

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Lenzing Fibers Grimsby Limited

Grimsby Lyocell Fibers Factory
Energy Park Way
Grimsby
North East Lincolnshire
DN31 2TT

Variation application number

EPR/SP3936HE/V003

Permit number

EPR/SP3936HE

Grimsby Lyocell Fibers Factory

Permit number EPR/SP3936HE

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.

The installation is operated by Lenzing Fibers Grimsby Limited, a subsidiary of Lenzing AG in Austria and the installation facilities are leased from the owner of the site.

This variation authorises the production of new cross linking chemical agents under S4.1 A(1)(a)(iv), their application to the basic raw fibre and the treatment and neutralisation of any unfixed reagent before discharge to the existing effluent system. Gaseous releases from this new process will be abated by a water scrubber prior to discharge to atmosphere. Aqueous emissions will undergo hydrolysis to ensure that any residue of the product generated by this variation is converted to non-harmful materials before transfer to the on-site mixing lagoon prior to discharge to the Humber Estuary through the effluent pipeline that is shared with the other occupants of the site.

The rest of the installation remains the same and is operated as follows:

The main activity on the installation is the production of lyocell polymer fibres using wood pulp and a non-volatile organic solvent, N-methyl morpholine-N-oxide (NMMO). Further processing of these fibres includes conditioning and drying, with solvent recovery being an important part of this process. There are air emission points on the installation, mainly associated with fume extraction, which emit small quantities of 4-methyl morpholine oxide, hydrogen chloride, PEG dilaurate, 3-butoxypropan-2-ol and carbon dioxide. Abatement equipment is operated to remove acidic gases, amines and NMMO from the emissions to air. Aqueous effluent from the installation is combined and adjusted for pH prior to discharge to the Humber Estuary via a discharge pipe shared with the other operators on the site. Monitoring of the effluent is undertaken prior to joining this shared discharge pipe and may contain NMMO derivatives, suspended solids, COD and phosphorus. There is no connection to sewer from the site.

The installation is located at the south west corner of the South Humberside Industrial Estate, located at Great Coates, approximately 2 km west of the outskirts of Grimsby. The installation is approximately 0.5 km from the Humber Estuary which is a designated Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar Site and Site of Special Scientific Interest (SSSI). A land drain, the Mawmbridge drain, runs near the site approximately 10 metres from the eastern limit of the installation, receiving most of the surface drainage for the site. The site is bordered by agricultural land to the north west and south west and by industrial developments to the north east and south east. A man-made lake of approximately 1.5 hectares is located outside the south west perimeter of the site having been created as a fire pond in 1999.

The Lenzing facility shares the site with three other installations and receives site services such as electricity, steam, potable and demineralised water from two of these.

The schedules specify the changes made to the permit.

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

| Status log of the permit | | |
|--|------------------------|---|
| Description | Date | Comments |
| Application EPR/EP3235LZ | Duly Made 14/03/06 | |
| Request for extension to determination | 11/07/06 | Response to request dated 05/07/06. |
| Additional information received | 29/08/06 | Response to request dated 26/07/06. |
| Permit determined EPR/EP3235LZ | 21/11/06 | |
| Application EPR/SP3936HE/T001 (full transfer of permit EPR/EP3235LZ) | Duly made 24/12/10 | |
| Transfer determined EPR/SP3936HE | 05/01/11 | |
| Environment Agency variation determined EPR/SP3936HE/V002 | 13/12/13 | Environment Agency variation to implement the changes introduced by Industrial Emissions Directive (IED). |
| Application EPR/SP3936HE/V003 | Duly made 22/03/18 | Application for new chemical processing unit (A200). |
| Additional information received | 02/08/18 & 03/08/18 | Additional information on the volume and composition of aqueous effluents from A200 process. |
| Additional information received | 10/08/18 | Response to Schedule 5 Notice dated 29/06/18. |
| Additional information received | 29/10/18 | Response to Schedule 5 Notice dated 10/10/18. |
| Additional information received | 15/11/18 | Additional information on hydrolysis tank area containment, storage of Reagent 1 and site plan. |
| Additional information received | 30/11/18 | Additional information on monitoring of emissions to air/water from release points on site and new site plan submitted. |
| Additional information received | 04/12/18 | Updated site plan submitted. |
| Permit determined EPR/SP3936HE (PAS Billing ref. FP3832JA). | 15/01/19 | Varied and consolidated notice issued to Lenzing Fibers Grimsby Limited. |

| Other Part A installation permits relating to this installation | | |
|--|----------------------|----------------------|
| Operator | Permit number | Date of issue |
| Technical Absorbents Limited | RP3632NX | 15/07/13 |
| Blue Star Fibres Company Limited | VP3335LK | 23/03/07 |
| ENGIE FM Limited | DP3338DC | 23/08/16 |

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 and consolidates

Permit number

EPR/SP3936HE

Issued to

Lenzing Fibers Grimsby Limited (“the operator”)

whose registered office is

Energy Park Way

Grimsby

DN31 2TT

company registration number 05709148

to operate a regulated facility at

Grimsby Lyocell Fibers Factory

Energy Park Way

Grimsby

North East Lincolnshire

DN31 2TT

to the extent set out in the schedules.

The notice shall take effect from 15/01/2019.

| Name | Date |
|-----------------|------------|
| David Griffiths | 15/01/2019 |

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/SP3936HE

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/SP3936HE/V003 authorising,

Lenzing Fibers Grimsby Limited (“the operator”),

whose registered office is

**Energy Park Way
Grimsby
DN31 2TT**

company registration number 05709148

to operate an installation at

**Grimsby Lyocell Fibers Factory
Energy Park Way
Grimsby
North East Lincolnshire
DN31 2TT**

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

| Name | Date |
|------------------------|-------------------|
| David Griffiths | 15/01/2019 |

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazardous property associated with the waste, if applicable; and
- (e) the waste code of the waste.

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

2.4 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 and S3.2.
- 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 and S3.2 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 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and

- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

- (a) a decision by the Secretary of State not to re-certify the agreement;
- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

| Table S1.1 activities | | | |
|-------------------------------------|--|--|--|
| Activity reference | Activity listed in Schedule 1 of the EP Regulations | Description of specified activity and WFD Annex I and II operations | Limits of specified activity and waste types |
| AR1 | S4.1 A(1) (a) (viii) | Producing cellulose based fibers from wood pulp. | From receipt of raw materials to storage of fibers. |
| AR2 | S4.1 A(1) (a) (iv) | Producing cross linking agents from raw materials. | From receipt of raw materials to production, storage and transport on site of cross linking agents. |
| AR3 | S5.4 A(1) (a) (ii) | pH adjustment of effluent prior to discharge | Effluent produced by the activities of the installation. |
| Directly Associated Activity | | | |
| AR4 | Solvent recovery | Recovery of solvent by evaporation. | Recovery of solvent (N-methyl morpholine-N-oxide) from listed activity for reuse in the listed activity. |
| AR5 | Storage and handling of raw materials. | Offloading, storage and transfer on site of all process raw materials. | From receipt and storage of raw materials to transfer to process areas. |
| AR6 | Chilling and cooling operations. | Provision of independent cooling system for process cooling. | Operation of process cooling systems throughout the installation. |
| AR7 | Product handling | On site storage and transfer to process line. | From generation of product to on site storage and transfer to process line. |
| AR8 | Air abatement system | Abatement systems for treatment of process gaseous emissions. | From receipt of gaseous effluent from process reaction and hydrolysis reaction into water scrubber and discharge of abated gases to atmosphere. |
| AR9 | Aqueous abatement system (hydrolysis) | Abatement system for treatment of process aqueous emissions. | From receipt of effluents into hydrolysis tanks and discharge of hydrolysed materials into site effluent system. |
| AR10 | Recovery system | Online re-concentration of product using reverse osmosis. | From receipt of unfixed reagent to its concentration, return of concentrated reagent to process and discharge of effluent (permeate) to site effluent. |

| Table S1.2 Operating techniques | | |
|--|--|-----------------------|
| Description | Parts | Date Received |
| Application EPR/EP3235LZ | The response to questions in section 2.1 and 2.2 in the Application. | 14/03/06 |
| Receipt of additional information to the application | The response to questions 1, 2, 5 and 6 of the requests for further information. | 24/08/06 |
| Application EPR/SP39376HE/V003 | Operating techniques described in Document "C3 3a Table 3 – Technical Standards" provided in response to Section 3a (Technical Standards) of Part C3 of Application Form. Operating techniques included in documents: <ul style="list-style-type: none"> - C3 3b(i)-(iii): Fugitive Emissions, Odour, Noise Assessments; - C3 3d Appendix 2: A200 Technical Process Description - C3 4a&b: Emissions, Monitoring and Sample Locations; - C3 6d&e: Raw Materials & Waste. | Duly Made 22/03/18 |
| Response to Schedule 5 Notice dated 29/06/18 | Operating techniques described in the responses to the Notice (including accompanying information): <ul style="list-style-type: none"> - Response 1(b) & 11 on site drainage; - Response 2 on control of emissions to air; - Response 5 on control and management of discharges to water; - Responses 6 – 8 on containment and bunding; - Responses 9 – 10 on delivery, offloading and spillage control of Reagent 1; - Response 12 on odour control; - Response 13 on noise control; - Responses 14 – 15 on systems to demonstrate Best Available Techniques (BAT); - Response 16 on operation of the hydrolysis process; - Response 17 on management and control of bad batches; - Response 18 on dust filter change systems; - Response 19 on storage, handling and use of sulphuric acid; - Response 21 on storage, handling and use of Reagent 2. | 10/08/18 |
| Response to Schedule 5 Notice dated 10/10/18 | Operating techniques described in the responses to the Notice (including accompanying information): <ul style="list-style-type: none"> - Responses 3 & 8 on containment and bunding; - Response 4 on management and control of hydrolysis reaction; - Response 5 on storage and handling of Reagent 1; - Response 6 on management of spillages of Reagent 1; - Response 7 on management and control of relief line from reactor to ensure minimisation of potential for venting to atmosphere. | 29/10/18 |

| | | |
|------------------------|---|----------|
| Additional information | <p>Operating techniques described in the responses to the Request for Further Information issued on 06/11/18:</p> <ul style="list-style-type: none"> - Response 3 on management of rainwater collected within the hydrolysis tanks containment area; - Response 4 on the operation of a cascade system between the A200 process are bund and the hydrolysis tanks containment area; - Response 6 on the storage and handling of Reagent 1. | 15/11/18 |
| Additional information | Operating techniques relating to monitoring aqueous and gaseous releases from point sources on site. | 30/11/18 |

| Table S1.3 Improvement programme requirements | | |
|--|--|-------------|
| Reference | Requirement | Date |
| IC1 | <p>The Operator shall carry out a water efficiency audit as identified in the application for IPPC permit, with regard to the requirements set out in Section 2.4.3 of the Agency Guidance Note IPPC S4.02, April 2003. A written report detailing the methodology used together with proposals for a time-tabled plan for implementing water reduction shall be submitted to the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on written approval of the report being received from the Agency.</p> | Complete |
| IC2 | <p>The Operator shall carry out an assessment of training needs to identify the posts for which specific environmental awareness training is needed. The scope and level of this training shall be incorporated into the Operator's training systems. A written summary of the assessment, along with a timetable for delivery of training to existing posts identified by the assessment, shall be submitted to the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the summary and timetable.</p> | Complete |
| IC3 | <p>A written procedure shall be submitted to the Agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation unless otherwise agreed in writing in accordance with condition 3.6.3. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure.</p> <p>The procedure shall be implemented by the Operator from the date of approval in writing by the Agency.</p> | Complete |
| IC4 | <p>The Operator shall submit a time-table for implementation of measures to improve energy efficiency as identified in answer to question B2.7.7 of the application for IPPC permit.</p> | Complete |
| IC5 | <p>The Operator shall carry out a waste minimization audit as identified in the application for IPPC permit, with regard to the requirements set out in Section 2.4.2 of the Agency Guidance Note IPPC S4.02, April 2003. A written report detailing the methodology used together with proposals for a time-tabled plan for implementing improvements shall be submitted to the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on written approval of the report being received from the Agency.</p> | Complete |
| IC6 | <p>The Operator shall develop a written Site Closure Plan with regard to the requirements set out in Section 2.11 of the Agency Guidance Note IPPC S4.02, April 2003. Upon completion of the plan a summary of the document shall be submitted to the Agency in writing.</p> | Complete |
| IC7 | <p>The Operator shall review the use of sodium phosphate in the fibre treatment process and investigate methods for the reduction of phosphate in the effluent discharged from the site.</p> <p>A written report detailing the findings of the review, along with a time-scale for implementation of improvements, shall be submitted to the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> | Complete |

| Table S1.3 Improvement programme requirements | | |
|---|--|----------|
| Reference | Requirement | Date |
| IC8 | <p>The Operator shall submit a written report to the Environment Agency for technical assessment and approval. The report must contain:</p> <ul style="list-style-type: none"> a review of the results of a combined direct toxicity assessment, ensuring liaison with all operators that discharge effluent into the joint outfall pipe in the Humber Estuary, the measures to comply with the requirements of guidance: <u>The direct toxicity assessment of aqueous environmental samples using the marine copepod <i>Tisbe battagliai</i> lethality test</u>, <p>and must</p> <ul style="list-style-type: none"> include proposals to include mitigation measures/reduce the effluent toxicity, should the assessment show this to be necessary. <p>The report must contain dates for the implementation of any individual measures proposed.</p> <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the report.</p> <p>The Operator must implement the measures described in the report as approved, and from the date stipulated by the Environment Agency.</p> | 31/03/19 |
| IC9 | <p>The Operator shall carry out a programme of analysis for cyanuric acid in the site effluent discharged via the shared effluent pipeline and submit the data along with a revised H1 assessment which uses the monitored discharge data to the Environment Agency for approval. Should this assessment indicate that a specific cyanuric acid emission limit value is required for the effluent discharge, the Operator shall propose an emission limit value to the Environment Agency for approval. The data used within the assessment shall be based upon twelve months of consecutive monthly monitoring.</p> | 01/01/20 |
| IC10 | <p>The Operator shall carry out a sampling and monitoring trial of effluent discharged following the hydrolysis stage of the process to confirm that full treatment to hydrolysis products has occurred prior to discharge. The data used within the assessment shall be based upon twelve months of consecutive monthly monitoring. The Operator shall submit a report on the outcome of this trial to the Environment Agency for approval.</p> | 01/01/20 |

| Table S1.3 Improvement programme requirements | | |
|--|---|-------------|
| Reference | Requirement | Date |
| IC11 | <p>The Operator shall undertake a noise assessment during normal operations when all site activities are in operation in accordance with the procedures given in BS4142:2014 (Rating industrial noise affecting mixed residential and industrial areas) and BS7445: 2003 (Description and measurement of environmental noise) or other methodology as agreed with the Environment Agency, in order to validate the noise assessment provided within the application.</p> <p>The assessment shall include, but not be limited to:</p> <ul style="list-style-type: none"> • A review of the noise sources from the facility (where any noise source(s) are identified as exhibiting tonal contributions, they shall be quantified by means of a frequency analysis); • Considerations of on-site vehicle movements; • The cumulative effect of different items of plant and equipment working concurrently. <p>A written report shall be provided to the Environment Agency for approval detailing the findings of the assessment including comparisons with background levels in the locality and any potential impact that the installation is likely to have on identified sensitive receptors. Where specific recommendations are made in the report to pursue improved noise attenuation measures or associated management, inspection, monitoring and maintenance regimes, a suitable time-scale for implementation and periodic review shall be included.</p> <p>The proposals shall be implemented by the Operator from the date of approval in writing by the Environment Agency.</p> | 01/07/19 |
| IC12 | <p>The Operator shall submit a written procedure to the Environment Agency for approval that outlines how HCl (hydrogen chloride) shall be monitored from emission point, V200. The procedure shall ensure that monitoring equipment, personnel and organisations employed for this emissions monitoring shall have either MCERTS certification or accreditation unless otherwise agreed in writing in accordance with condition 3.5.3.</p> <p>The procedure shall be implemented by the Operator from the date of approval in writing by the Environment Agency.</p> | 31/03/19 |

Schedule 2 – Waste types, raw materials and fuels

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

Schedule 3 – Emissions and monitoring

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements | | | | | | |
|--|-------------------------------------|---------------------------|------------------------|------------------|---|---|
| Emission point ref. & location (Notes 1, 2) | Source | Parameter | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard or method |
| V5 | Delivery scrubber vent | Hydrogen chloride | No limit set | - | - | Permanent sampling access not required |
| V64 | Transfer scrubber vent | Hydrogen chloride | No limit set | - | - | Permanent sampling access not required |
| V46 | Filter cleaning area | No parameters set | No limit set | - | - | Permanent sampling access not required |
| V6, V7 | Bag filter air exhaust | No parameters set | No limit set | - | - | Permanent sampling access not required |
| V25, V27 | Spin machine extraction lines 3 & 4 | Amines (as dimethylamine) | 10 mg/m ³ | Hourly mean | Monthly | Lenzing Method T9127 |
| V100 | A100 steam treating process | No parameters set | No limit set | - | - | Permanent sampling access not required |
| V39, V40 | Discharge from stream dryers | Total VOC (as carbon) | No limit set | 15 minute mean | Annually | BS EN 12619/ BS EN 13526 |
| V50 | Vacuum pyrolysis vent | Total VOC (as carbon) | No limit set | 15 minute mean | Annually | BS EN 12619/ BS EN 13526 |
| V56 | Solvent jet cleaning EVD exhaust | Total VOC (as carbon) | No limit set | 15 minute mean | Annually | BS EN 12619/ BS EN 13526 |
| V200 | A200 vent stack scrubber | HCl | 10 mg/m ³ | Spot sample | Quarterly for first year of operation, then annually. | As agreed with the Environment Agency in accordance with Improvement Condition, IC12. |
| E1 to E14 | Emergency vents for | No parameters set | No limit set | - | - | Permanent sampling |

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements | | | | | | |
|---|--------------------------------------|------------------|-------------------------------|-------------------------|-----------------------------|--------------------------------------|
| Emission point ref. & location (Notes 1, 2) | Source | Parameter | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard or method |
| | polymer plants and spinning machines | | | | | access not required |
| <p>Note 1: All air emission point locations excluding V200 are indicated on IPPC vent & stack location diagram 1, appendices to application;</p> <p>Note 2: Air emission point location V200 is indicated on drawing “Scrubber Location” submitted with variation application, EPR/SP3936HE/V003, 30/11/2018.</p> | | | | | | |

| Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements | | | | | | |
|---|------------------|--|-----------------------------|---|-----------------------------|--|
| Emission point ref. & location (Note 1) | Source | Parameter | Limit (incl. unit) | Reference Period | Monitoring frequency | Monitoring standard or method |
| W301 | Process effluent | pH | 6 - 10 | Continuous | Continuous | BS6068-2.50 |
| | Process effluent | Temperature | 35°C maximum | Continuous | Continuous | Calibrated temperature probe |
| | Process effluent | Total weekly flow | 35,000 m ³ /week | 7 day integrated | Continuous | MCERTS self-monitoring of effluent flow scheme |
| | Process effluent | Total suspended solids | 100 mg/l | Weekly flow proportional composite sample | Weekly | BS EN 872:1996; BS 6068-2.54:1996 |
| | Process effluent | COD | 30 tonnes/week | Calculated from weekly flow proportional composite sample | Weekly | Method T9119 conforming with SCA blue book 97 – Dichromate oxidation |
| | Process effluent | Total amines (N-methyl morpholine and amine derivatives) | 8 tonnes/week | Calculated from weekly flow proportional composite sample | Weekly | Lenzing Method T9140 HPLC (as application) |
| | Process effluent | Phosphates (as P) | No limit set | Weekly flow proportional composite sample | Weekly | Lenzing Method T9155 colorimetric method |

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

| Emission point ref. & location (Note 1) | Source | Parameter | Limit (incl. unit) | Reference Period | Monitoring frequency | Monitoring standard or method |
|--|------------------------------|-------------------|---------------------------|-------------------------|-----------------------------|--------------------------------------|
| W302 – W305 | Roof and roadway storm water | No parameters set | No limit set | - | - | - |

Note 1: All water emission points locations are as indicated on "Position of releases to Water" diagram, in the appendices to the application.

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. | V25, V27 | Every 3 months | 1 January, 1 April, 1 July, 1 October |
| Emissions to air Parameters as required by condition 3.5.1. | V39, V40, V50, V56 | Every 12 months | 1 January |
| Emissions to air Parameters as required by condition 3.5.1. | V200 | Every 3 months (for first year of operation). Every 12 months (after first year of operation). | 1 January, 1 April, 1 July, 1 October 1 January |
| Emissions to water Parameters as required by condition 3.5.1 | W301 | Every 3 months | 1 January, 1 April, 1 July, 1 October |

| Table S4.2 Annual production/treatment | |
|---|--------------|
| Parameter | Units |
| Production of Lyocell fibers | tonnes |

| Table S4.3 Performance parameters | | |
|--|--------------------------------|-------------------------------|
| Parameter | Frequency of assessment | Units |
| Water usage | Annually | m ³ |
| Specific water usage | Annually | m ³ /tonne product |
| Energy usage | Annually | MWh/tonne product |
| Steam | Annually | tonnes/tonne product |
| Effluent released to Humber Estuary per tonne of product | Annually | m ³ /tonne |

| Table S4.4 Reporting forms | | |
|---|---|---------------------|
| Media/parameter | Reporting format | Date of form |
| Air (Emission points V25, V27 & V200) | Form air 1 or other form as agreed in writing by the Environment Agency | 15/01/19 |
| Air (Emission points V39, V40, V50 & V56) | Form air 2 or other form as agreed in writing by the Environment Agency | 15/01/19 |
| Water and Land | Form water 1 or other form as agreed in writing by the Environment Agency | 15/01/19 |

| Table S4.4 Reporting forms | | |
|-----------------------------------|---|---------------------|
| Media/parameter | Reporting format | Date of form |
| Water usage | Form water usage 1 or other form as agreed in writing by the Environment Agency | 15/01/19 |
| Energy usage | Form energy 1 or other form as agreed in writing by the Environment Agency | 15/01/19 |

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

Part B – to be submitted as soon as practicable

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

| | |
|-----------|--|
| Name* | |
| Post | |
| Signature | |
| Date | |

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“emissions to land” includes emissions to groundwater.

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

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

“fugitive emission” means an emission to air, water or land from the activities which is 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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

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

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

“VOC” means volatile organic compounds.

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 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.

