

FUGITIVE EMISSIONS REPORT

**Kellogg's Company of Great
Britain Ltd**

Wrexham

Date: February 2018

Contents

1. Introduction
 - Neighbouring Communities,
2. Evaluation of aspects of Fugitive Emissions
3. Operating Practices and Control Measures
 - Inspection, monitoring and record keeping
 - Odour
 - Noise
 - Inspection, Monitoring and Record Keeping
 - Manufacturing Roof Space
4. Previous Coverage of Fugitive Emissions
5. Benefits of the Fugitive Emissions Study
6. Operational Control
7. Complaints handling and Communications
8. Conclusion

Appendices:

Appendix 1: List of Fugitive emission Sources

Appendix 2: Coverage of fugitive emissions assessment

1. Introduction

This document presents the report relating to the Fugitive Emissions for the Kellogg's manufacturing facility in Wrexham in accordance with the Operating Permit BV8016ID which it is submitted to the Regulatory Body Natural Resources Wales (NRW).

"The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques (BAT), or such other period as shall be agreed in writing by the Regulating Agency and a summary report of this review shall be sent to the Agency detailing such releases and the measures taken to minimise / reduce them."

For the purpose of this report, fugitive emissions are taken as:

"Fugitive emissions" means emissions to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under the Permitting Conditions".

Neighbouring Communities, other Fugitive Emissions Sources and Sensitive Receptors

The Kellogg manufacturing facility is located at the Northern edge of the Wrexham Industrial Estate (WIE) approximately 3 km East of Wrexham town centre (Grid Reference 338780, 350500). The site covers datum approximately 18 hectares and has an approximate elevation of 30 m above Ordnance Datum (mAOD). The topography of the site is generally flat, although in the region the ground falls to the South East towards the River Dee.

Neighbouring the manufacturing facility and beyond is a small residential area. The closest residential receptor is located approximately 400 m to the North East boundary of the plant facility. Neighbouring the site to the South is a Waste Transfer Station which also has a potential dust, odour, and noise source in this area.

2. Evaluation of Fugitive Emissions

This report in consistency with previous studies defined that the type of fugitive emissions at the Kellogg's manufacturing facility in Wrexham would be classified in two distinct categories.

- Process related emissions
- Non – process related emissions

Process fugitive emission sources include those emissions which are directly related to the manufacturing of the Kellogg breakfast cereal. It is important to note that product recipes have evolved and changed frequently over the past years but the principal manufacturing process remain fairly constant and this include primary cereal cooking, drying, forming and toasting prior to the final phase of packing the product into a finished goods format.

All types of emissions sources to air, water originating from the manufacturing operation are subjected to an effective abatement systems based on the latest available techniques (BAT) coupled with a strict regime of surveillance routines and planned program maintenance to all critical assets and equipment's.

In addition to the above it is also an internal policy of the facility that all plant doors, windows, louvres are subjected to a strict control whereby there are kept closed at all times and proper signage assigned in key places reminding personnel of such importance. The other types of fugitive emissions found at the plant are classified as non-process related and includes emissions originating from:

- Transportation goods vehicles;
- Personnel vehicles;
- Waste Water Treatment plant;
- Animal Feed holding waste station;
- Extraction and Ventilation systems

The fugitive emissions potentially released from the plant facility are categorised as:

Table 1: Category / Type of Fugitive Emissions

Fugitive Emission Category / Type	Type of Operational Activity	Category Code
Process Related	Bulk raw materials, ingredients and packaging deliveries	C1
	Raw materials /ingredients handling and transfer	C2
Process Related	Manufacturing processes which include the following: Cooking, drying, baking, toasting, flavouring and final packaging	C3
Process Related	Finished goods storage / warehousing	C4
Non Process Related	Vehicle Traffic on site	C5
	Waste Water Treatment Plant (WWTP) facility	C6
Non Process Related	Animal feed handling, storage and transportation	C7

3. Operating Practices and Control Measures

The operating practices and control measures that are currently in place in relation to fugitive emissions sources are identified in Appendix 2 and are described as follow:

3.1.1 Odour

The effect of odour emissions on the local environment depends on certain variables:

- proximity to neighbour's and other sensitive receptors
- local topography
- prevalent weather conditions such as wind speed, wind direction and atmospheric stability

Fugitive emissions related to odour play an important part at the facility and are subjected to a strict control and surveillance regime designed to minimize their environmental impact.

All waste containers and vehicles are kept clean and properly covered at all times to minimize any adverse effect. Waste product is only stored on site for a minimum period of time before being taken off for its final disposal.

The Waste Water Treatment plant which is another potential source of concern for fugitive emissions is subjected to a daily operational control and surveillance if any malfunction is identified to the proper operation of the plant site services personnel will immediately report the problem and implement a remedial action immediately.

In addition to the above regular cleaning of equipment and operational areas such as loading bays, roads and pathways, drainage systems around the site including regular cleaning of drainage channels and gullies.

3.1.2 Noise

Fugitive noise emissions produced by equipment on the roof, deliveries of raw materials / ingredients, dispatch of finished goods, pick of waste materials, services / maintenance vehicles are limited to the hours identified in the planning permission and operating conditions.

A speed limit of 10 mph is strictly imposed on all vehicles entering or leaving the site. All doors are kept closed outside delivery times, during shut down periods or when not required for operational purposes. A strict one – way system is enforced to reduce noise associated with vehicles reversing.

All raw materials / ingredients deliveries are supplied by bulk tanker to reduce material movement noise when loading and unloading.

The majority of the process equipment with the exception of the dust extraction and odour abatement systems, cooling towers and the Waste Water Treatment Plant (WWTP) and storage silos are within the envelope of the main building fabric to minimise noise emissions impact.

Kellogg Staff are aware of the environmental impacts of their work and exercise an appropriate standard of good housekeeping, proportionate to the impact of any potential emissions. Training and competency of staff is managed by the Operations

Development Department. The company identifies training requirements of its employees and contractors and provide suitable resources to ensure they have the required knowledge, skills and expertise to carry out their respective duties.

In addition to the routine operational tasks, planned preventative maintenance program (PPM) are in place. Operators qualified to carry out routine mechanical and electrical maintenance will be present on site to ensure any breakdowns likely to cause noise problems are actioned without delays.

3. Inspection, Monitoring and Record Keeping

Records are kept at the facility at all times to ensure that any identified noise emission is fully investigated and remedial action will be implemented immediately. All interventions are then logged for any future reference.

This information will also assist the surveillance personnel in identifying the adequate check frequency of sensitive equipment to achieve maximum cost-effective emissions reduction whilst assisting the unique characteristics of the facility.

3.1.4 Manufacturing Roof Space

The roof area is regularly monitored by the facility management company who report any equipment malfunction and product spillages. A external consultant comes to site and performs regular maintenance of the filtration systems. In the event of any equipment malfunction which may cause unnecessary noise emissions, product spillage or dust blow down, such incidents will be dully recorded and immediately reported to the EHS Department and remediation action will be initiated immediately as described in Appendix 1.

4. Previous Coverage of Fugitive Emissions

See Appendix 2: Coverage of fugitive emissions assessment

5. Benefits of the Fugitive Emissions Study

Since the last major upgrade to the Waste Water Treatment plant (WWTP) which took place back in 2013 has resulted in a significant reduction in odour emissions from the plant. The surveillance routine carried out by the security patrol on a daily basis provide an early warning and reporting mechanism in the event of any malfunction to the WWTP.

6. Operational Control

The internal operating control procedures adopted at the Kellogg facility in accordance with Permitting Conditions provide an effective mechanism of compliance.

All the activities on site are fully planned and managed by the site management team and these include a robust regime of surveillance routine coupled with a planned preventative maintenance (PPM) to all assets and equipment so they continuously

perform at their optimum level of efficiency according to the manufacturer instructions.

7. Complaints Handling and Communications

At the Kellogg facilities there exists a very comprehensive system of monitoring and inspection to check on all potential issues relating to noise or odour emissions. If a complaint is received locally, they will be directed to the EHS Department at the plant. The management of complaints is controlled by the EHS Department, which states that the company will maintain a register of all complaints and incidents to ensure that they are appropriately handled and that preventative measures are put in place to prevent recurrence in the future. All complaints and severity are monitored and reported to the Senior Management Team on a regular basis for review and further action if required.

8. Conclusion

This report has defined and explained fugitive emissions potentially present at the Kellogg manufacture facility in Wrexham and described the control measures that are currently in place to ensure their effective control. The key sources of fugitive emissions have been described, and the plant data has been used to illustrate the potential benefits and the careful and focused application of the daily surveillance carried out by the dedicated site personnel.