent sampling access not required

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
	Vent (1)					
A13 on site plan in schedule 7	Amine Water Diluent Tank (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A18 on site plan in schedule 7	FB3040 K.O Pot Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A20 on site plan in schedule 7	Aniline Catalyst Slurry Vessel Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A21 on site plan in schedule 7	Aniline Catalyst Drum Charging System Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A24 on site plan in schedule 7	Aniline Catalyst Charging System Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required
A25 on site plan in schedule 7	No 2 D/H Still Overheads Separator Vent (1)	No parameters set	No limit set	--	--	Permanent sampling access not required

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
A26 on site plan in schedule 7	Aniline Reactors (1-5) Purge Gas Vent ^{(1) (5)}	No parameters set	No limit set	--	--	Permanent sampling access not required
Notes:						
(1) These vents are directed to the Equans Services Limited boilers.						
(2) See Section 6 for reference conditions.						

Table S3.2 Point Source emissions to water (other than sewer) and land - emission limits and monitoring requirements						
Emission point ref. & location	Source Note 3	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring Standard or method
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Discharge Flow	4,416 m ³ /day	24-hour total	Continuous	MCERTS self-monitoring of flow scheme
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Discharge Temperature	No limit set	24-hour total	Continuous	Resistance Temperature Detector
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Discharge pH	6 to 9	Instantaneous	Continuous	SCA Blue Book 14
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Total Organic Carbon	100 mg/l	Yearly average of flow-proportional, 24-hour composite samples	Daily Average	BS EN 1484
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Benzene	30 mg/l	Flow-proportional, 24-hour	Monthly Average	BS EN ISO 15680

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

Emission point ref. & location	Source Note 3	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring Standard or method
				composite samples		
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Ammoniacal Nitrogen (as N)	600 mg/l	Flow-proportional, 24-hour composite samples	Monthly Average	BS 6068 – 2.11 ISO 7150-1:1984
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Total Nitrogen	No limit set	Flow-proportional, 24-hour composite samples	Daily Average	EN 12260
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Total Suspended Solids	35 mg/l	Yearly average of flow-proportional, 24-hour composite samples	Daily Average	EN 872
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	AOX	1 mg/l	Yearly average of flow-proportional, 24-hour composite samples	Monthly Average	EN ISO 9562
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Chromium (Total)	25 µg/l Note 1	Yearly average of flow-proportional, 24-hour composite samples	Monthly Average	BS EN ISO 11885: 2007
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Copper (Total)	50 µg/l	Yearly average of flow-proportional, 24-hour	Monthly Average	BS EN ISO 11885: 2007

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

Emission point ref. & location	Source Note 3	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring Standard or method
				composite samples		
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Nickel (Total)	50 µg/l Note 2	Yearly average of flow-proportional, 24-hour composite samples	Monthly Average	BS EN ISO 11885: 2007
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Zinc (Total)	30 µg/l	Yearly average of flow-proportional, 24-hour composite samples	Monthly Average	BS EN ISO 11885: 2007
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Mercury and its compounds	1 µg/l	Flow-proportional, 24-hour composite samples	Quarterly Average	BS EN 12846
S1 - Sembcorp	Process effluent from the Aniline & Mononitrobenzene Plant	Cadmium and its compounds	1 µg/l	Flow-proportional, 24-hour composite samples	Quarterly Average	BS EN ISO 5961

Note 1: For the duration of the derogation implemented in Variation EPR/BS8565IX/V010 the discharge limit for chromium is 75 µg/l

Note 2: For the duration of the derogation implemented in Variation EPR/BS8565IX/V010 the discharge limit for nickel is 150 µg/l

Note 3: Emission Point S1 has 2 parts. Once IC22 is complete, where the requirement is to test a flow proportional 24-hour composite sample this should be made up of a mixture of the flow proportional samples from each part combined in the ratio of the 24 hour total flow for each part (excepting pH).

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site—emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S2 – Bran Sands	Strong Process Effluent Flow	Mercury	1 µg/l	Flow proportional 24-hour composite samples	Quarterly average	BS EN 12846
S2 – Bran Sands	Strong Process Effluent Flow	Cadmium	1 µg/l	Flow proportional 24-hour composite sample	Quarterly average	BS EN ISO 5961

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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.	A6 & A7	Quarterly	1 January, 1 April, 1 July, 1 October
Emissions to water Parameters as required by condition 3.5.1	S1	Quarterly	1 January, 1 April, 1 July, 1 October
Emissions to sewer Parameters as required by condition 3.5.1	S2	Quarterly	1 January, 1 April, 1 July, 1 October

Table S4.2: Annual production	
Parameter	Units
Total Mononitrobenzene production	Tonnes
Total Aniline production	Tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	Tonnes
Energy usage	Annually	MWh
Total raw material used	Annually	Tonnes
Copper release to River Tees per tonne product	Annually	Cu kg/t
Zinc release to River Tees per tonne product	Annually	Zn kg/t
Nickel release to River Tees per tonne product	Annually	Ni kg/t
Chromium release to River Tees per tonne product	Annually	Cr kg/t
Effluent treatment at receiving Sewage Treatment Works	Annually	No change/ Change Note 1

Note 1: Confirm whether there have been any significant changes at the installation or at the receiving sewage treatment works that may affect whether treatment off-site at the receiving sewage treatment works is BAT and provides an equivalent level of protection of the environment as if the effluent were treated on-site.

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Emissions to Air	Emissions to air reporting form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Emissions to Water and Land (other than sewer)	Emissions to water reporting form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Emissions to Sewer	Emissions to sewer reporting form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Surface water monitoring	Surface water monitoring form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Process monitoring	Process monitoring form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Water usage	Water usage reporting form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Energy usage	Energy usage reporting form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21
Other environmental performance indicators	Other performance parameters reporting form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/21

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	
Measures taken, or intended to be taken, to stop the emission	

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

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

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

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution. “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, as set out in

“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 as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016

“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 or background concentration limit.

“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 as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“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 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.

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

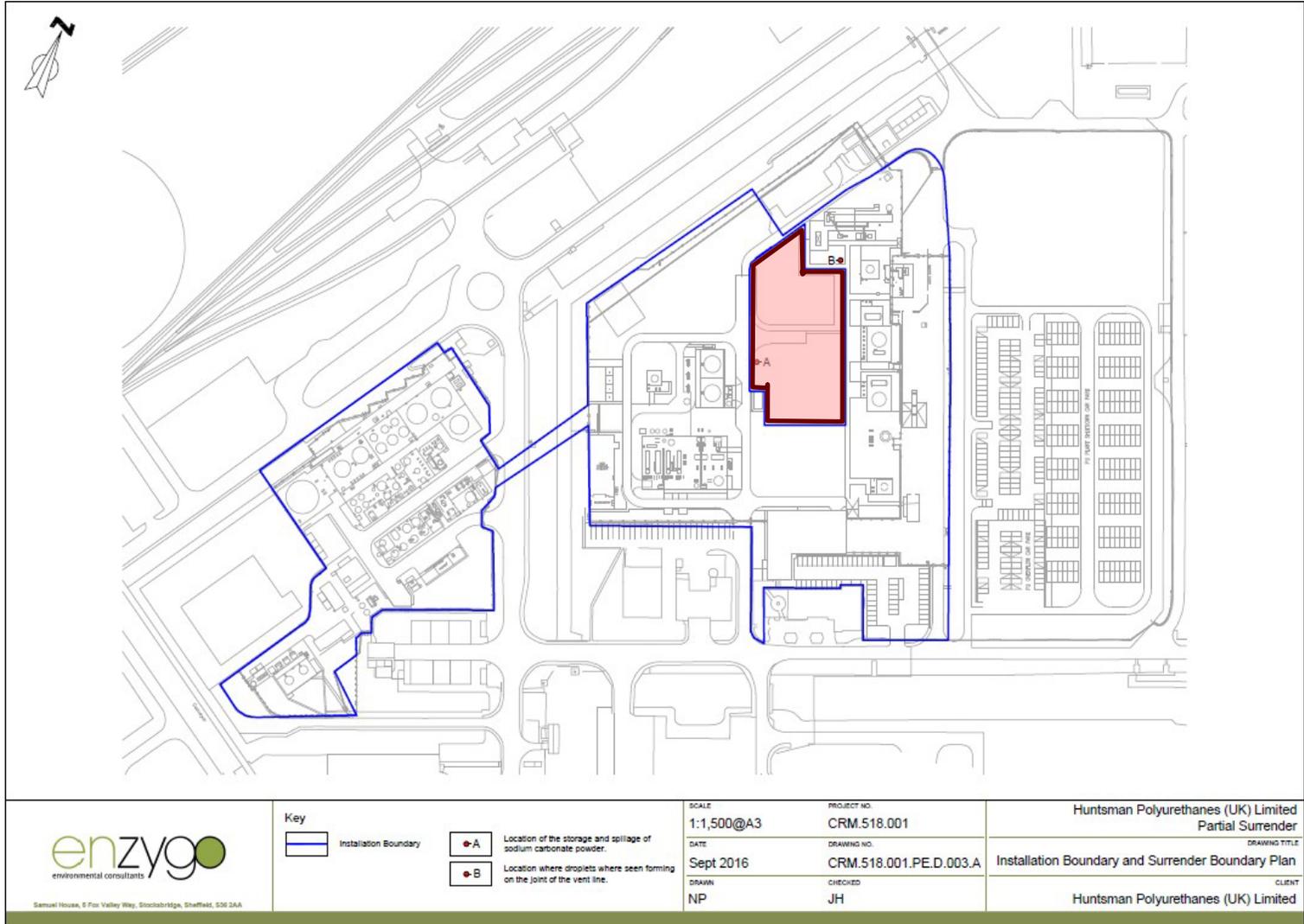
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

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

- “year” means calendar year ending 31 December.
- “yearly average” means the average over a period of one year of validated hourly averages obtained by continuous measurements.

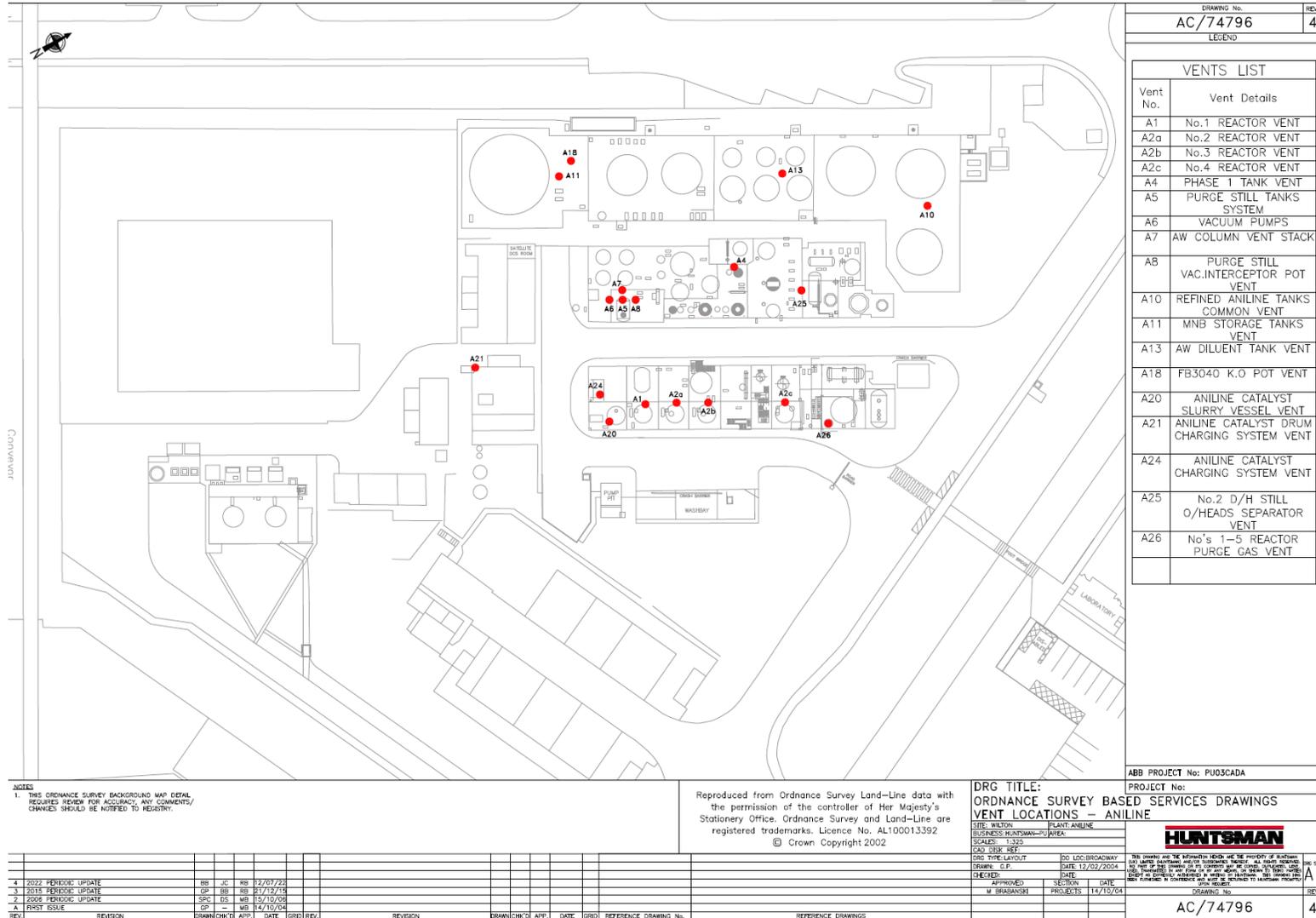
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Schedule 7 – Site Plan



<p>Samuel House, 6 Fox Valley Way, Stocksbridge, Sheffield, S26 2AA</p>	Key Installation Boundary Location of the storage and spillage of sodium carbonate powder. Location where droplets were seen forming on the joint of the vent line.	SCALE 1:1,500@A3	PROJECT NO. CRM.518.001	Huntsman Polyurethanes (UK) Limited Partial Surrender
		DATE Sept 2016	DRAWING NO. CRM.518.001.PE.D.003.A	DRAWING TITLE Installation Boundary and Surrender Boundary Plan
		DRAWN NP	CHECKED JH	CLIENT Huntsman Polyurethanes (UK) Limited

Emissions point to air plan – A



DRAWING No.	REV
AC/74796	4
LEGEND	

VENTS LIST	
Vent No.	Vent Details
A1	No.1 REACTOR VENT
A2a	No.2 REACTOR VENT
A2b	No.3 REACTOR VENT
A2c	No.4 REACTOR VENT
A4	PHASE 1 TANK VENT
A5	PURGE STILL TANKS SYSTEM
A6	VACUUM PUMPS
A7	AW COLUMN VENT STACK
A8	PURGE STILL VAC.INTERCEPTOR POT VENT
A10	REFINED ANILINE TANKS COMMON VENT
A11	MNB STORAGE TANKS VENT
A13	AW DILUENT TANK VENT
A18	FB3040 K.O POT VENT
A20	ANILINE CATALYST SLURRY VESSEL VENT
A21	ANILINE CATALYST DRUM CHARGING SYSTEM VENT
A24	ANILINE CATALYST CHARGING SYSTEM VENT
A25	No.2 D/H STILL O/HEADS SEPARATOR VENT
A26	No's 1-5 REACTOR PURGE GAS VENT

NOTES
 1. THIS ORDNANCE SURVEY BACKGROUND MAP DETAIL REQUIRES REVIEW FOR ACCURACY. ANY COMMENTS/ CHANGES SHOULD BE NOTIFIED TO HUNTSMAN.

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DRG TITLE: ORDNANCE SURVEY BASED SERVICES DRAWINGS VENT LOCATIONS - ANILINE		PROJECT No: P003CADA
SITE: WILTON BEANTS ANILINE BUSINESS: HUNTSMAN - PU AREA SCALE: 1:325 CAD: 3/18/04		
DRG TYPE: LAYOUT	DOC: LOC/BROADWAY	
DRAWN: G.L.P.	DATE: 12/02/2004	<small>THE COMPANY AND THE INFORMATION HEREON AND THE PROPERTY OF HUNTSMAN. NO PARTS HEREON MAY BE REPRODUCED, STORED IN A RETRIEVABLE SYSTEM, TRANSMITTED, OR BY ANY MEANS IN ANY MANNER, OR IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF HUNTSMAN. HUNTSMAN ACCEPTS NO LIABILITY FOR ANY DAMAGE OR LOSS OF PROFITS, BUSINESS, OR REVENUE, OR FOR ANY SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING REASONABLE ATTORNEY'S FEES, ARISING OUT OF OR FROM THIS AGREEMENT.</small>
CHECKED:	DATE:	
APPROVED:	SECTION:	DATE:
M. BRADSHAW	PROJECTS	14/10/04
DRAWING No. AC/74796		REV 4

REV	REVISION	DRAWN	CHK'D	APP'D	DATE	DRG	REFERENCE DRAWING No.	REFERENCE DRAWINGS
4	2022 PERIODIC UPDATE	BB	JC	RB	12/07/22			
3	2015 PERIODIC UPDATE	GP	RB	RB	17/12/14			
2	2008 PERIODIC UPDATE	SPC	DS	MB	15/10/08			
A	FIRST ISSUE	GP	MB	MB	14/10/04			

Emissions to air plan – V



DRAWING No.	REV
NB/74797	3
LEGEND	

VENTS LIST	
Vent No.	Vent Details
V1	MNB THERMAL OXIDISER VENT
V2	SULPHURIC ACID TANK VENT
V3	CAUSTIC STORAGE TANK VENT
V4	EFFLUENT NEUTRALISER TANK VENT
V5	CAUSTIC HEAD TANK
V6	NOx SCRUBBER VENT
V7	STRONG EFFLUENT TANK VENT

CDM-REGULATIONS / SAFETY NOTES

ABB PROJECT No: PU03CADA

PROJECT No:

DRG TITLE: ORDNANCE SURVEY BASED SERVICES DRAWINGS

VENT LOCATIONS – MNB

SITE: WALSLEY BUSINESS HUNTSMAN-PU AREA

SCALE: 1:1000

CAD: BDM-BEP

DRG TYPE LAYOUT

DRG: EOC-BROADWAY

DATE: 12/02/2004

CHECKED: DATE

APPROVED: DATE

M. BRADSHAW PROJECT: 14/10/04

DRAWING No.

NB/74797

REV: 3

NOTES:
1. THIS ORDNANCE SURVEY BACKGROUND MAP DETAIL REQUIRES REVIEW FOR ACCURACY. ANY COMMENTS/ CHANGES SHOULD BE NOTIFIED TO REGISTRY

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REV	REVISION	DRAWN	CHK'D	APP'D	DATE	GRD	REV	REVISION	DRAWN	CHK'D	APP'D	DATE	GRD	REV	REFERENCE DRAWING No.	REFERENCE DRAWINGS
3	2022 PERIODIC UPDATE	BB	JC	RB	12/07/22											
2	2008 PERIODIC UPDATE	SPC	DB	MB	15/10/08											
4	FIRST ISSUE	GP	—	MB	14/10/04											

End of Permit

Permit number EPR/BS86561X

Annex to conditions – Derogation under Industrial Emissions Directive

Derogation under Article 15(4) of Industrial Emissions Directive

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

The Operator requested a non time limited derogation from Best Available Techniques Associated Emission Levels (BAT-AELs) for Chromium and Nickel as direct emission of metals to a receiving water body under section 3.4 Table 3 of BAT Conclusions for common waste water and waste gas treatment/ management systems in the chemical sector (CWW).

The request is for continued current operation with S1 discharge Emission limit values of:
75 µg/l for Chromium (against BAT-AEL 2.5-25 µg/l)
150 µg/l for Nickel (against BAT-AEL 5.0-50 µg/l)
i.e 3 times the top end of the limit range.

The decision is made on the basis of technical characteristics of the mononitrobenzene (MNB) and aniline production process with supporting geographical location considerations. A non time limited derogation means the derogation will last until the permit is reviewed following the next update of the BAT Conclusions or as required by the Environment Agency. In this case the period is further limited by the requirements of Improvement Condition IC23.

The Operator's application screened a wide range of potential treatment methods and took five options, including three treatments, forward for full consideration. They have proposed to continue with the current operation because no other options are feasible.

The Environment Agency has reviewed the request and concluded that:

The operator has considered a wide range of options to comply with the BAT-AEL concentrations for Chromium and Nickel at the boundary of the installation. Reasonable initial screening was used to reduce the list to seven options and the reduction to three options to be taken forward to Stage 2 assessment was adequately justified. No other derogations have been requested.

The Operator has provided a credible argument that the increased costs linked to the technical characteristics and geographical location are disproportionate for achieving the BAT AEL. An appropriate range of options were reviewed and those identified as technically viable were considered further. Viable options were taken forward for Cost Benefit Analysis (CBA), were adequately described in the CBA and the cost of the various BAT AEL options was confirmed as disproportionate compared to the environmental benefits. The Cost Benefit Analysis using central assumptions shows negative Net Present Values (NPV) for the BAT AEL of £9.6m to £129.9m and therefore the cost of compliance is disproportionate compared to the environmental benefit achieved.

The Operator has demonstrated in the assessment of derogation impacts that the continued emission of Chromium and Nickel to the Sembcorp managed Wilton Site drainage system for subsequent discharge to the Dabholm Gut inlet of the River Tees Estuary will not cause significant pollution. The recommended approval of the derogation is conditional on the sampling and monitoring being improved so that the reported values are representative of the discharged concentrations of Chromium and Nickel (Improvement Condition IC22) and that the submitted justification for the derogation must be revisited if the regulatory framework changes as a result of the publication of United Kingdom BAT Conclusions for Large Volume Organic Chemicals; the supplier of nitric acid (the main source of the Cr and Ni) is changed; or 4 years from the granting of the derogation have passed (Improvement Condition IC23).

Permit number EPR/BS8656IX

The Environment Agency is therefore minded to allow this derogation request subject to the permit conditions set out in section 4 of this form:

- Improvement condition IC22 and Note 3 to table S3.2 to require flow proportional sampling and combination of samples for monitoring from the two parts of S1 in flow ratio.
- Improvement Condition IC23 to require a review of the supporting documentation and conclusions for the derogation application submitted as part of the determination of variation BS8656IX/V010 when United Kingdom BAT Conclusions for Large Volume Organic Chemicals are published, when the nitric acid supplier is changed, or 31/12/2029 – whichever is the sooner
- The operating techniques for this BAT Conclusion will be incorporated into the permit.
- All existing permit emission limit values (ELVs) will remain in force and new ELVs will be introduced for emissions of chromium and nickel to water in permit table S3.2

DRAFT