

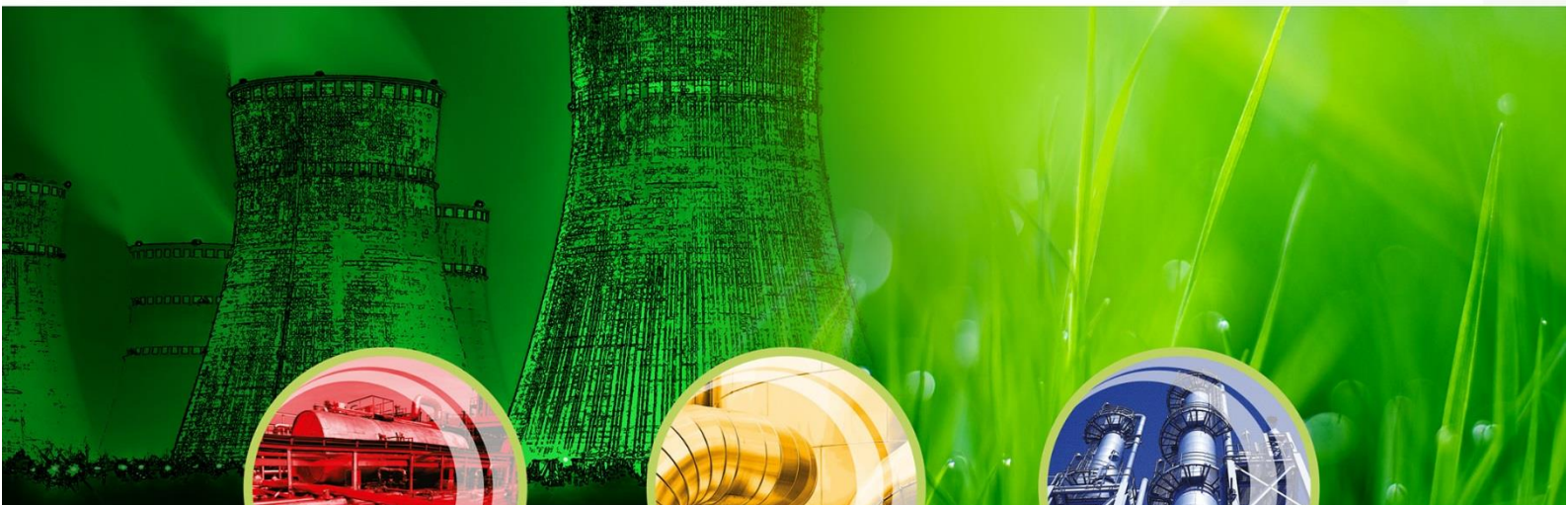


RISK & HAZARD MANAGEMENT

008 – Noise Management Plan

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	-	05/05/22	Working draft with client	J. Carroll R. Nibbs	C. Nicholls
2	-	15/06/23	Revised draft	R. D'Souza	P. Williams

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1 Introduction

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 Alkegen – and it is in this name that the EPR application is made on the accompanying forms.

A Noise Impact Assessment has been produced as part of the Planning Environmental Statement and is also submitted as part of the Line 4 Permit Variation. The reference for this document is 'ES Technical Appendix D Noise Impact Assessment' carried out by Hepworth Acoustics Ltd.

1.1 Site Description

The Saffil facility manufactures high-temperature fibres designed for a variety of industrial and commercial applications.

The Saffil facility is located in an industrial/commercial area.

The site manufacturing facilities operate 24 hours a day, 7 days a week, throughout the year. Normal vehicle loading/unloading of finished goods and raw materials is restricted to the hours of 07:30 to 15:30 Monday to Friday. Access is permitted from the main road to a neighbouring site for the use of the neighbouring sites HGVs.

1.2 Maintenance and Review of the NMP

The site SHE manager is responsible for the NMP and ensuring staff are trained accordingly.

The plan forms part of the site Environmental Management System.

The noise management plan is reviewed during the annual plant management review.

All site employees have received training on incident reporting as part of the site safety induction (including the logging of external complaints). OSLs and TLs are trained in root cause analysis techniques to respond to incidents in the first instance. Investigations will be led by the EHS manager.

Complaints are logged on a database using the site incident reporting tool. Any investigations will be recorded by the EHS manager.

Noise monitoring will be carried out on a yearly basis and arranged by the EHS Manager.

2 Noise assessment

The scope of the noise assessment comprises:

- Inspection of the site of the proposed new extension and surrounding area
- Measurement of existing noise levels in the vicinity of the nearest dwellings to the proposals
- Measurement of source noise levels of equipment proposed for the new extension
- Calculation of potential noise levels from the extension outside the nearest dwellings
- Recommendation of appropriate noise mitigation measures if necessary

The potential noise impact from operation of the proposed extension at the Unifrax Saffil Ltd facility in Widnes has been assessed.

The new extension will accommodate an additional production line, involving a lateral extension to an existing building, and the installation of some associated external fixed plant and machinery.

This assessment has involved carrying out a baseline noise monitoring survey and evaluating potential noise impacts associated with the proposals.

A BS 4142 assessment has been undertaken the findings of which have shown that operation of the proposed new production line and associated external fixed plant and machinery will not result in any significant noise that would impact on the amenity of the nearest residents at an approved residential development

3 Noise management plan

3.1 Overview

There have been no complaints about noise in the last 2 years and it is believed that the operations give no reasonable cause for offence or annoyance with regard to noise. Noise surveys have been carried out previously and a noise assessment carried out as part of the planning application for Line 4. All studies have shown no adverse impact.

Specific noise control techniques implemented onsite include:-

1. Purchase of new machinery to a low noise specification
2. Acoustic insulation or enclosures around identified noise sources.

The plant will be operated continuously day and night giving rise to a relatively constant, low-level noise. No significant non-routine events, which would give rise to high noise levels, are expected. The facility is surrounded by an industrial estate with similar noise generation potential. Periodic monitoring of equipment is carried out to assess any deterioration in condition and maintenance of enclosures/equipment is carried out.

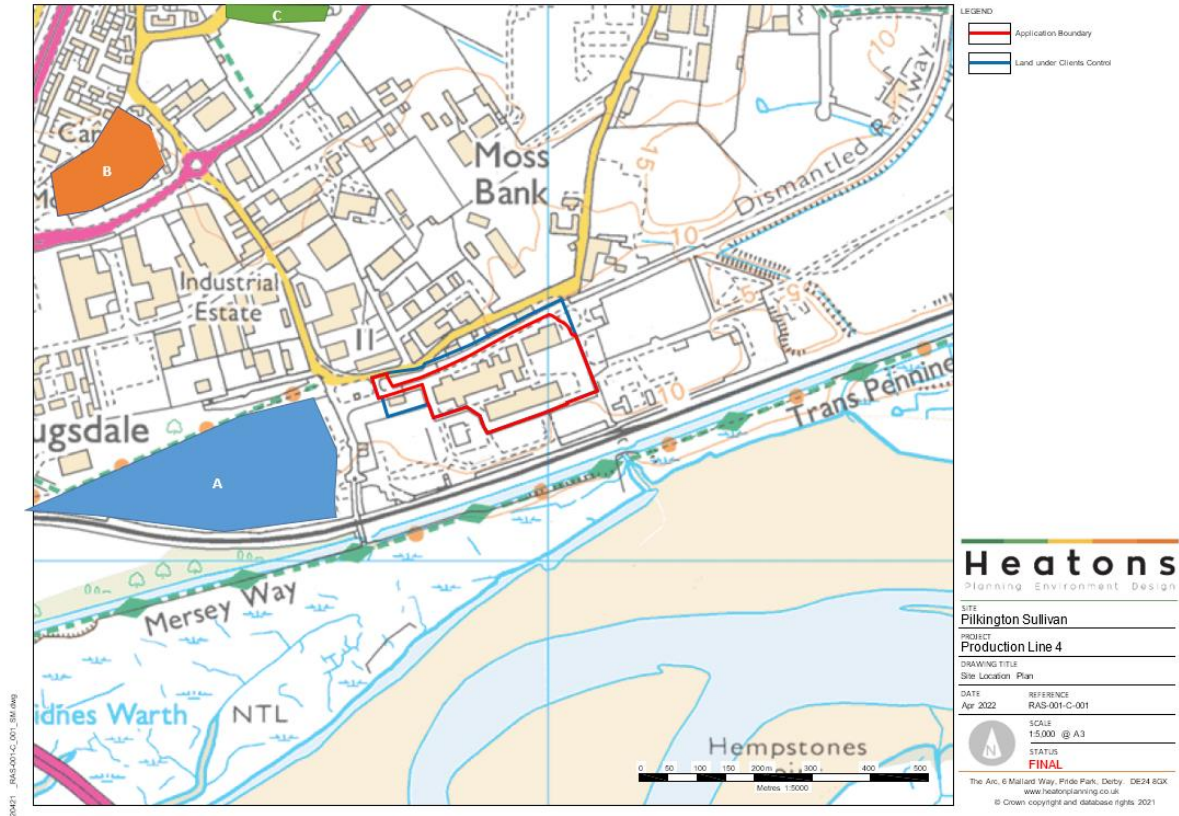
HGV traffic supporting the operation of the plant is low compared to other local traffic and there is none expected between the hours of 10 pm and 6 am. Impact from traffic noise is therefore not considered to be significant. Traffic flows on site are generally one-way, designed to minimise the need for reversing with associated sound from reversing alarms.

3.2 Receptors

There is some distance between the site and the nearest residential Noise Sensitive Receptors (NSRs). The nearest sensitive receptors are considered to be:

Receptor reference	Land use	Direction from site	Approximate distance to the site boundary
A	Residential - new development	West	240m
B	Residential - River View Residential Caravan Park	Northwest	630m
C	Residential - houses in French Street	North Northwest	750m

See map below for site location and receptors.



The new residential development has been considered within the planning application for Line 4 and was the main concern regarding potential noise impact. The results of the assessment (ES Technical Appendix D) have however shown that no adverse impact is expected.

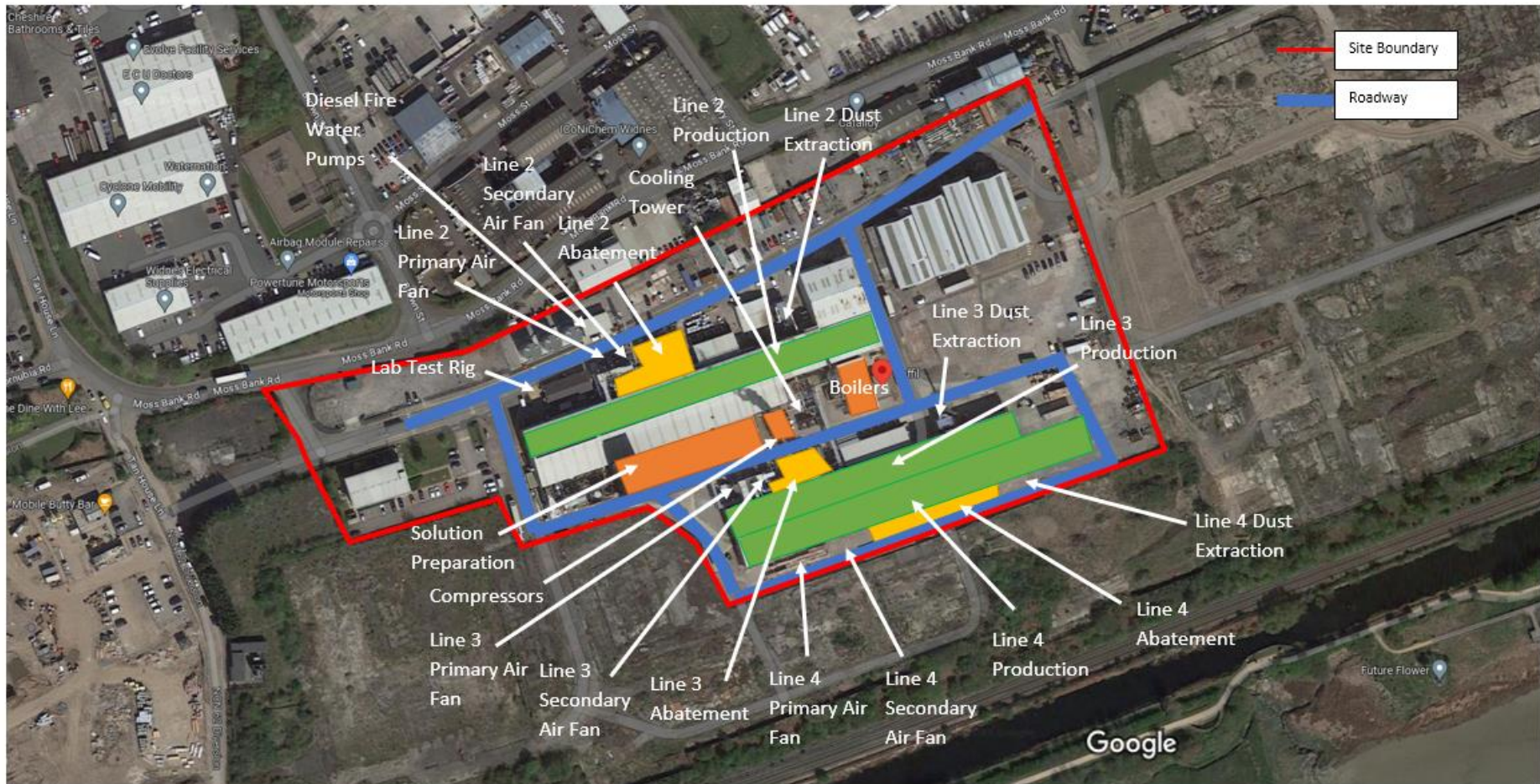
3.3 Sources

The table below identifies the significant sources of noise from operations onsite and their likely impact, which are marked on the map which follows. Any impact will be identified during operation from the results of monitoring. No significant sources of vibration have been identified.

Noise source	Sound power level (dBA)	Sound pressure level (dBA)	Measurement distance (m)	Operational conditions	Additional comments
HGV Movements	105	74	10	No activity between 10pm to 6am	Speed limit on site of 10mph.
FLT Movements	78	70	1	Intermittent throughout the day	Speed limit on site of 5mph in external areas, 3mph internally.
Air compressors	85	74	1	Continuous	
Gas boilers	76	65	1	Continuous	

Noise source	Sound power level (dBA)	Sound pressure level (dBA)	Measurement distance (m)	Operational conditions	Additional comments
Cooling Tower	78	67	1	Continuous	
Solution Preparation	78	70	1	Intermittent throughout the 24 hour day	
Lab Testing Rig	71	63	1	Intermittent. No activity between 10pm to 6am	
Diesel Fire Water Pumps	102	95	1	Back-up system, tested on Thursdays during normal working hours	Emergency use only.
Line 2 primary air fan	84	73	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fan has a silencer and is acoustically lagged
Line 2 Secondary air fan	89	78	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically lagged to minimise noise transmission
Line 2 Vent scrubber fan	92	81	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fitted with silencer and acoustic enclosure
Line 2 oxidiser fan	83	75	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fitted in acoustic enclosure
Line 2 dust extraction fan	85	77	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Line 2 and Line 3 dust extraction fans are constructed in an acoustic enclosure. Line 4

Noise source	Sound power level (dBA)	Sound pressure level (dBA)	Measurement distance (m)	Operational conditions	Additional comments
					design will be similar.
Line 3 primary air fan	86	75	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fan has a silencer and is acoustically lagged.
Line 3 Secondary air fan	87	76	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically lagged to minimise noise transmission.
Line 3 Vent scrubber fan	88	80	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fitted with silencer and acoustic enclosure.
Line 3 oxidiser fan	80	72	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Fitted in acoustic enclosure.
Line 3 dust extraction fan	83	75	1	Continuous	Noise standard for fan purchase is 80dB(A) max at 1m. Line 2 and Line 3 dust extraction fans are constructed in an acoustic enclosure. Line 4 design will be similar.
Line 4	N/A	N/A	N/A	Continuous	Equipment and noise control arrangements as line 3. Noise assessment completed as part of planning assessment showed no specific additional measures required.



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HGV movements take place on any roadway external to the plant buildings. The one-way system permits traffic only in the clockwise direction.

FLT Movements may take place on any roadway and also inside the plant buildings and solution preparation area.

Solution preparation takes place within the Solution Preparation building.

Line 2 production takes place in the Line 2 building.

Line 2 air handling takes place to the north of the Line 2 building.

Line 3 production takes place on the northern side of the Line 3 building.

Line 3 air handling takes place to the north of the Line 3 building.

Line 4 production will take place on the southern side of the Line 3 building.

Line 4 air handling will be located on the south of the Line 3 building.

Activity which produces noise	Operational Hours/Days	Control Measures	Contribution to overall impact	Action taken if outside optimum process parameters
Vehicle finished goods loading/unloading	Monday to Friday, 08:00-17:00	Site speed limit One-way system to minimise reversing No product despatch outside permitted hours	Medium	Cease operation and investigate reasons for elevated sound levels.
Raw materials offloading	Monday to Friday, 08:00-17:00	Site speed limit One-way system to minimise reversing No product despatch outside permitted hours	Medium	Cease operation and investigate reasons for elevated sound levels.
Forklift truck	24 hours a day, 7 days a week	Site speed limit FLT Pre-use checks, daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	Low	Cease operation and investigate reasons for elevated sound levels.
Solution Preparation	24 hours a day, 7 days a week	Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	Low	Cease operation and investigate reasons for elevated sound levels.
Line 2 Production - Primary air handling systems	24 hours a day, 7 days a week	Noise standard for fan purchase is 80dB(A) max at 1m.	High	Cease operation and investigate reasons for elevated sound levels.

Activity which produces noise	Operational Hours/Days	Control Measures	Contribution to overall impact	Action taken if outside optimum process parameters
		<p>Fan has a silencer and is acoustically lagged.</p> <p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.</p>		
Line 2 Production - Secondary air handling systems	24 hours a day, 7 days a week	<p>Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically lagged to minimise noise transmission</p> <p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.</p>	High	Cease operation and investigate reasons for elevated sound levels.
Line 2 Production - Fibre Production	24 hours a day, 7 days a week	<p>All equipment inside the production building to reduce noise exposure.</p> <p>Fans are acoustically lagged to minimise noise transmission</p> <p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.</p>	High	Cease operation and investigate reasons for elevated sound levels.
Line 2 Production - Abatement systems	24 hours a day, 7 days a week	<p>Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically lagged to minimise noise transmission.</p> <p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular</p>	High	Cease operation and investigate reasons for elevated sound levels.

Activity which produces noise	Operational Hours/Days	Control Measures	Contribution to overall impact	Action taken if outside optimum process parameters
		<p>toolbox sessions on standard procedures.</p> <p>Regular site GEMBA walks by site managers checking on procedures.</p>		
Line 2 Production - Dust extraction systems	24 hours a day, 7 days a week	<p>Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically in acoustic enclosure to minimise noise transmission.</p> <p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.</p>	High	Cease operation and investigate reasons for elevated sound levels.
Line 3 Production - Primary air handling systems	24 hours a day, 7 days a week	<p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.</p>	High	Cease operation and investigate reasons for elevated sound levels.
Line 3 Production - Secondary air handling systems	24 hours a day, 7 days a week	<p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.</p>	High	Cease operation and investigate reasons for elevated sound levels.
Line 3 Production - Fibre Production	24 hours a day, 7 days a week	<p>All equipment inside the production building to reduce noise exposure.</p> <p>Fans are acoustically lagged to minimise noise transmission</p> <p>Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks</p>	High	Cease operation and investigate reasons for elevated sound levels.

Activity which produces noise	Operational Hours/Days	Control Measures	Contribution to overall impact	Action taken if outside optimum process parameters
		by site managers checking on procedures.		
Line 3 Production - Abatement systems	24 hours a day, 7 days a week	Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically lagged to minimise noise transmission. Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.
Line 3 Production - Dust extraction systems	24 hours a day, 7 days a week	Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically in acoustic enclosure to minimise noise transmission. Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.
Line 4 Production - Primary air handling systems	24 hours a day, 7 days a week	Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.
Line 4 Production - Secondary air handling systems	24 hours a day, 7 days a week	Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.

Activity which produces noise	Operational Hours/Days	Control Measures	Contribution to overall impact	Action taken if outside optimum process parameters
Line 4 Production - Fibre Production	24 hours a day, 7 days a week	All equipment inside the production building to reduce noise exposure. Fans are acoustically lagged to minimise noise transmission Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.
Line 4 Production - Fibre milling	24 hours a day, 7 days a week	Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.
Line 4 Production - Abatement systems	24 hours a day, 7 days a week	Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically lagged to minimise noise transmission. Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks by site managers checking on procedures.	High	Cease operation and investigate reasons for elevated sound levels.
Line 4 Production - Dust extraction systems	24 hours a day, 7 days a week	Noise standard for fan purchase is 80dB(A) max at 1m. Fan is acoustically in acoustic enclosure to minimise noise transmission. Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures. Regular site GEMBA walks	High	Cease operation and investigate reasons for elevated sound levels.

Activity which produces noise	Operational Hours/Days	Control Measures	Contribution to overall impact	Action taken if outside optimum process parameters
		by site managers checking on procedures.		

Description of procedure	Procedure	When will this be carried out?	Corrective action
Replacing old / faulty equipment.	Procurement of new equipment.	When equipment requires replacing.	Replace equipment that have sound levels which are equivalent or lower sound levels compared to existing equipment.
Maintenance of mobile plant.	Inspection of mobile plant.	Every time equipment is used.	Repair or replace defective equipment when discovered.
Maintenance of static plant.	Inspection of static plant.	Every day.	Daily inspection routine to ensure it is not damaged or requiring maintenance.
External monitoring of off-site sound levels.	Monitoring of external areas.	Annually.	Implement annual monitoring schedule.

3.4 Monitoring off-site sound levels

Plan showing locations of sound level measurement positions used to monitor sound from the site:

Location	Description
Position 1 (P1)	North boundary. Latitude: 53.3632430 Longitude: -2.7087766
Position 2 (P2)	East boundary. Latitude: 53.3633575 Longitude: -2.7070379
Position 3 (P3)	South boundary. Latitude: 53.3619329 Longitude: -2.7872000
Position 4 (P4)	West boundary. Latitude: 53.3620802 Longitude: -2.7116225



Key:
 = Monitoring position.

Description of Sound monitoring procedures:

Measurement Location	Frequency of Measurement	Minimum Measurement Duration	Measurement period	Operating conditions on site	Expected specific sound level
P1	Yearly	1 hour	Day shift (06:30-18:30)	Normal Production	60
P2	Yearly	1 hour	Day shift (06:30-18:30)	Normal Production	60
P3	Yearly	1 hour	Day shift (06:30-18:30)	Normal Production	60
P4	Yearly	1 hour	Day shift (06:30-18:30)	Normal Production	60

Measurement Location	Frequency of Measurement	Minimum Measurement Duration	Measurement period	Operating conditions on site	Expected specific sound level
P1	Yearly	15 minutes	Night shift (18:30-06:30)	Normal Production	60
P2	Yearly	15 minutes	Night shift (18:30-06:30)	Normal Production	60
P3	Yearly	15 minutes	Night shift (18:30-06:30)	Normal Production	60
P4	Yearly	15 minutes	Night shift (18:30-06:30)	Normal Production	60

3.5 Complaints reporting

Any complaint received will be recorded by the OSL/Team Leader using our online reporting form. The information in the form is automatically transferred to a database, to be reviewed by the. As it is a shift-based role, there is an OSL/TL on site 24/7 to deal with incidents of this nature.

The OSL/TL on shift will carry out the initial investigation:

- Make sure the process is under control and operational parameters are as specified and there is no damaged equipment.
- Check if noise containment measures have failed (for example, has a door been left open), or lagging removed.
- Patrol the site to assess the impact on the local community.

The OSL/TL will then take remedial action as necessary to minimise the risk to safety, the environment and the process, including stopping the process if necessary. Alkegen operates a 'STOP WORK' policy that empowers every worker to stop an activity that they consider to be unsafe to people, the environment or the process.

As per the terms specified in our permit, a Part A submission will be made within 24 hours of receiving a complaint to notify the Environment Agency.

Investigations will be led by the EHS manager using standard root cause analysis tools e.g. 5 Why, Ishikawa or Breakdown Analysis Tool, depending on the nature of the source of the noise. Remedial actions will be managed through the appropriate department e.g. Engineering if there has been a breakdown or failure of equipment.

Feedback to the complainant and EA will be the responsibility of the EHS manager to provide update on the remedial actions determined by the investigation.