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Application to Vary Environmental Permit EPR/DP3531SW – ABF Grain Products Limited trading as Speedibake, Bradford

Project number:	2324129
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Non-Technical Summary

The ABF Grain Products Limited trading as Speedibake, located in Bradford (hereafter 'site'), is applying to install a new artisan pizza base manufacturing processing line. This process will be conducted in an existing building, located in the southwest corner of the site, within the current permit boundary. Once formally commissioned and optimised, the line is expected to produce up to 48 tonnes of pizza base within a 24-hour day.

This line will introduce six new air emissions points (A63, A64, A65, A66, A67, A68) to the site, all associated with the baking oven. Two of the emissions points (A64 & A66) are direct flues from the burners. The oven will utilise a secondary heat method, whereby the burners will be heating a radiator type system for baking. The remaining air emissions points are in place for the venting of warm air from the oven.

A relatively small quantity of wastewater will be generated. The majority of cleaning will be dry (wiping and sweeping) for manufacturing purposes. Water will be used for abnormal cleaning operations and for domestic purposes (hand washing etc.,). All wastewaters will be contained within a belowground tank pending removal approximately weekly. Therefore, this project will not introduce any new emissions to water.

While the tonnages of incoming food raw materials will increase, the materials used will be similar to those already used on site. Only a small increase in hygiene chemical use is anticipated, any chemicals used will be those already utilised on site.

Other than a weekly wastewater tanker, no changes to wastes streams are anticipated as a result of the installation of the line. Any wastes from the process will of a similar nature to existing waste foods and packaging. The waste will be stored in the existing location and disposed of using existing routes.

No significant change to the odour or noise emissions profile from site will occur as a result of the proposals.

While an absolute increase in electricity and natural gas usage will occur as a result of these operations, relative energy usage is not expected to significantly change, or may improve, with respect to current operations. All installed equipment will be modern, processes will be optimised, and the site is committed to continuous improvements in energy efficiency.

1 What activities are you applying to vary?

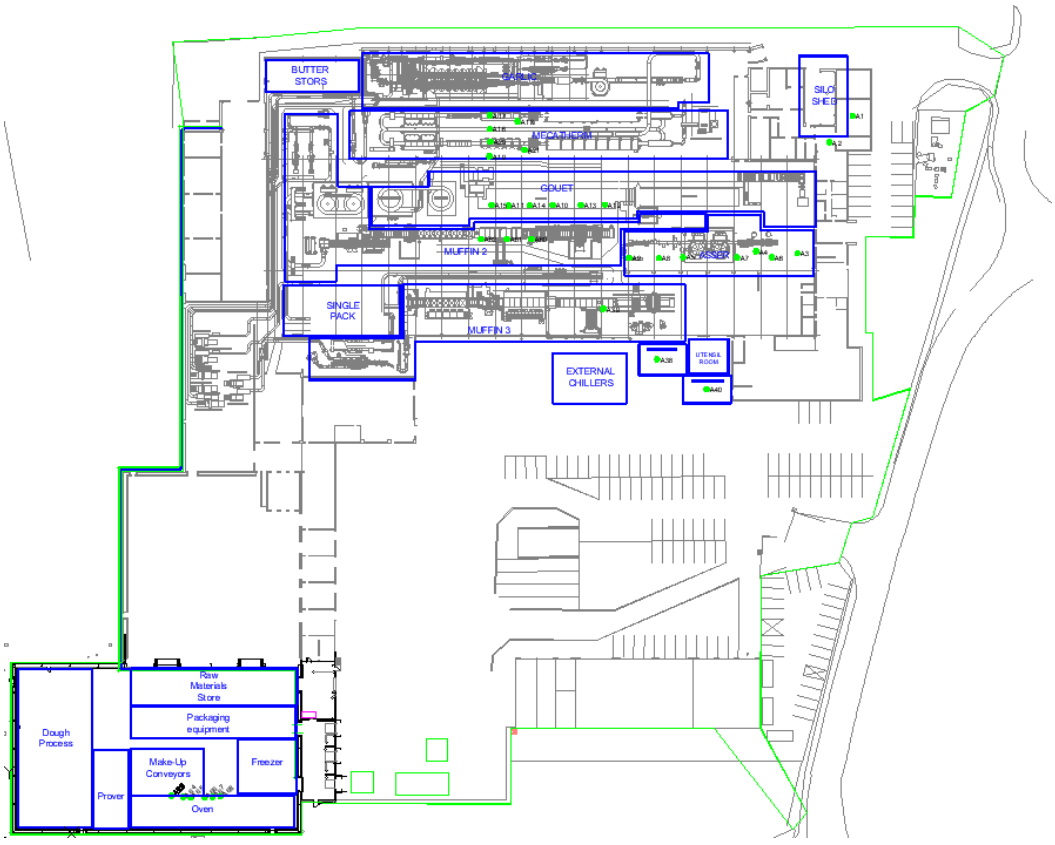
Table 1a Types of Activities

Schedule 1 listed activities						
Installation Name	**Schedule 1 References**	**Description of the activity**	**Activity daily capacity**	**Annex IIA or IIB (disposal and recovery) codes**	**Hazardous waste treatment capacity**	**Non-hazardous waste treatment capacity**
Cross Lane Bakery, Bradford	Section 6.8 Part 8A(1)(d)(iii)	6.8 Treatment and processing of animal and vegetable raw material.	248 tonnes/day	N/A	N/A	N/A
Directly associated activities (See note 4)						
Name of DAA	**Description of the DAA**					
Raw Materials and Product Storage	Safe storage and handling of raw materials necessary for the scheduled and associated activities					
Waste Storage pending Disposal	Storage of wastes associated with the scheduled and associated activities.					

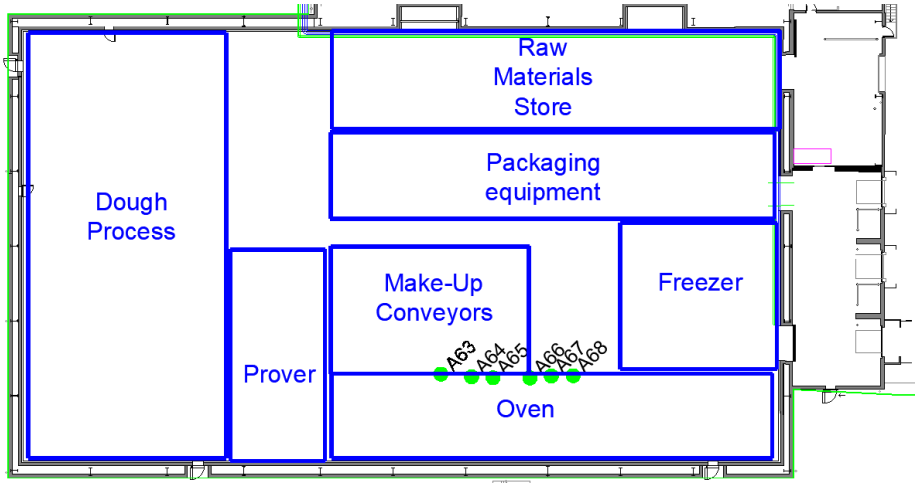
Heating building and steam generation	Use of natural gas fired steam boilers with a combined thermal input capacity of 2.4MWth.	
Effluent management and discharge	Use of 3 stage weir interceptor and pH adjustment using sodium hydroxide, removal of slurry by specialised waste contractor to landfill.	
Chilling and freezing of food products	Use of chillers and freezer units for cold storage of bakery products.	
Heat generation - ovens	Baking and proving of bakery goods with ovens having combined thermal input of <6MWth.	
Heat generation – gas fired thermal oil plant	Use of gas fired thermal oil plant with a combined thermal input of 2.2MWth.	
For installations that take waste	**Total storage capacity**	N/A
	Annual throughput (tonnes each year)	N/A

1b About the Proposed Changes

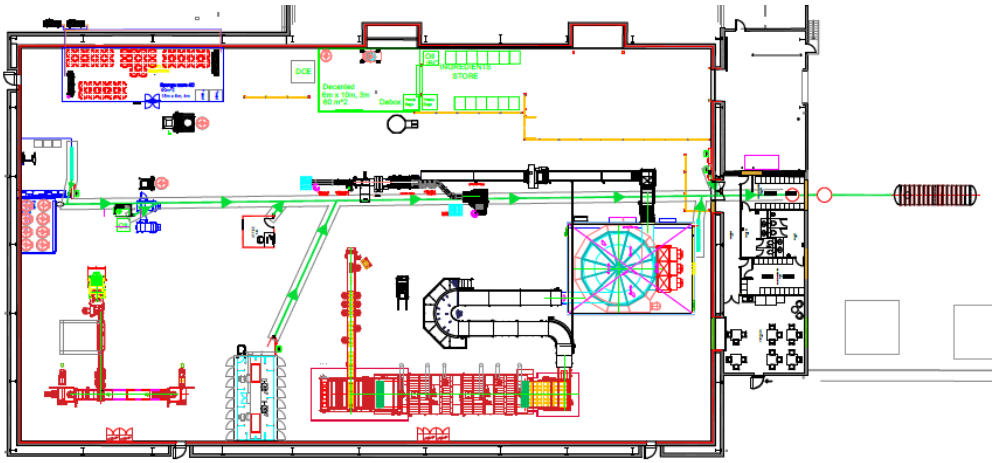
The ABF Grain Products Limited trading as Speedibake, located in Bradford, BD4 0SG (hereafter 'site'), is applying to install a new artisan pizza base manufacturing processing line. This process will be conducted in an existing building, located within the southwest corner of the site, within the current permit boundary. Once formally commissioned and optimised, the line is anticipated to be able to produce up to 48 tonnes of pizza base within a 24-hour day. See below site layout maps.



Appendix 1a - Site Map



Appendix 1b - New Process Layout



Appendix 1c - New Process Drainage

Process Description

See summarised process description below:

2 Emissions to Air, Water and Land

There are no changes to emission points to water or land as a result of this variation.

Once the ingredients are processed into raw pizza bases these will be baked in the oven. The oven will be heated using two natural gas fuelled Weishaupt WG30N burners, a detailed specification of the burners is provided in Appendix 2 – Oven Burners Specification. Each burner will be rated at a maximum thermal input of 340kWth. The oven will utilise secondary heat, whereby the burners will be heating air that is circulated in a radiator type system for baking. This will introduce six new air emissions points (A63, A64, A65, A66, A67, A68) to the site associated with the baking oven. Two of the emissions points (A64 & A66) will be direct flues from the burners. The remaining air emissions points will be in place for the venting of warm air from the oven. Each flue will reach 1.5 metres above the roof surface, this is visualised in Appendix 3.

It is suggested that EPR/DP3531SW Table S3.1 is extended to show the following:

Table 2 – Emissions (releases)

Emission point ref	Source	Location	Parameter	Limit	Reference period	Monitoring frequency	Monitoring standard
A63	Pizza oven entrance stack	Pizza oven west (NGR: SE 20613 29339)	Clean warm air	-	-	-	-
A64	Piza oven burner one	Moving east -	Combustion products (NO_X, CO)	-	-	-	-
A65	Bake chamber one stack	-	Clean warm air	-	-	-	-
A66	Pizza oven burner two	-	Combustion products (NO_X, CO)	-	-	-	-
A67	Bake chamber two stack	-	Clean warm air	-	-	-	-
A68	Pizza oven exist stack	Pizza oven east (NGR: SE 20631 29339)	Clean warm air	-	-	-	-

3 Operating Techniques

3a Technical Standards

Raw Materials Delivery and Storage

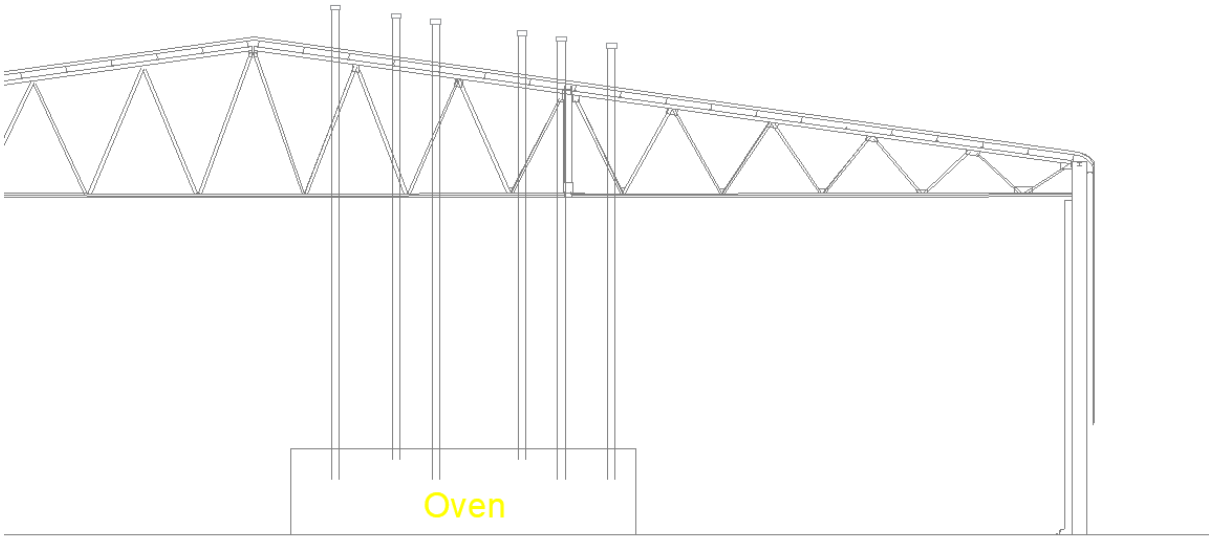
The new manufacturing process will utilise five ingredients, flour, yeast, salt, cooking oils. All of these are ingredients currently used on site for other baking processes. The majority of raw materials will be delivered to a storage area north of the manufacturing unit. This unit was previously a cold store; however, the cold store was decommissioned. Yeast will be delivered directly to the raw materials store within the pizza base manufacturing unit.

Existing delivery and spillage procedures will continue to operate as usual and will apply to the new line.

Process heating

Once the dough has been rested, it will be chunked and enter the prover. The prover will be heated to a warm temperature, but not hot enough to bake or cook. The prover will be heated electronically.

Once the dough chunks are stretched into raw pizza bases, these will be baked in the oven. The oven will be heated using two natural gas fuelled Weishaupt WG30N burners, a detailed specification of the burners is provided in Appendix 2 – Oven Burners Specification. Each burner will be rated at a maximum thermal input of 340kWth. The oven will utilise a secondary heat method, whereby the burners will be heating a radiator type system for baking. This will introduce six new air emissions points (A63, A64, A65, A66, A67, A68) to the site associated with the baking oven. Two of the emissions points (A64 & A66) will be direct flues from the burners. The remaining air emissions points are in place for the venting of warm air from the oven. Each flue will reach 1.5 metres above the roof surface. A diagram of the new oven and flues is provided in Appendix 3.



Appendix 3 - Oven and flues diagram

Process Cooling

Cooling will be required for the dough processing, raw materials storage, and spiral freezer areas of the new manufacturing line. For the dough processing and materials storage areas, the air temperature will be cooled using Fgas based systems. The Fgas type used will be R449, this gas has a GWP of 1397 and is therefore BAT compliant and below current EA phase down targets. These systems will be installed by appropriately trained and REFCOM certified contractors. The sites Fgas register will be amended to include these new units.

The spiral freezer will be ammonia based to chill pizza bases. This freezer will be connected to the sites existing ammonia plant by appropriately certified contractors. Overall, due to the decommissioning of cold storage to free up ambient storage for this new installation, the overall mass of ammonia on site will decrease from approximately 20 tonnes to approximately 12 tonnes.

Solid Waste

While the total tonnages of food and packaging wastes may increase as a result of the new pizza base manufacturing, the addition of new waste streams or increases in generation of hazardous waste are not anticipated as a result of the installation of the line. Any wastes from the process will be similar to existing waste food and packaging. The waste will be stored in the existing location and disposed of using existing routes.

Hygiene and wastewater

A relatively small quantity of wastewater will be generated. The majority of cleaning will be dry (wiping and sweeping) for manufacturing purposes. Water will be used for abnormal cleaning operations and for domestic purposes (hand washing etc.,). Due to the location of the new line, it is not practical for the small amount of wastewater that will be generated to be routed to the existing process effluent drainage system. This wastewater will therefore drain to a belowground tank adjacent to the new line. Drainage from this is summarised in Appendix 1c – Pizza Line Drainage Map.

All wastewater that is generated will be contained within a below ground 18,200 litre, glass reinforced plastic tank. The tank specification is provided in Appendix 4. The tank was hydrostatically tested, with no leaks identified, by the manufacturers prior to installation. This tank will be serviced and inspected in line with manufacturers recommendations. This will be a fully enclosed system and therefore this project will not introduce any new offsite emissions of process effluent.

To mitigate the risk of tank overfilling and drains backing up, the tank will be fitted with a float switch that is connected to a Triton LR30 alarm, see Appendix 5 for the alarm specification. Once triggered the alarm will notify to relevant representatives who will immediately cease manufacturing to stop any water discharge to the tank. Overall, considering the high-quality modern design of the tank, the servicing and maintenance plan, overfill protection and procedural controls, the use of this tank is broadly compliant with the standards outlined in CIRIA C736.

Site will commission a licenced waste carrier to tanker off the effluent to a permitted waste treatment facility. It is anticipated that this tank will be routinely emptied approximately weekly.

Any hygiene chemicals used will be those already in place on site. There will be no bulk hygiene chemical stores or automated Clean In Place (CIP) for the new process, all hygiene chemical use will be carriable handheld quantities.

As part of its R61 submission a detailed surface water screening assessment was presented as required by the Water Framework Directive. As all wastewater from this process will be housed in the underground tank, this variation does not alter the conclusions of that assessment.

3a1 Superseded Documents

Operating Techniques in the current permit refers to responses provided in the original application document and subsequent variations. With the exception of the information presented above, the these are not superseded by this application.

3b General Requirements

Table 3b General Requirements

Are fugitive emissions an important issue?	Yes
Is odour an important issue?	No
Is noise and vibration an important issue?	No

Fugitive Emissions to Air

The main source of potential fugitive emissions to air will be associated with the pizza oven flues. A64 & A66 will discharge combustion gasses from the 340kWth burners. These burners will be subject to ongoing planned preventative maintenance and checks in accordance with manufacturers recommendations, under a service contract. While the baking process utilises a methodology of secondary heating, the burners fall below the thresholds of the Medium Combustion Plant Directive (MCPD). Overall, the emissions from these burners are expected to be relatively low volume and pose low environmental risk.

The other oven vents are for the purposes of clean air circulation and to allow excess heat to vent.

The spiral freezer will utilise the existing ammonia plant for chilling. All refrigeration plant is subject to ongoing planned preventative maintenance and checks in accordance with The Ozone-Depleting Substances Regulations 2015 and manufacturers recommendations under a service contract. This minimises any possibility of fugitive leaks of refrigerant gas.

Any dust arising from localised mixing is captured via LEV systems and contained within internal dust hoppers.

3c Types and Amounts of Raw Materials

The new manufacturing process will utilise five ingredients, flour, yeast, salt, and cooking oils. All of these are ingredients currently used on site for other baking processes. Small quantities of hygiene chemicals may be used when necessary, however, no new to the site hygiene chemicals will be used. All hygiene chemical usage will be of handheld quantities.

3d Management Systems

The site operates an environmental management system that has been developed in line with ISO14001:2015. The system includes the following:

- An environmental aspects register which identifies activities at the site with the potential to have an impact on the environment, an assessment of the associated risks and related control procedures. The register will be updated to reflect the installation of the pizza base line.
- A planned preventative maintenance regime and routine inspections, incorporating a maintenance plan for all key items of infrastructure and equipment.
- Routine documented monitoring of key parameters including raw materials and production tonnages, utilities (electricity, gas, mains water), effluent quality and volume, waste volumes and disposal routes, and incidents/spillages.
- An accident plan is present on site which includes emergency procedures for all environmental scenarios including minor and major spillages, fire, flood, gaseous releases including ammonia, failure of effluent treatment plant and contingency planning in case of loss of utilities.
- Environmental performance is regularly reviewed by the management team and improvement targets are in place as above.
- Complaints are managed according to site procedures. This describes the method of recording in the electronic incident log, the investigation process and response to the complainant.
- Standard Operating Procedures are in place for all key manufacturing and maintenance operations.
- Audits of compliance against the EMS standards and all legal requirements including the existing permit conditions are carried out periodically by external consultants.
- Records are kept of all monitoring parameters, checks, inspections, training, audits, concerns and complaints, in accordance with current permit conditions.
- Roles and responsibilities for all aspects of the EMS are documented. All environmental operations are trained out to the relevant personnel on site, including escalation procedures and the receipt and investigation of any potential complaints.
- The operator reports to the Environment Agency as required in the current permit conditions.

4 Monitoring

4a Describe the measures you use for monitoring emissions

The site is aware of the upcoming monitoring obligations on the existing MCP that will become mandatory from 2030.

The operator will continue with the existing monitoring schedule as set out in the existing permit and Regulation 61 submission and does not propose any further monitoring.

4b Point source emissions to air only

As above.

5 Environmental Impact Assessment

5a Have your proposals been the subject of an EIA under Council Directive 85/337/EEC?

No

6 Resource Efficiency and Climate Change

6a Describe the basic measures for improving how energy efficient your activities are?

No change to the basic measures, as set out in the existing permit and Regulation 61 submission, are planned as a result of proposed changes. The new line will have electrical sub metering and a water flow meter will be installed to assist with monitoring and making future improvements.

6b Provide a breakdown of any changes to the energy your activities use and create

While an absolute increase in electricity and natural gas usage will occur as a result of these operations, relative energy usage is not expected to significantly change, or may improve, with respect to current operations. All installed equipment will be modern, processes will be optimised, and the site is committed to continuous improvements in energy efficiency.

6c Have you entered into, or will you enter into, a climate change levy agreement?

No change as a result of proposed changes. Agreement No. FDF1/F00295. Start date 1st April 2013.

6d Tell us about, and justify your reasons for, the raw and other materials, other substances and water you will use

The new manufacturing process will utilise five ingredients, flour, yeast, salt, cooking oils. All of these are ingredients currently used on site for other baking processes. The majority of raw materials will be delivered to a storage area north of the manufacturing unit.

Approximately one third of the mass of raw dough will consist of water. Water flow metering will provide monitoring data to assist with water efficiency. A relatively small quantity of wastewater will be generated. The majority of cleaning will be dry (wiping and sweeping) for manufacturing purposes. Water will be used for abnormal cleaning operations and for domestic purposes (hand washing etc.,). Relative to the wider site, water usage from this production line is not anticipated to significantly increase overall site water usage.

6e Describe how you avoid producing waste in line with Council Directive 2008/98/EC on waste

Raw materials inputs and wastes are tracked by product line. The majority of waste from the line will be co product (food waste) and be redirected to animal feed. There will be no changes to the site wide waste streams

7 Installations that include a combustion plant (excluding waste incinerators)

No change as a result of proposed changes. A64 & A66 will discharge combustion gasses from the 340kWth burners. While the baking process utilises a methodology of secondary heating, the burners fall below the thresholds of the Medium Combustion Plant Directive (MCPD).

8 Environmental Risk Assessment

This variation will not alter the profile of the emissions to the environment. The new plant will be installed in line with BAT. An update of this new line's impact on BAT alignment is provided in Appendix 7 – Updated BAT Assessment. The Site will be risk assessing the new environmental aspects and impacts associated with the new production process. Following this will be an update to relevant EMS documentation to effectively manage risk and adhere to the relevant standards required through environmental permitting.

Existing emergency plans will continue to apply.

The following section addresses the potential impact of the proposed changes on the surrounding area.

8.1 Sensitive Receptors

The following sensitive receptors have been identified as being potentially affected by operations at the site. Statutory and non-statutory ecological receptors have been identified within a 10km radius (for Ramsar and SAC sites) and a 2km radius for SSSI's, using magic.gov.uk.

There are no Ramsar, SAC or SPA sites within 10 km of the site; there are no SSSI's within 2 km of the site. However, the Tong Moor Local Nature Reserve (LNR) is located 140m west of the new line, and

there are areas of ancient woodland between 1km – 2km north of site. The new line is not expected to have a significant impact on ecological receptors. Human receptors immediately surrounding the site which may be sensitive to nuisance from odour, dust, or noise from the site have also been identified.

The Superficial Aquifer beneath the site is unproductive as there are no superficial geological deposits identified on site. The bedrock is composed of the Pennine Lower Coal Measures Formation, designated a Secondary A Bedrock Aquifer. The site is not located in a groundwater source protection Zone. Overall, the site is designated medium – high sensitivity from a groundwater perspective.

8.2 Impact of Emissions to Air

Air Quality H1 assessments are provided in Appendices 6a, 6a(i) and 6a(ii). An existing detalled modeeling air quality impact assessment was commissioned in 2005, see Appendix 6b. When considering the whole site emissions, while relying on manufacturer provided and proxy emissions data, the emissions cannot be screened out using the H1 methodology. This screening does however show that the two new burners have an insignificant impact on air quality.

It should be noted that the H1 tool provides a gross overestimation of the emissions impact; a key overestimation is the assumption in the tool that all points are emitting at all times. This is out of step with the operational reality of the site. Furthermore, the site does not reside within, or close to, a local authority Air Quality Management Area (AQMA) for any combustion related emissions.

Previously, the site commissioned a more accurate assessment of air emissions impact through detailed modelling undertaken by Enviros Consulting (Appendix 6b). This assessment concluded that the site comprises only 9.7% of the Environmental Assessment Level (EAL). It is highly unlikely that the marginal increase in emissions associated with the two new burners would change the conclusions of the detailed modelling.

8.3 Point Source Emissions to Sewer, Surface Water and Groundwater

Sections 3, Operating Techniques, outlines that there is no change in the risk to sewer, surface water and groundwater as a result of this variation. As summarised in the risk assessment below in Table 8.

8.4 Odour

The proposed new line is not anticipated to have any impact on odour emissions from the site. While some low-level baking smell may be generated, this will not significantly change the odour profile of the site.

8.5 Noise

The proposed new line is not anticipated to have any impact on noise emissions from the site. The line will be located entirely within the building. As a consequence of overall increased production, extra deliveries to site are anticipated. All deliveries will be subject to existing procedures and be made inside normal daytime delivery hours.

8.6 Conclusion

The impact of the variation to the installation has been summarised in above and assessed in the overleaf Table 8 - Environmental Risk Assessment. The installation will continue to be managed sufficiently to present a low ongoing risk to the environment.

Table 8 – Environmental Risk Assessment

Hazard	Receptor	Pathway	Risk Management Technique	Probability of Exposure	Consequence (Severity)	Overall Residual Risk
Emissions to air – new air emissions points	Section 8.1.	Airborne	Ongoing PPM under service contract & visual monitoring. Significant headroom present in existing detailed air dispersion modelling. New burners screened as insignificant through H1 assessment.	Low	Low	Low
Overflow of wastewater from belowground tank.	Local controlled waters (Inmore Dyke). Secondary A Bedrock Aquifer.	Overland runoff to surface water drains. Vertical migration from surface.	Glass reinforced plastic tank, see Appendix 4. Overflow protection, see Appendix 3. Routine service and inspection of tank. Hardstanding and drainage condition sufficient, inspected and maintained to prevent migration of liquids to ground	Low	Medium	Low
Leakage of wastewater from belowground tank.	Secondary A Bedrock Aquifer	Migration from tank to bedrock.	The tank is designed and installed to modern standards and integrity tested prior to installation. Tank will be subject to routine inspection and maintenance.	Low	Medium	Low
Odour – processing activity	Section 8.1.	Airborne	New installation does not produce malodours that would require management.	Low	Low	Low
Odour – waste storage	Section 8.1, local LNR.	Airborne	Co-product and packaging wastes stored in enclosed skips. Regular uplifts.	Low	Low	Low
Noise – processing activity	Section 8.1, local LNR.	Airborne	New installation does not add additional noise to the installation.	Low	Low	Low

Pests	Section 8.1, local LNR.	Over ground	New installation does not create additional risk of pests – existing measures in place are sufficient.	Low	Low	Low
Fugitive Emissions to Air – dust, litter etc.	Section 8.1, local LNR.	Airborne	Fugitive emissions of dust from the process are captured internally via LEV and collected in enclosed internal hoppers.	Low	Low	Low
Fugitive emissions to air – processing e.g. refrigerants	Section 8.1, local LNR.	Airborne	Fugitive emissions of ammonia from the refrigeration system would only occur in the event of a malfunction of the equipment. Overall reduction in ammonia tonnage on site as a result of project.	Low	Low environmental risk	Low
Fugitive Emissions to surface water, sewer and groundwater – accidental minor leaks and spills – raw materials, wastes and chemical storage	Local controlled waters (Inmore Dyke).. Secondary A Bedrock Aquifer.	Overland runoff to surface water drains. Vertical migration from surface.	No new sources of fugitive emissions to water or ground. Cold store repurposed to ambient store for ingredients. All storage is internal.	Low	Low	Low

Appendices 1a, 1b & 1c – Site Maps

Appendix 2 – Oven Burner Specification

Appendix 3 – Oven and flues diagram

Appendix 4 – Effluent Tank Specification

Appendix 5 – Effluent Overflow Alarm

Appendix 6 - Air Quality Assessments

Appendix 7 – Updated BAT Assessment