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**ODOUR MANAGEMENT PLAN**

**1. Introduction**

- 1.1 This document provides the Odour Management Plan (OMP) in accordance with the Environment Agency<sup>1</sup> H4 Guidance in support of environmental permit installation application under Schedule 1 A (1) 6.8 (d)(iii) & (aa) of the Environmental Permitting Regulations 2016.
- 1.2 It relates to the manufacturing facility operated by Iceland Manufacturing Limited at Hammerstone road, Gorton, Greater Manchester, M18 8BW. The operation will include the cooking and chilling of soups & sauces and the manufacturing of frozen ready meals, soups and sauces.

▪ **Roles and Responsibilities**

- 1.3 The overall responsibility for updating this procedure is the Environmental Service Manager. The Environmental Services Manager will be responsible for ensuring that key personnel are trained in this OMP. All other personnel will be briefed on Odour intensity and how to report potential odour issues.

Key Personnel

- All Management & Office Staff
- Environmental & Security Team
- Engineering Team
- Warehouse Team

- 1.4 The Manufacturing Manager is responsible for ensuring the day-to-day operations are carried out in accordance with this OMP.
- 1.5 The Engineering, Projects and H&S Manager is responsible for the day-to-day management and adherence to this OMP, maintenance and serving of equipment and liaising with neighboring businesses.
- 1.6 The Technical Service Manager is responsible for rejecting any non-conforming material that has the risk of causing odour complaints for the site due to damaged packaging
- 1.7 All staff have a responsibility for complying with this procedure and to minimise any odour emissions where reasonably practicable whilst carrying out their day to day duty.

▪ **Site Description**

- 1.8 The facility has been in operation at this site since October 2010, originally established as Loxton Foods Ltd in the late 1980s, our business has been a wholly owned subsidiary of Iceland Frozen Foods since 2012 and we are now a firmly established part of the Iceland family of businesses. The permit application for a new installation facility will allow the production of frozen ready meals, soups and sauces over 75t/day on average.
- 1.9 A site layout is provided in Appendix A.
- 1.10 The company Environmental Management System (EMS) will be updated and revised accordingly.

**2. Sources, Pathways, Receptors**

- 2.1 This section sets out the potential sources of odour, pathways and receptors.

▪ **Source Materials – Inventory**

- 2.2 Given the food types produced and raw materials processed for the permit application, it is considered that the materials which are most likely to give rise to odour when cooking and chilling soups and sauces are those in Table 1

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▪ **Table**

Item	Tonnage	Item	Tonnage
Spice Blends	20	Curry Paste	1
Mixed Herbs	8	Curry Powders	1
Oriental Sauces	20	Cheese Flavoring's	6
Chili Flake	16	Garlic	10
Chili Paste	3	Ginger	9
Tomato Paste	6	Fenugreek	5
Tomatoes	8	Onions	6
Fish Bouillion	0.5	Laksa Powder	1

- 2.3 It is anticipated that the likelihood of odour being emitted from these materials is low / medium.
- 2.4 Steam and odour from the factory Sauce cooking plant is removed at source through extraction, there are 4 banks of 3 OT32g ozone units, each unit produces 32g of ozone per hour. The ozone system is designed to provide a high level of odour control, ozone is injected into the air flow pre the main extraction fans. The molecule comes into contact with the grease molecule and odour and destroys it by oxidization.
- 2.5 Vacuum or 'evaporative' cooling is achieved through the evaporation of part of a products moisture under vacuum conditions. By the utilisation of vacuum, the boiling point of a product is reduced – driving off the latent heat by boiling off vapor. This in turn causes the product to fall in temperature and discharge condensate to sewer.
- 2.6 Vacuum Cooling has no odour control system in place, the odour is present when the system discharges it's condensate to drain
- 2.7 Trade Effluent from the factory internal drainage system is discharged into a 3-stage sediment tank with weir, grease and fat trap, then through a central sampling point and on to the main foul sewerage network under a trade effluent consent from United Utilities. The Sample point is directly in front of the main electronic gate at the reception car park and the current limits are as follows
- Suspended Solids (SS) Target 4000 mg/l
  - Chemical Oxygen Demand (COD) No Target
  - PH Min 6 Max 10
  - Grease & Fat 1200mg/l
- 2.8 Trade Effluent from the Vacuum Cooling System is discharge to the foul sewer through a manhole grid located at the side of the vacuum cooling tanks, there is no sediment tanks or grease and fat trap system for the Vacuum cooling system as the trade effluent has no SS or grease and fats at discharge, this then connects directly to the foul sewerage network on Gateway road, under a trade effluent consent from United Utilities. The Current Limits are as follows –
- Suspended Solids (SS) Target 1000 mg/l
  - Chemical Oxygen Demand (COD) 5000 mg/l
  - PH Min 6 Max 10
  - Grease & Fat Not set in consent
- 2.9 Trade Effluent from the Main boiler is discharged into a sediment tank with a weir inside, the discharge does not have any SS or grease and fats, the trade effluent is discharged to a sample point that is under the Clean Sweep compactor before discharging to Hammerstone road sewerage network and is exempt due to the discharge being less than 1 cubic meter in a 24hr period.

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- 2.10 Sediment will be removed from the sediment tanks every quarter or sooner between the hours of 6pm and 6am by vacuum tanker.
- 2.11 It is anticipated that the likelihood of odour being emitted when these trade effluent types are emptied is medium / high, whilst the impact would be low.
- 2.12 Waste is separated and disposed of into the following waste streams
- Solid Food Waste – Clean Sweep compactor, sealed unit to contain odour and reduce pest activity.
  - Liquid Waste – pumped directly into IBC's inside the factory, all odour contained inside the IBC and reduces pest activity.
  - General Waste – Portable compactor, sealed unit to contain odour and reduce pest activity.
  - All recyclable materials are segregated and baled on site.
- 2.13 All waste and recyclable materials are removed from site every 7 – 10 working days.
- 2.14 It is anticipated that the likelihood of odour being emitted from these waste streams is Low.

❖ **Pathways**

- 2.15 The pathways by which the odours from the sources identified above may impact upon a receptor are primarily:
1. **Dispersion.** Movement of ambient air containing odours, particularly relevant on site when Cooking and chilling Soups and Sauces, and or storage of waste on site.
  2. **Direct exposure.** Particularly for staff, they will be exposed immediately to any odours from the cooking, chilling processes and wastes stored on site.

❖ **Receptors and Wind Direction**

- 2.16 The site is on an industrial estate which means key receptors sensitive to odour are staff and visitors to the Businesses which surround the site
- 2.17 The nearest residential properties are located at Briercliffe Close approximately 126 m south east of the site, the A635 lies to the North some 579m.
- 2.18 The key receptors are shown in figure 1.
- 2.19 The prevailing wind direction in the area, where the site is located, is Southerly wind.

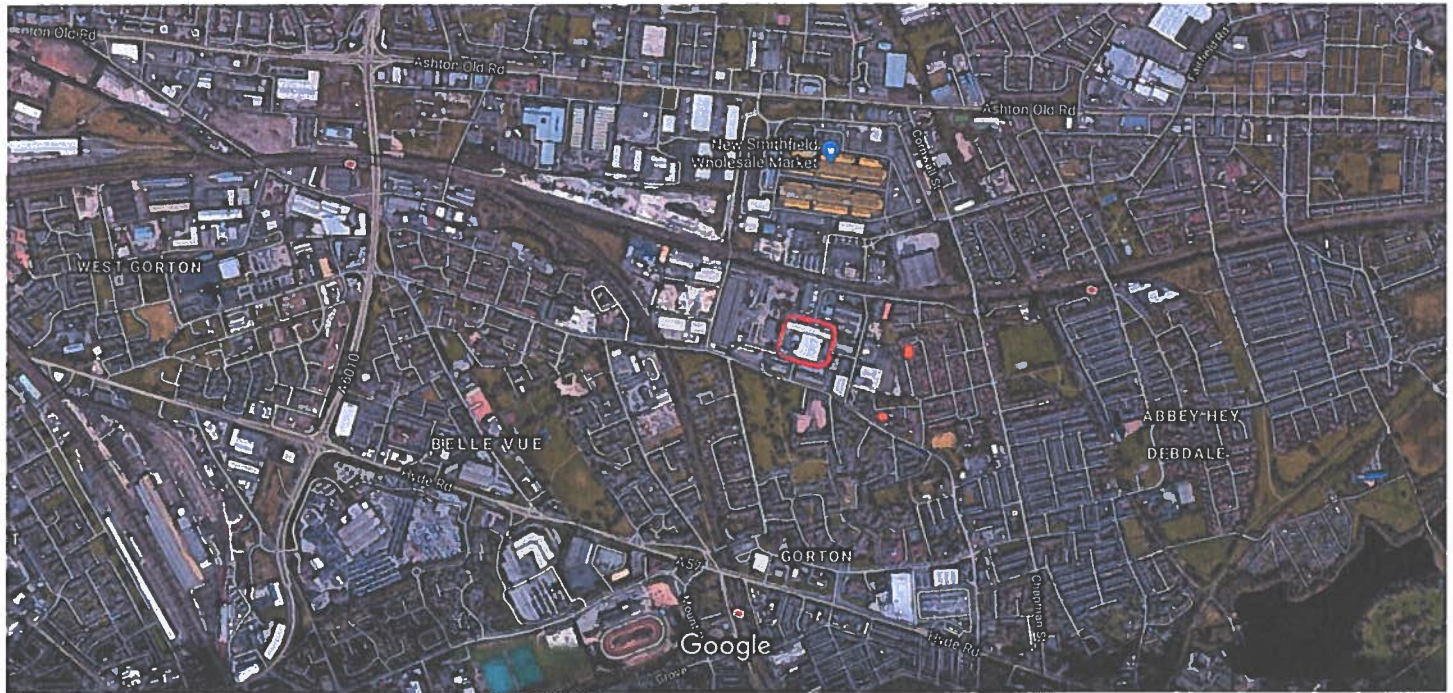
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**ODOUR MANAGEMENT PLAN**

Figure 1. Site and Key Receptors  Site Boundary 

Google Maps



Imagery ©2019 Google, Map data ©2019 Google 200 m

**3. PRIMARY ODOUR CONTROL MEASURES**

3.1 The control measures set out in this OMP are commensurate with the medium odour potential for then Cooking and chilling of soups and sauces wastes, in accordance with the statement to this effect in H4 Guidance.

- Releases and Odorous Emissions

3.2 Odorous steam or condensate can only cause an impact when they are released or emitted as vapor into the atmosphere. This OMP has identified that the key opportunities for release of odours are anticipated to be

1. When ingredients are being batched up.
2. When soups and sauces are being cooked in the kitchen.
3. When soups and sauces are chilling through vacuum cooling.
4. When trade effluent sediment, grease and fat traps are emptied.
5. When waste is transferring to the segregated waste compactors

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▪ **Impacts**

- 3.3 The impacts of any odours released as a result of Iceland Manufacturing Limited's activities will be linked to the receptors identified in Section 2.
- 3.4 The receptors are more likely to be impacted upon by release of odour in the following conditions:
- Prevailing wind direction is towards receptors
  - Local weather conditions. Warm weather will contribute to the release of odours and receptors including staff on the industrial estate, school children and residents are more likely to be outside where an impact may take place
  - Cumulative impacts. It is anticipated that cumulative impacts will be minimal. The site is in an area dominated by facilities which may cause additional odour such as bakery, Indian Cuisines, Mechanical workshops and Waste bin Depot.
- 3.5 The impacts of odour releases from the site are anticipated to be minimal, given the introduction of the ozone molecule and filtration of the steam. However, this will be confirmed regularly through monitoring.
- 3.6 Regular cleaning of the Extraction system and Ozone will help prevent the start of odorous releases. The filtration is on a PPM system known as Shires, there is also a maintenance contract in place with CK Direct to maintain the ducting and Green tech Global for the ozone system to a high standard.

▪ **Management of Releases**

- 3.7 If odour monitoring or complaints indicate a problem, Iceland Manufacturing Limited will respond appropriately. Management measures to control releases will include:
- As part of the sites management system, information on any odour complaint will be investigated, a sniff test will be carried out by Personnel that have been briefed on how to establish if the offensive odour is indeed coming from site and what the odour is and where it is coming from.
  - If the odour appears to be from the Extraction system at sauce cooking, the Engineering team will inspect the system to see if the filtration is intact and or that it's PPM has been carried out. CK Direct and or Green Tech Global will be contacted if further support if needed, the system will also be checked to ensure it has not tripped out.
  - Corrective actions will be implemented if required. All complaints and corrective actions will be recorded on the site ENV REC 06 Odour Complaint Report & SHEEN REC 15 SHEEN Complaints Log.
  - Trade effluent sediment, grease and fat traps will only be emptied every quarter between the hours of 6pm and 6am, to minimise the any odours that may cause offence to our neighboring businesses.
  - Waste skips are on a telemetry system and inform via email when the skip required to be picked up and emptied. Recyclable materials are on weekly pickup and if when additional pickups are required. The Food and General waste units have sealed lids that only open when the bin lift is activated to empty the bins, the lid will close when the bins are being lowered. This helps to reduce odour and pest activity.
  - Any unexpectedly offensive odours will be recorded on SHEEN REC 15, with date, time, location, what was happening on site at the time and if the site is responsible for the odour
  - Containment and abatement. Given the nature of the wastes/materials handled on site, it is not considered necessary to implement containment and abatement techniques, other than those mentioned above.

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However, this is a 'live' document and as such will adapt if odour issues arise which are not managed by the actions in this OMP.

**4. Monitoring & Trigger Levels**

▪ Introduction

4.1 To ensure that the odour control measures set out in Section 3 are being effective, Iceland Manufacturing Limited will ensure odour monitoring is in place and communication with key potential receptors is maintained.

4.2 The following monitoring activities are regularly undertaken to ensure continuous improvement:

- Site inspections by the site Environmental Service Manager (as outlined below)
- Site audits conducted by the Company's Management;
- Site audits and inspections by the Environment Agency.

4.3 All site personnel will be responsible for reporting any odour problems immediately to the Site Environmental Service Manager, (or deputy).

- Recording Odour Complaints ENV REC 06 Odour Complaints Report
- Site based sniff test / olfactory monitoring ENV REC 07 Odour Survey

4.4 The Site Environmental Service Manager will ensure that regular inspections are made of the site and its perimeter in order to identify any sources of odour and to establish whether any odours are discernible at the perimeter and thus likely to impact upon receptors.

4.5 In the event that odour is detected at the site boundary, additional monitoring will be undertaken at the sensitive receptors in accordance with ENV REC 07 Odour Survey.

4.6 A sniff test survey will also take place in response to complaints. The surveyor will undertake the olfactory survey at the location of the complaint and at potentially sensitive receptor locations in the vicinity downwind from the site. At each location observations are made concerning the intensity of the odour, its persistence and character (these details will be logged SHEEN REC 15).

4.7 The surveyor may be the site manager or alternatively a staff member from the office or external person who is not used to the odours on the site. Using staff member from Iceland Manufacturing Limited offices will enable rotation of staff.

4.8 Trigger Levels. If odour is detected at the assessment location and is judged to be a moderate odour, as defined in reference Table A – ENV REC 07, then the Site Manager and Management Team will be informed immediately, and corrective actions will be determined and implemented if reasonably practicable.

4.9 Monitoring Frequency will be in accordance with Table 2

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**Table 2 Monitoring Frequency**

Technique	Frequency
Olfactory Monitoring / Sniff Testing	Daily from Ashton Old Road to Gateway Road and at site boundary. Odour detection will lead to receptor monitoring. Increase frequency in response to complaints
Complaints system	Continuous (24 hours) via telephone reporting system to Environment Agency Direct complaints to site in operational hours

▪ Communication

4.10 Liaison with neighbors. If odorous materials, steam and or waste is anticipated on site or weather conditions predicted indicate odours will increase The Engineering, Projects and H&S Manager will liaise with neighbors and ensure they are aware of the situation, how long it is expected to last and how to make a complaint.

4.11 Complaints procedure

- All complaints, whether direct from people in the neighborhood, or via the Environment Agency will be treated seriously by Iceland Manufacturing Limited and recorded in the Odour Complaints Form ENV REC 06.

4.12 Trigger Levels. Iceland Manufacturing Limited recognise that persistent odour can be a concern for neighbors & particularly for residential areas. Every complaint is a trigger for management to take action to investigate the cause of a complaint, as set out in the Odour Complaints form.

**5. Incidents and Emergencies**

5.1 This section of the OMP relates to potential incidents or emergencies which may impact on the ability of Iceland Manufacturing Limited to control odours from its site.

5.2 Potential incidents which may impact on odour are outlined as follows:

Potential Incident	Actions
Delivery of odorous material which is unexpectedly malodorous	The Technical Service Manager Will: <ul style="list-style-type: none"> <li>▪ Refuse to accept the material if is deemed inappropriate for the site.</li> <li>▪ If the material can be managed on site, an appropriate storage area/vessel will be used, or a suitable area undercover will be used</li> <li>▪ The material will be removed from site as soon as is practicable</li> <li>▪ Record the incident on SHEEN REC 19 SHEEN Non-Conformity Log and using the appropriate management system forms and records.</li> </ul>
Removal of Trade Effluent Sediment, Grease and Fat traps	If odour monitoring detects a problem, the Environmental Service Manager will: <ul style="list-style-type: none"> <li>▪ Ensure odorous material is moved off site as soon as practicable</li> <li>▪ Inform the Engineering, Projects and H&amp;S Manager to contact receptors</li> <li>▪ Minimise impact of odour as appropriate</li> <li>▪ Record the incident on SHEEN REC 19 SHEEN Non-Conformity Log and using the appropriate management system forms and records.</li> </ul>
Equipment failure – leading to longer residence time on site	If the site contains odorous waste/material which is left on site longer than anticipated because of equipment failure, the Environmental Service Manager will: <ul style="list-style-type: none"> <li>▪ Cover the waste with an appropriate barrier</li> <li>▪ Consider renting the equipment necessary or engaging a third-party contractor to ensure the waste is moved</li> </ul>



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<p>Failure of Condensate Pipe Vacuum Cooling</p>	<p>The Engineering, Projects and H&amp;S Manager will</p> <ul style="list-style-type: none"> <li>▪ Shut down the Vacuum Cooling process whilst repair work takes place on the system</li> <li>▪ Liaise with neighboring Businesses and residents to ensure they are aware of the situation and how long it would last for</li> </ul>
<p>Extraction &amp; Ozone unit failure</p>	<p>The Engineering, Projects and H&amp;S Manager will:</p> <ul style="list-style-type: none"> <li>▪ Call out CK Direct &amp; Green Tech Global to establish what the fault is.</li> <li>▪ Update Executive Managers on the issue, with time frame of repair and costs</li> <li>▪ Liaise with neighboring Businesses and residents to ensure they are aware of the situation and how long it would last for</li> </ul>

Environmental Service Manager

Print Name..... Signature..... Date.....

Manufacturing Manager

Print Name..... Signature..... Date.....

Engineering, Projects and H&S Manager

Print Name..... Signature..... Date.....

Technical Service Manager

Print Name..... Signature..... Date.....