



RISK & HAZARD MANAGEMENT

# 005 - Risk Assessment

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	-	14/04/22	Document developed with client involvement. Issued draft to client.	J. Carroll	C. Nicholls
2	1	01/07/22	Issue as part of permit application.	J. Carroll	C. Nicholls R. Ritchie R. Nibbs

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# 1 Introduction

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This document is submitted as part of Form C2 of the environmental permit variation.

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.

## 2 Risk Assessment

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The first step in updating the site risk assessment was to update the H1. Information related to the emission points A1 and S1 for Line 1 has been removed from the H1 tool as that production line is no longer in use, however the dust collector point from Line 1 (A2) is still in use in some capacity and therefore remains within the assessment. Emission to controlled waters from the storm water drain system in the vicinity of the Line 1/2 building (W1) is also retained.

Information related to Line 4 has been added using the data for Line 3 as a worst-case estimate as Line 4 is under detailed design. A new boiler emission point A13 has been added and an emission point A14 which is used to exhaust combustion products from indirect firing of the Line 4 heat treatment ovens and furnaces and boiler emission point A8 removed as this boiler is no longer in operation.

Emission concentrations for Line 2 and Line 3 have been updated from the previous application, using an average of the emissions figures from 2016-2021 for average concentrations, and the worst-case concentration over this period for maximum concentrations. 2020 data has been excluded, because there was very little data available due to the impacts of the COVID-19 pandemic.

The results from the H1 tool were used to decide for which substances detailed modelling was necessary. Both the H1 and the detailed dispersion modelling reports are provided within the Appendix, with a summary of the results from each provided below.

The emissions modelling report 'Environmental Permit Variation Detailed Dispersion Modelling Unifrax, Widnes' submitted alongside this summary contains the detailed emissions modelling procedures, results and conclusions and is submitted in support of this permit variation application.

The H1 tool, ADMS files and supporting raw data are also provided within the application supporting documentation.

### 2.1 H1 summary

The H1 screening assessment has been carried out for the Unifrax Widnes site, based on the proposed expansion plans.

The results for the emissions to air screening are that all substances except for particulates (PM10) and nitrogen dioxide have been screened out, and do not need to be carried forward to detailed modelling.

Particulates and nitrogen dioxide do however need to be carried forward to detailed modelling, and a full assessment of both the long-term and short-term concentrations of particulates (PM10) and nitrogen dioxide will be carried out and compared to the EALs.

Additionally, since dioxins cannot be screened out using the H1 tool because there is no EAL for dioxins, detailed modelling will be carried out for dioxins, as has been done in the past to satisfy Environment Agency requirements.

With regards to emissions to water and sewer, a number of substances were not screened out within Test 1, as their process contributions were less than 10% of the EQS. However, within Test 2, all of the substances passed this stage of the screening as they were less than 4% of the EQS.

With regards to significant loads, the test for this aspect was also passed, and the concentrations of cadmium and mercury have been calculated within the H1 to be below their significant loads

## 2.2 Detailed dispersion modelling summary

Detailed dispersion modelling has been carried out using ADMS 5.2.2 to assess the impacts of the site on both nearby environmental receptors and human receptors.

The results from the H1 assessment and subsequent detailed dispersion modelling assessment have shown overall that the site will not have any significant impacts on the nearby environmental and human receptors and the concentrations are below all the relevant air quality and environmental standards, both with predicted emission concentrations and also if the site were operating at the top end of the permitted range (at the emission limit values).

It is believed that based on the results of the dispersion modelling that sufficient mitigation measures are in place to prevent adverse impacts on nearby receptors and no further mitigation is necessary.