

Natural Resources Wales permitting decisions

Sensient Flavors Limited (Felinfach Food Flavors Factory) Decision Document

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Minor technical variation

The variation number is: **EPR/BL5644IK/V007**

The applicant / operator is: **Sensient Flavors Limited**

The Installation is located at: **Felinfach Food Flavors Factory, Felinfach, Lampeter, Ceredigion, SA48 8AG**

We have decided to issue the variation for Felinfach Food Flavours Factory operated by Sensient Flavors Limited. We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

1 Our decision

We have decided to issue the variation to the Applicant. This would allow the Operator to operate the Installation, subject to the conditions in the Permit. We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the permit will ensure that a high level of protection is provided for the environment and human health.

2 Overview of variation

The variation adds four 65 kW thermal input boiler fuelled on liquified petroleum gas (LPG - propane gas) to the permit. The boilers will be used to produce hot water to a vaporiser circuit. The boilers are not considered Medium Combustion Plant as each under 1 MW thermal input. The total site aggregated thermal input remains below 20 MW, therefore the boilers are added as a directly associated activity with associated emission points. To incorporate the four boiler a small parcel of land has been added to the installation boundary.

3 The Legal Framework

The variation will be issued, under Regulation **20** of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the combustion plant is:

- part of an *installation* as described by the Industrial Emissions Directive (IED)

- subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that this decision is consistent with its general purpose of pursuing the sustainable management of natural resources (SMNR) in relation to Wales, and applying the principles of SMNR. In particular, NRW acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in granting the Permit a high level of protection will be delivered for the environment and human health through the operation of the Facility in accordance with the permit conditions. NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

Environment Wales Act 2016 – Biodiversity and resilience of ecosystems duty

Section 6 of the Environment Wales Act 2016 requires that we seek to maintain and enhance biodiversity in the exercise of our functions, and in so doing promote the resilience of ecosystems, in a manner that is consistent with the proper exercise of our functions. NRW is satisfied that in this case we have taken into account and had due regard to this duty in so far as it is consistent with the function of determining an application for an EPR permit.

4 Environmental Risk Assessment

For this variation the principle emissions that have the potential to impact the environment are point source emissions to air and fugitive emissions. These will be discussed separately below.

4.1 Air quality – human health

This section of the decision document deals primarily with the air emissions risk assessment and resulting dispersion modelling of emissions to air from the stacks and its impact on local air quality.

The Applicant has assessed the facility's potential emissions to air against the relevant air quality standards, and the potential impact upon human health. These assessments predict the potential effects on local air quality from the stack emissions.

The air impact assessment has been based on the worst case operating scenario, all four boilers operating at maximum load assuming continuous operation (8760 hours per year), this is conservative given the load demand required by the site is much less. We are in agreement with the conservative nature of the assessment.

The assumptions underpinning the model have been checked and are reasonably precautionary. The way in which the Applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed to establish the robustness of the Applicant's air

impact assessment. The output from the model has then been used to inform further assessment of health impacts.

The site is not within an Air Quality Management Area nor within an area identified in the Clean Air Plan for Wales.

H1 tool assessment

The applicant completed a H1 risk assessment tool for oxides of nitrogen. No other parameters are considered required due to the low sulphur content of propane gas and negligible particulate matter emissions. The applicant has calculated process contributions (PC) and if relevant predicted environmental concentrations (PEC) at the location where they are highest. As shown in the table below, short-term emissions of NO_x screened out as insignificant in Stage 1 assessment and long-term emissions of NO_x screened out as insignificant in Stage 2 assessment, therefore no further assessment (detailed modelling) was required.

Stage 1 assessment:

Parameter	Long-term critical level / $\mu\text{g}/\text{m}^3$	Short-term critical level / $\mu\text{g}/\text{m}^3$	Long-term			Short-term		
			PC / $\mu\text{g}/\text{m}^3$	% PC of critical level	Screened out in Stage 1?	PC / $\mu\text{g}/\text{m}^3$	% PC of critical level	Screened out in Stage 1?
Oxides of nitrogen	40	200	0.690	1.73 %	Yes as PC >1 % of critical level	18.2	9.09 %	Yes as PC <10 % of critical level

Stage 2 assessment:

Parameter	Long-term critical level / $\mu\text{g}/\text{m}^3$	Long-term					
		PC / $\mu\text{g}/\text{m}^3$	% PC of critical level	Background concentration / $\mu\text{g}/\text{m}^3$	PEC / $\mu\text{g}/\text{m}^3$	% PEC of critical level	Screened out in Stage 2?
Oxides of nitrogen	40	0.690	1.73 %	25.09	25.8	64.5 %	Yes as PEC <70 % of critical level

4.2 Air quality – habitat sites

National site network sites¹

This installation is not considered 'relevant' for assessment under NRW's procedures which cover the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations). This was determined by referring to NRW guidance 'AQTAG14: Guidance on identifying 'relevance' for assessment under the Habitats Regulations for installations with combustion processes'. There are no National Site Network Sites located within the relevant screening distance (750 m) as per AQTAG14. Habitats Regulations Assessment (HRA) is not required because there is no conceivable impact pathway to any National Site Network Site.

Sites of special scientific interest (SSSI)

This installation is not considered 'relevant' for assessment under NRW's procedures which cover the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act [CROW] 2000). This was determined by referring to NRW guidance 'AQTAG14: Guidance on identifying 'relevance' for assessment under the Habitats Regulations for installations with combustion processes'. There are no SSSIs located within the relevant screening distance (750 m) as per AQTAG14 and therefore assessment of SSSI is not required because there is no conceivable impact pathway to any SSSI.

Non-statutory conservation sites

For units under combined 1 MWth input there is no screening required for non-statutory conservation sites located as determined by 'AQTAG14: Guidance on identifying 'relevance' for assessment under the Habitats Regulations for installations with combustion processes'. Therefore no further assessment is required.

4.3 Fugitive emissions

The Applicant has stated that existing storage will be utilised for the additional LPG used by the four boilers. There will be new connecting pipework connecting the existing LPG storage to the four new boilers. The boilers will be located within an enclosure which will provide secondary containment capacity and be constructed of an impermeable material. There will be regular preventative maintenance programme in place to check integrity of containment.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

5 The site and its management

¹ National Site Network means the networks of sites in the United Kingdom's territory consisting of such sites as – (a) immediately before exit day formed part of Natura 2000; or (b) at any time on or after exit day are European sites, European marine sites and European offshore marine sites for the purposes of any of the retained transposing regulations.

5.1 The site

The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility including all emission points. There is a change to the installation boundary as part of this variation, a small parcel of land is being added. Four new emission points are added to the site plan from each boiler. A plan is included in the varied permit and the operator is required to carry on the permitted activities within the site boundary.

5.2 Site condition report

The operator has provided an updated site condition report which includes the small parcel of land being added to the installation boundary. The site condition report has been completed in line with H5 Site Condition Report guidance. We consider the description and amended site condition report is satisfactory. The decision was taken in accordance with our guidance on site condition reports – H5.

5.3 Operating techniques and Best Available Techniques (BAT)

As a directly associated activity, there is no published BAT guidance for the four boilers. The Operator has justified the use of the four boilers to be BAT for the following reasons:

- The site activities requires a highly flexible technology that can react to fluctuating heat demands, have a fast response time and produce the required load demand
- Ruled out use of solar panels and biomass boilers due to the slow response time and low load
- Ruled out use of heat pumps due to inefficient space at the site and capital costs associated with installation heat pump system
- Ruled out use of electric boilers due to high running costs
- Use of LPG fuel is considered BAT due to the existing infrastructure in place at the site which can accommodate additional LPG used in the four boilers
- Unaware of any natural gas pipeline infrastructure within the locality of the site, therefore natural gas is not considered an available option as a fuel
- Although diesel has lower safety risks than LPG, combustion of diesel can lead to higher emissions of oxides of nitrogen, sulphur dioxide and carbon dioxide than LPG
- Emissions from the four boilers have been considered environmentally insignificant as per risk assessment above

We are in agreement the use of the four boilers fuelled on LPG represent BAT for the facility.

5.4 Emission limits, monitoring and reporting

Given the small size and the emissions being considered insignificant from the four boilers we do not consider it necessary to impose emission limit values, monitoring nor reporting requirements. The boilers are not subject to the Medium Combustion Plant Directive.

5.5 OPRA

The OPRA score at permit issue is **46**. There is no change to the OPRA score due to the variation.