

Permitting Decisions - Variation

We have decided to grant the variation for Gladstone Dock Vegetable Extraction and Refining Plant operated by Cargill PLC.

The variation number is EPR/BN4169IZ/V007.

This variation authorises the following:

- Increase in annual process throughput of soya beans from 700,000 tonnes to 1,000,000 tonnes.
- Relocation of emission point A5 and a net reduction in the number of emission points to air from 19 to 18.
- Lower new emission limit values for particulate emissions from emission points A3 to A18, except A14. The new emission limit values are in line with Best Available Techniques for the sector. Whilst the operator is currently compliant with the hexane BAT-AEL, we have not introduced a new limit at this stage as that will be updated as part of the FDM sector permit review.
- Extension of the existing site boundary to accommodate two new buildings – The Bean and Hull Building and the Meal Sifting and Grinding Building.

This variation will not change the overall process onsite, however, new equipment will be installed within the new buildings to accommodate the increase in soya bean processing capacity. There are no new point source emissions to surface water and sewer from this variation. The variation does not introduce any new chemicals to be used onsite and does not involve any change to the Refinery activity.

Brief description of the process

Soya beans are received at the neighbouring grain silos and enter the site via a transfer conveyor and into storage Silos. The beans are then drawn into the process, screened, cleaned and heated to control the moisture content before being passed into a bean cracking process to split the beans and remove the hulls. The hulls are then separated through aspiration and cyclones, prepared and pelletised for onward sale as animal feed.

The surface of the cracked bean is then increased in a flaker so that the efficiency of the solvent extraction stage is increased. A portion of the flaked bean is also expanded before being passed to the extractor. The flaked beans are washed with hexane to dissolve the oil. The products from the extraction

stage are a hexane/oil mixture called miscella and a soya bean meal containing hexane.

The solvent is removed from the soya bean meal by the direct and indirect application of steam in a desolventiser toaster. The resulting de-natured meal is dried, cooled, screened further and ground in a new process building before being stored and subsequently sold on as animal feed.

The miscella is passed through a series of evaporative steps to remove the solvent from the oil. The solvent is recovered for re-use through condensers and a mineral oil absorption system. The solvent-free oil is passed to a degumming process to leave crude oil. The gums will no longer be dried and sold but added back to the meal in the desolventiser toaster. The crude oil is passed on to the adjacent refinery.

Purpose of this document

This decision document provides a record of the decision-making process. It

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision considerations](#) section to show how the main relevant factors have been taken into account
- shows how we have considered the [consultation responses](#)

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

Read the permitting decisions in conjunction with the environmental permit and the variation notice.

Key issues of the decision

Decision considerations

Air Quality Assessment

The applicant provided an assessment of the impact of emissions to air of particulates in support of the application. The quantitative dispersion modelling assessment considered the potential air quality impacts associated with the proposed emission limits.

The approach taken in this assessment by the operator is to predict pollutant Process Contributions (PCs) from the relevant point source emissions to air using

dispersion modelling, and then to calculate the PCs as a percentage of each relevant Environmental Standard (ES).

A methodology for risk assessment of point source emissions to air is set out in our guidance <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>.

We have reviewed the assessment and are satisfied that it has taken into account all relevant ecological and human health receptors, that the model and its inputs are appropriate and that the assessment has been carried out in accordance with our guidance.

We agree with the applicant's conclusions that the impact of the emissions at human and ecological receptors is not significant.

Noise Impact Assessment

The operator submitted a Noise Impact Assessment (NIA) report in support of this application. The Noise Impact Assessment was carried out in line with the requirements of BS4142:2014 to assess the noise impact of the new buildings on relevant sensitive receptors. The Noise Impact Assessment concluded that predicted noise contributions from the new buildings and associated installed equipment are at least 4 dB below measured background noise levels indicating that the upgrade will have a low impact on sensitive receptors and minimal contribution to the nearby community. We carried out our own audit of the submitted Noise Impact assessment. We considered that the NIA did not include representative background data or alternative background monitoring at a suitable proxy location.

Through a request for further information, we asked the operator to provide a revised Noise Impact Assessment which includes a full BS4142 study comparing the specific noise from all noise sources at the installation both existing and proposed with a representative background at nearby sensitive receptors.

In line with our request, the operator carried out a repeat of the noise impact assessment (R9889 Environmental Assessment – 03, June 2021) to determine the impact of the new MSG and B+H Buildings. This included a BS 4142 assessment, with comparisons made to background noise levels measured during a full plant shutdown. The assessment is therefore inclusive of all existing equipment and the new buildings. The assessment indicated that there is impact at a sensitive location C. The Noise Impact Assessment included recommendations by consultants to reduce the noise impact. The Operator has agreed to implement these measures. Based on the above and the fact that the buildings and associated equipment are new, we have included pre-operational conditions for future development in the Notice.

Pre-operational conditions

Pre-operational condition 1.

We have added pre-operational condition 1 to ensure that no significant noise pollution is caused at sensitive receptor locations by the operation of the site and to ensure that the new equipment and buildings represent Best Available Techniques (BAT).

Pre-operational condition 2

Based on the result of the submitted noise impact assessment, we have included pre-operational condition 2 to ensure that there is a comprehensive Noise Management Plan in place for the facility.

Confidential information

A claim for commercial or industrial confidentiality has been made.

We have accepted the claim for confidentiality. We agree with the claim for confidentiality for:

- 8548-G018-011001-2 Section 1.5.2 – Raw Materials Use and,
- Production increase breakdown.

We consider that the inclusion of the relevant information on the public register would prejudice the applicant's interests to an unreasonable degree.

Based on the revised application document 8548-G018-011001 – 2, dated 19/10/2020 and received 20/10/20, the following aspects were no longer considered, as part of the confidentiality claim:

- Section 3.1.2 Detailed Process Description of application document 8548-G018-011001 - 2
- 5.3.2 Steam and Energy Use of application document 8548-G018-011001 – 2.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website. We consulted the following organisations:

- Food Standards Agency
- Health and Safety Executive
- Director of Public Health
- Public Health England
- Sefton Council Environmental Health

The comments and our responses are summarised in the [consultation responses](#) section.

The application was also publicised on the GOV.UK website.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1'.

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided plans which we consider to be satisfactory.

These show the extent of the site of the facility.

The plans show the location of the part of the installation to which this permit applies on that site.

The site plan is included in the permit.

Site condition report

The operator has described the condition of the additional piece of land at the site, which we consider is satisfactory. The decision was taken following our guidance on site condition reports.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England

The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator's risk assessment is satisfactory. Sector specific issues such as emissions to air and noise are addressed in the key issues section.

General operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

Operating techniques for emissions that do not screen out as insignificant

The only pollutant of concern in relation to this variation is particulate matter. Emissions of particulate matter cannot be screened out as insignificant. However, predicted environmental concentrations (PEC) are unlikely to lead to an exceedance of the relevant environmental standard, so impacts can be considered not significant.

We consider the consultants proposed particulate matter (PM) emission limit values (ELV) to be appropriate and are in-line with the best available techniques associated emission levels (BAT-AEL) set out in the best available techniques reference document (BREF) for the Food, Drink and Milk Industries.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

Noise and vibration management

See key issues section.

Updating permit conditions during consolidation

We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permits.

Pre-operational conditions

Based on the information in the application, we consider that we need to include pre-operational conditions. See [key issues](#)

Emission limits

We have amended emission limit values for particulate matter in Table S3.1. The new lower emission limits of 20 mg/Nm³ for drying and cooling of meal and then 5 mg/Nm³ otherwise is in line with the limits in the Best Available Techniques (BAT) conclusions for the Food, Drink and Milk Industries, December 2019. These new emission limit values replace the previous ELV of 50 mg/Nm³ from point sources A3 – A18 except A14.

The BREF also introduces a revised Hexane BAT-AEL. Whilst the operator is currently compliant with this BAT-AEL, we have not introduced a new limit at this stage as that will be updated as part of the FDM sector permit review, to ensure consistency across this sub-sector.

Monitoring

The monitoring requirement for emission point reference W2 in Table 3.2, has been amended. The requirements for monitoring the following parameters at point source W2 have been deleted:

- Lindane
- DDT (Dichlorodiphenyltrichloroethane)
- Chemical Oxygen Demand
- Suspended Solids
- PH

Temperature is now the only parameter to be monitored at this point. This is because W2 was previously utilised for cooling of a Lecithin Process which via open barometric condensers had the potential for the water to become contaminated by the process. The Lecithin process and the barometric condensers have now been removed, thereby removing the potential for cross contamination. The extracted water that is returned at point W2 is now only used in a loop which cools through a shell and Tube heat exchanger. The single pass design of the heat exchanger minimises the chance of contamination.

Reporting

We have amended the parameters to be reported for emission to water (point source W2 as detailed above. No further changes have been made to the reporting requirements.

The reporting requirements are specified in table S4.1 of the Notice.

Management system

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit variation.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Sefton Council Environmental Health
Brief summary of issues raised
Sefton Council Environmental Health – has raised no concerns
Summary of actions taken or show how this has been covered
N/A

Response received from
Public Health England - Nottingham
Brief summary of issues raised
Public Health England raised the following issues:

- The operator's request for the removal of continuous hexane monitoring from the current permit and why hexane emissions have not been compared to environmental standards.
- The impact of the proposed emission limits for particulate matter
- The Noise Impact of the proposed variation advising that the Environment Agency engages the local authority as local experts in noise to ensure that they are satisfied that identified risks to public health from noise have been suitably assessed and mitigated.

Summary of actions taken or show how this has been covered

- The continuous Hexane monitoring requirement in the permit has not been removed. This will be full reviewed at the Food and Drink BAT Permit Review stage. We have not reviewed the solvent Emission Plan as part of the Application.
- The operator submitted an air quality modelling report in response to our request for further information dated 03/12/2020. The assessment has been reviewed by our air quality specialists and we agree with the operator's conclusion that the impact of the emissions at human and ecological receptors is not significant.
- Sefton Council was consulted as part of the application. We have reviewed the Noise Impact Assessment submitted in the application and have included pre-operational conditions to ensure that no significant noise pollution is caused at sensitive receptor locations by the operation of the site and to ensure that the new equipment and buildings represent Best Available Techniques (BAT).

No responses were received from the other organisations consulted.