



RISK & HAZARD MANAGEMENT

002 - Management System Summary

Saffil Ltd (also known as Unifrax/Alkegen)

Line 4 Permit Variation



Safety Risk



Business Risk



Environment Risk

Document History

Version	Issue	Date	Notes	Author	Reviewer
1-3	-	26/01/22	Working draft with client	J. Carroll R. Nibbs	C. Nicholls
4	1	01/07/22	Issue as part of permit application.	J. Carroll R. Nibbs	C. Nicholls R. Ritchie R. Nibbs

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1 Introduction

This document supports question 3d in Part C2 of the environmental permit variation application.

Please note that this document refers to the site as Unifrax Widnes and to the owning company as Unifrax. Unifrax was the name of the American company that owns Widnes site. A further complexity is added because due to a recent merger, Unifrax has changed its name to Alkegen. So, it is possible in correspondence or discussions that the site may be referred to as Alkegen.

The legal entity that owns the site at Widnes is however called Saffil Ltd and remains so despite the name changes to Unifrax and now Alkegen – and it is in this name that the EPR application is made on the accompanying forms.

This document provides a summary of the system that is in place, in line with the EA guidance (found at www.gov.uk/guidance/develop-a-management-system-environmental-permits) to demonstrate how the requirements are satisfied.

Where relevant, reference to other documents provided in support of the permit variation is made in order to minimise the repetition of information.

The Widnes site was formerly known as Saffil Ltd (and the legal entity is still Saffil Ltd) but the name of the site has been changed due to a change of ownership. The site is now known as Alkegen Widnes Site.

The fibre manufacturing process is operated in line with the site environmental policy (attached as Appendix 1) and the requirements of its EPR Permit XP3533CB. Alkegen group requirements are summarised in Group Health and Safety Manual Procedure Section 6: Environmental Compliance.

The site has been formally regulated by the Environment Agency, initially under IPC, since 1994. The awareness of site management and operating personnel is therefore good with regard to the general requirements of EPR and how these impact on day-to-day operation of the process.

Monitoring and reporting is completed in line with the requirements detailed in the permit.

The site has been assessed and is not a COMAH facility.

Obligations under the Packaging Waste Regulations and Climate Change Agreement are managed through links with VALPAK and the British Ceramics Confederation respectively.

Statutory and other preventative maintenance inspections are managed through the site computerised maintenance system called IMAINT by the Engineering Manager and Maintenance Manager.

2 Site Infrastructure Plan

Plans and drawings to support the variation are provided within document 003 Site Plans and Drawings.

3 Site operations management

Process Management

Operations are managed 24 hours per day, 7 days per week at Widnes site by 5 x 12 hour shift teams managed by shift supervisors (Team Leaders). A typical shift team would consist of a shift supervisor, spinning operator(s) and product packing operators. Shift Quality Control and maintenance cover is also in place round the clock, with call-ins as necessary to support.

Operation of Lines 2 and 3 is controlled using an Emerson Delta V Distributed Control System (DCS). Operation of the plant vs key process and environmental set points is continuously monitored and subject to management review each weekday.

Line 4 will be controlled using a Rockwell PlantPax 5.0 DCS control system and subject to management review in the same way.

Deviations from set point are identified automatically using a 'traffic light' system within the DCS system, assessed against the risk to the process and acted upon as appropriate. This is actioned formally through procedure and instructions called 'QSETUP'.

Written operating procedures and operating instructions are available to all manufacturing personnel covering production and maintenance activities. Hard copies are kept at the point of use and they are stored on the company procedures system called CEBOS.

The site operating procedures are accredited against ISO9001:2015 and are subject to regular rigorous audit by third party auditors in order to maintain accreditation. Site performance is monitored on a daily, weekly and monthly basis covering Safety, Quality, Delivery, Cost, Productivity, Morale (SQDCPM) metrics, reacting through a Plan, Do, Check, Act (PDCA) cycle to ensure requirements are met and in control. This is detailed in the following section.

Operations Management

The daily operating review (DOR) is the key review in the management cycle. Chaired by the production manager or shift supervisor, the review covers all aspects of factory operational issues including health, safety and environmental issues at the top of the agenda. Daily priorities are decided and actions assigned. Longer term issues are prioritised and assigned to members of the management or technical teams for action.

The weekly operations report is issued by the production manager and reviews performance and actions against key metrics, including health, safety and environmental. This report is shared with senior management and major issues reviewed weekly at VP Operations level to ensure understanding and support at all levels.

Key performance indicators are discussed within the weekly operational review meeting and information is provided to all attendees, including on any incidents or SHE related concerns that may have occurred during that weekly period. Priorities, watch outs and SHE

wins are also discussed and recorded to ensure strategic information is captured and remedial actions are assigned as necessary.

Strategic and longer term operational priorities are reviewed at monthly management review meetings and driven through the Operational Tactical Plan (OTP) process as described in section 14 below.

A technical description of the site operations is provided in document 012 Technical Description of Activities.

Specific Safety, Health and Environmental (SHE) Related Activities

The site SHE manager is responsible for ensuring that all the requirements of the EPR permit and site policy are met. This includes:

- Quarterly and annual sampling, testing and reporting of emissions performance
- Notification and investigations should there be a result outside permitted emission limit values.
- Definition and agreement of improvement plans with the management team
- Discussions and reviews with regulators (EA, United Utilities)
- Management of other statutory requirements (eg Climate Change Agreement, waste disposal records, VALPAK packaging regulations reporting)
- Audit and review of environmental procedures including training of personnel in environmental requirements.
- Leading or supporting improvement activities (eg resource efficiency, capital projects, procedures and training)

The following safety management activities are also completed to ensure site safety:

- A monthly Global Health and Safety call, chaired by the Global Health and Safety director, allows safety information sharing and discussions to occur across all facilities.
- Safety cards are distributed throughout the facility, allowing personnel to report unsafe acts or conditions which are reviewed and contained upon initial report and later tracked via the daily operational review meeting to ensure remedial actions have been addressed.
- A stop works policy and reporting cards are also shared across the site, empowering personnel to stop work activities at any time if an unsafe act or condition has been observed.

- The daily operational review meeting tracks daily weather conditions, any specific environmental concerns, housekeeping and statutory checks such as pH probe cleaning, peroxide dosing of array tanks and safety shower checks.
- A safety observation schedule which details tasks, safety campaigns and contractor related activities is distributed to individuals and audits are conducted against the scheduled activity each day.
- A safety clinic has been introduced for each shift generally on a monthly basis and a union safety meeting occurs with at least one union representative on site.
- The latest safety campaigns are briefed and discussed with all personnel – recent examples are the ‘Seven Safety Absolute Rules’ and ‘Hand Safety’.

4 Site and equipment maintenance plan

Preventive and reactive maintenance is carried out by the site engineering team in line with a set of routines on IMAINT. The plant is regularly shut down for scheduled overhauls to ensure continuing compliance with process set points, statutory and company standards. Statutory inspections and preventive maintenance actions are also carried out during the planned plant and site shutdowns.

This policy is to achieve the agreed output level and operating pattern at appropriate resource costs within the constraints of production line condition and safety, health and environmental requirements. To achieve this maintenance policy, the department uses a number of different approaches, summarised below, based on the reliability and criticality of equipment. There are also statutory or company standards requirements which determine when and how equipment items should be monitored or maintained. Overhauls are scheduled at regular intervals on each of the lines to ensure that high quality maintenance and inspections can be undertaken during line shutdown. A full site shutdown is also programmed annually to allow common site systems to be inspected and maintained in line with reliability and statutory requirements.

Planned maintenance: A detailed work listing procedure is used to determine the scope of maintenance overhaul events, which are carried out regularly on each line.

Opportunity maintenance: The timing is determined by the procedure adopted for another item (e.g. pressure vessel inspection) in the same unit or plant.

Condition based maintenance: This is maintenance that is determined by routine monitoring and/or performance by various methods such as visual inspection, measurement, listening and feeling.

Design out maintenance: This procedure is used to eliminate the causes of maintenance such as poor design and operation outside of design specifications.

Reactive Maintenance: The maintenance of individual items of plant on a demand basis due to unforeseen occurrences.

To aid the maintenance department, there is a computer based maintenance system IMAINT which stores unit history, inspection schedules and maintenance routines.

Before any maintenance can be carried out on pieces of plant, equipment or pipework, the necessary precautions are taken, which include isolation, decontamination, risk assessment. Work is completed under permit to work with additional documentation and risk assessment to manage other associated risks.

Inspections of environmental related assets (e.g. tanks, bunds, drains, hard standings) are also carried out in line with a maintenance schedule.

4.1 Monitoring and control systems

Production line performance is monitored by trained supervisory personnel in the control rooms where equipment is controlled by a DCS computer control system. The DCS allows accurate performance to set point and archive data for the investigation of variations. Alarm settings ensure that excessive variation is acted upon. There are a number of automatic trip systems that shut the production lines down in the event of abatement and/or other equipment failure or operation outside limits.

An electronic log sheet record of operating parameter values is kept.

Operational performance including that of abatement equipment is reviewed at the daily production meeting and short term priorities for maintenance and operation established. Key performance indicators are used to track plant performance on a weekly/monthly basis.

Sampling and analysis of air, sewer and water emission points is carried out by accredited third party contractors, in line with the schedule defined in the EPR permit, and to MCERTS and UKAS standards.

4.2 Spares and standby philosophy

Spares levels and the need for standby equipment are determined according to operational and Safety, Health and Environmental criticality. A critical spares database is used to monitor spare stock.

5 Contingency plans

Measures are in place to identify incidents and abnormal operations such as breakdowns, equipment malfunction etc which can impact on normal operations.

Staff are trained to notice and respond to abnormal changes in operation which could lead to a release of material or issues that could lead to increased emissions occurring. In the event of an incident, the causes are investigated and staff would then either take steps to return the site to normal operation and ensure the problem does not recur or report issues that cannot be immediately addressed.

Emergency procedures are detailed in SHE policy 0012331 and Standard operating procedure SOP 0012330 'SHIP Element 14 – Emergency Preparedness Procedure' – which covers general action to be taken in the event of an emergency including in the event of loss of chemical containment. Detailed instructions are in place to support these procedures.

6 Accident prevention and management plan

As stated in the previous section, emergency preparedness is covered in SHE SOP 0012330 'SHIP Element 14 – Emergency Preparedness Procedure'.

Measures are in place to identify incidents and abnormal operations and monitoring of emissions takes place to ensure the site is not emitting more than is permitted.

A summary of the many hardware and procedural measures in place, including accident risk assessment and management are detailed in section 013 'Fugitive Emissions and Accident Management Plan'. This has been further underpinned with a recent full review of the site hazard study, which while primarily focussing on safety, does also include risk assessment of loss of containment and abnormal operation of plant equipment.

A full safe system of work is in operation at the site to ensure that the chance of accidents and environmental incidents caused during maintenance work is minimised. Standard operations are risk assessed and managed by standard operating procedures (SOPs).

Staff are trained to identify and respond to abnormal changes in operation by investigating the causes. They then either take steps to return the site to normal operation and ensure the problem does not recur or report issues that cannot be immediately addressed. Shut down of the plant is an option that can be taken autonomously by the shift supervision in the event of major operational issues.

If the operation of the site gives rise to an accident which could significantly affect the environment or any breach of permit conditions such as emission concentrations or offsite emission then the responsible site manager will inform the Environment Agency as soon as possible. The cause of the increased emissions is investigated in a timely manner and necessary measures implemented to ensure compliance is restored. EPR permit related documentation is completed and submitted to the Environment Agency in accordance with the permit conditions.

If there is an incident which presents an immediate danger to the environment, the necessary operations will be shut down until compliance can be ensured. Shift supervisors have full autonomy to take this action without further sign off from plant management should an incident of this type occur, or in order to avoid an incident.

Spillage containment procedures are in place and necessary equipment provided to assist, although some work on training and equipment is needed in this area to improve readiness.

Document 013 – Fugitive Emissions and Accident Management Plan provides further details on accidents and how they are managed.

7 Online security

Corporate IT policies and procedures co-ordinated locally ensure that measures are in place with regard to hardware and software to ensure that on-line security is maintained.

More information is available in this area on request.

8 Contact information for the public

The site can be contacted via the Unifrax website or via a telephone number (0151 422 6700) that can be found on-line by searching Unifrax Widnes or Saffil Widnes.

Members of the public can also contact the security team in person at the site security lodge which is manned during day shift hours (7 am – 6 pm).

The site is manned 24 hours, 7 days per week.

9 A changing climate

As part of the planning application both a Flood Risk Assessment and Drainage Impact Assessment have been carried out, which take into account the impacts of climate change, in accordance with the criteria specified by the Environment Agency.

In order to ensure resources efficiency of the existing production lines and associated infrastructure, an energy management committee is in place managed by a member of the process engineering team. This team has identified improvement areas for focus during 2022 and beyond.

A summary of energy management plans and design features of the new line that will result in improved energy efficiency is included in document 011 – Resource Efficiency.

This ensures that the new production line has been designed and will be constructed to improve resources efficiency where practicable.

10 Complaints procedure

Customer complaints are dealt with according to the Corrective Action Procedure 0011614.

Complaints from members of the public concerning operation of the site are dealt with by the SHE Manager, working in conjunction with the site management team and external authorities as appropriate.

Should an environmental incident occur, EPR reports A and B are sent to the Environment Agency if necessary. An internal incident enquiry is instigated. This identifies:

- Corrective action required
- Person responsible
- Date by which corrective action must be completed

To ensure satisfactory completion of actions, this enquiry is followed up by the SHE Manager.

Defects related to environmental inspections/audits are prioritised and resolved through the site maintenance system as described earlier in this document.

11 Training and Competence

The SHE Manager is responsible for day to day environmental issues at the installation supported by the site management team. He/she keeps up to date with legal and other requirements through a number of sources:

- Formal and informal contact with Environment Agency Inspector
- Environment Agency website and guidance notes
- Links with Unifrax Group HSE Team
- Use of third party reference system for legal requirements

His/her deputy is the Plant Manager.

The following key personnel are employed to operate and maintain the plant.

- Plant Manager* (who acts as site manager)*
- SHE Manager
- Production Manager*
- Plant Technical Manager*
- Shift based supervisors
- Shift and day based plant operators
- QC lab technicians
- Process Engineering Manager*
- Process Engineers*
- Engineering Manager
- Maintenance Manager
- Engineering technicians
- Quality Improvement Manager*
- Logistics (MP&L) Manager
- Day based warehouse operators

*Graduate level or equivalent

Figure 1 below details the Widnes site manufacturing management structure:

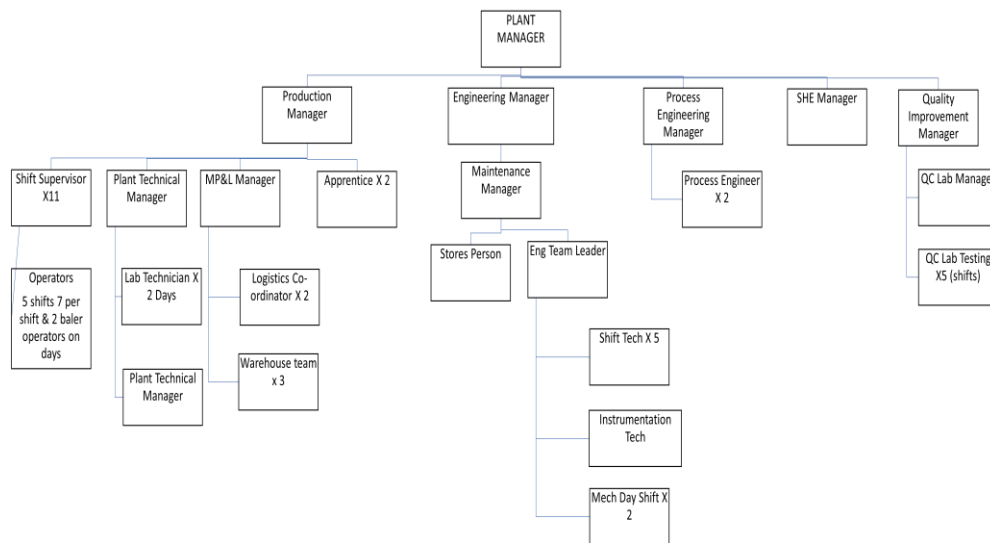


Figure 1 Management structure diagram

All personnel associated with the process are trained in the techniques required to operate the process safely and in an environmentally sound manner. All personnel are given training in the specific requirements of the process prior to operating the plant. The training procedure SOP 0002929 covers the method and documentation used to train operating staff. Training records for operating staff are kept and maintained by the supervisory and management team.

Skill matrices are in place for operating staff. These give clarity on training requirements and progress in all the key areas needed to operate the production lines.

Before operating the plant, all personnel receive induction training concerning their responsibilities including obligations under the Environmental Protection Act. Training records are kept and made available to all relevant personnel.

Members of staff and external contractors carrying out emissions sampling and monitoring will be suitably qualified to carry out such tasks and evidence of this certification is provided within their monitoring reports.

12 Keeping records

All correspondence and documents relevant to environmental management are held in the Environmental Management Database held on the LAN.

EPR monitoring data is held in Environmental Reporting Database.

SHE Procedures are held on CEBOS.

Training records are held in the main office building or on a personnel database.

Maintenance and inspection records are held on the computerised maintenance management system or as hard copy in the maintenance files.

Details of the core elements of the Saffil Environmental Management System and where they reside are given in the table below.

Table 1 Documentation and Records

Documentation And Records	Where kept	How identified	Who responsible
Policies	CEBOS Displayed in the site buildings	Part of SHE procedures manual.	Plant Manager
Quality procedures	CEBOS	Part of quality manual	Quality Improvement Manager
Targets	Control Rooms	KPI data. Daily/Weekly reports	Production Manager
Maintenance records	IMAINT Maintenance records	Computer and hard copy records. Site service contracts.	Engineering Manager
Standard Operating Procedures	CEBOS	Operating manual Lab manual	Procedure owner
Documentation relating to Environmental Permits	LAN	Environmental Management Database	SHE Manager
Monitoring records	LAN	Environmental Reporting Database	SHE Manager
Results of audits	LAN	Environmental Management Database	SHE Manager
Environmental Complaints and incident records	LAN	Environmental Management Database	SHE Manager
Training records	Local files	Hard copies/Training Matrices	Production Manager Supervisors HR Manager

13 Audit and Review

The site quality system is assessed against the requirements of ISO9001:2015 through an internal audit system that is planned annually. Internal audits are completed on a monthly basis. There is also an annual external audit conducted by an external body along with a full certification every three years.

Site performance is monitored on a daily, weekly and monthly basis covering safety, quality, delivery, cost, production and morale (SQDCPM) metrics, reacting through a Plan, Do, Check, Act (PDCA) cycle to ensure requirements are met and in control.

The daily operating review (DOR) is the key review in this cycle. Chaired by the production manager or shift supervisor, the review covers all aspects of factory operational issues including health, safety and environmental issues at the top of the agenda. Daily priorities are decided and actions assigned. Longer term issues are prioritised and assigned to members of the management or technical teams for action.

The weekly operations report is issued by the production manager and reviews performance and actions against key metrics, including health, safety and environmental. This report is shared with senior management and major issues reviewed weekly at VP Operations level to ensure understanding and support at all levels.

Strategic and longer-term operational priorities are reviewed at monthly management review meetings and driven through the Operational Tactical Plan (OTP) process as described in section 14 below.

14 Environmental Priorities and Improvement Plan

Site improvement plans are contained in the Operational Tactical Plan (OTP) 2022. This is an improvement plan covering all operational aspects that is regularly reviewed and used to ensure management team focus on key priorities. The OTP also ensures that corporate 'Must Win Battles' (MWBs) are actioned locally.

Corporate MWB 1.2 is 'Improve Environmental Stewardship' and the focus for 2022 under this banner is to reduce the number of times out of consent on emission limit values to air and water.

Key actions underway in this area are:

1. Review aqueous consent levels to sewer with the sewerage provider (United Utilities)
2. Complete and action a root cause investigation into recent failures vs emission limit value to air for dioxin and furans on Line 2 (stack A3).

Other environmental related actions identified in the OTP are:

1. Complete CARE dust programme – to reduce levels of particulate in the air in the factory.
2. Develop and embed engineering environmental monthly routines.
3. Review emergency procedures and carry out drills – this being a good opportunity to ensure that an environmental emergency is included in the drills schedule.
4. Complete air leak surveys and remedials – improved resource efficiency.
5. Complete Line 2 abatement pipework refurbishment.

A corporate site audit was completed in April 2021 which identified a number of areas for long term attention (comments are shown in italics for items to be addressed in 2022):

1. Training - Improve emergency response plans and training with regard to environmental issues. Also develop training for issuers of permits to work to cover similar aspects. *Partially covered in 2022 OTP.*
2. Consider development of an environmental aspects and impacts register.
3. Consider marking scheme for surface water and chemical/foul drainage systems. *Drains colour coded – Q1 2022.*
4. Consider implementation of a formal energy efficiency programme on the site. *Team formed and priorities and action plan identified.*

5. Review water usage and possible reduction or re-use measures – including possible use of rainwater harvesting.
6. Audit programme for waste disposal outlets – to ensure adequate duty of care at waste-receiving sites.
7. Review of secondary and tertiary containment against requirements of CIRIA 736. *Development of engineering inspections included in 2022 OTP.*
8. Update site condition report. *This to be carried out as part of this EPR application.*
9. Complete site flood risk assessment. *This to be carried out as part of the planning application EIA for this project.*

15 Appendix

The following appendix is contained within this document:

- Appendix 1: Environmental Policy

15.1 Appendix 1 – Site Environmental Policy



ALKEGEN WIDNES

ENVIRONMENTAL POLICY

The ALKEGEN Widnes site is committed to the business activities being performed in an environmentally responsible way with respect to its employees, suppliers, customers, local community and any other party impacted by our activities.

Our leadership practices and work activity will ensure as far as is reasonably practicable:-

- The effective planning and implementation of environmental controls, prevention of pollution and protection of natural resources
- Awareness and compliance with appropriate legislation, standards and best practices
- Effective and appropriate communication with regulating bodies and the community

A handwritten signature in black ink, appearing to read "Ian Barnes".

Ian Barnes
Plant Manager
April 2022
Signed on behalf of ALKEGEN Widnes

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