Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

2 Sisters Food Group Limited
Site D
Dial Lane
West Bromwich
West Midlands
B70 0EB

Prepared by:

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Non-Technical Summary

This document has been prepared to support an application for a variation of Environmental Permit (EP) number EPR/JP3433WU for the 2 Sisters Food Group Limited (2SFG) poultry processing site located at Site D, Dial Lane, West Bromwich, West Midlands, B70 0EB (the 'site').

The site is currently permitted for the following under the Environmental Permitting (England and Wales) Regulations (EPR) 2016 (as amended):

- Section 6.8 Part A(1)(d)(i) – Treating and processing materials intended for the production of food products from animal raw materials (other than milk) at a plant with a finished product production capacity of more than 75 tonnes per day.

The site also has the following Directly Associated Activities listed in the permit:

- Boilers for the production of heat and power. This includes two 0.4MWth hot water boilers fired on natural gas and four 0.07 MWth point source condensing boilers fired on natural gas.
- Storage and handling of waste. This involves the handling, storage, transfer and dispatch of waste from onsite activities.
- Storage and handling of chemicals. This involves the chemicals used for cleaning and water treatment.

The primary change to the permit is increasing the production capacity from 654.5 tonnes of poultry per week to 1,830 tonnes per week. Additional updates to the permit involve updates to plant and associated activities which are presented to 'regularise' the permit so that it contains an accurate reflection of current site processes.

Table 1-1 below presents amendments 2SFG wish to make to the existing EP.

Table 1-1: Proposed Amendments to the Environmental Permit

Topic	Amendment
Production	Increase production capacity to 1,830 tonnes per week.
	Addition of automated production lines.
Refrigeration	Include up to date details of the main refrigeration system (fluorinated gas system).
	Remove reference to ammonia refrigeration system which has never been installed at the site.
	Include of 6No. external compressors.
Effluent	Include up to date details of effluent management. Remove reference to effluent treatment plant from the permit which has never been present onsite.
Cleaning	Include updated cleaning protocols.
Combustion Plant Combustion	Replacement of existing boilers with: ▪ 1 x Bosch UT-L2 with Weishaupt WG40N/1A burner. ▪ 2 x Lochinvar Eco Charger ECH-33-370GCE hot water boilers. The total rated thermal input of these boilers is below 1MWth and as such they do not fall under the requirements for Medium Combustion

Topic	Amendment
	Plant as per the Environmental Permitting (England and Wales) (Amendment) Regulations 2018.
	Removal of four domestic hot water boilers rated at approximately 70kW which are not part of the regulated activities.
Waste	Update to Category 2 and 3 (as per DEFRA classification) waste handling procedures.

This non-technical summary (NTS) Section provides a summary of the proposed activities which are being applied for and the key technical standards and control measures that will be implemented at the site for the process changes.

The application comprises the following elements:

- Application forms Parts A, C2, C3 and F1.
- Non-technical Summary.
- Best Available Techniques and Operating Techniques.
- Environmental Risk Assessment.

The following drawings accompany the EP variation application:

- Drawing 001 - Site Location.
- Drawing 002 - Site Layout.
- Drawing 003 - Emission Points and EP boundary.

The proposed changes and their management have been reviewed against the current Best Available Technique (BAT) requirements for the Food & Drink Sector[1] and Energy Efficiency Best Available Technique Reference Document (BREF[2]), so as to demonstrate that the process changes are compliant with BAT.

A qualitative environmental risk assessment (ERA) of the potential risks to the environment linked to the proposed changes has been undertaken to support this application for variation. This demonstrated that the relevant potential impacts to land, odour and pests are negligible. The potential for noise generation from the addition of 6 No. external compressors has been addressed through the preparation of two site noise impact assessments.

The application documentation and the supporting assessments demonstrate that the proposed changes are compliant with BAT and that there is unlikely to be a significant environmental impact or significant pollution risk to the environment.

It is considered that this application for variation constitutes a ‘Normal’ variation.

[1] Best Available Techniques Conclusions for the Food, Drink and Milk Industries, under Directive 2010/75/EU of the European Parliament and of the Council Reference 2019/2031 dated 12 November 2019.

[2] Reference Document on Best Available Techniques for Energy Efficiency dated February 2009.

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1.0 Introduction

This application document has been prepared to support an application for a variation of Environmental Permit (EP) number EPR/JP3433WU for the 2 Sisters Food Group Limited (2SFG) poultry processing site located at Site D, Dial Lane, West Bromwich, West Midlands, B70 0EB (the 'site'). Refer to Drawing 001 for the site location.

The site is currently permitted for the following under the Environmental Permitting (England and Wales) Regulations (EPR) 2016 (as amended):

- Section 6.8 Part A(1)(d)(i) – Treating and processing materials intended for the production of food products from animal raw materials (other than milk) at a plant with a finished product production capacity of more than 75 tonnes per day.

The site also has the following Directly Associated Activities listed in the permit:

- Boilers for the production of heat and power. This includes two 0.4MWth hot water boilers fired on natural gas and four 0.07 MWth point source condensing boilers fired on natural gas.
- Storage and handling of waste. This involves the handling, storage, transfer and dispatch of waste from onsite activities.
- Storage and handling of chemicals. This involves the chemicals used for cleaning and water treatment.

2.0 Requirement for Variation

2.1 Automated Process Lines

The site is a poultry processing facility. The site has undertaken a major upgrade project in Q2 2023 to increase the processing capacity of the site; to increase the product yield; and improve product quality control processes through the introduction of a number of automated systems. This has led to a re-arrangement of the plant layout to accommodate these changes. Refer to Drawing 002 for the current site layout.

The site has increased production to receive and process an average of 174,286 birds a day, resulting in a production volume of 1,830 tonnes per week. This has increased from a production volume of 654.5 tonnes per week.

The changes introduced, do not in any way change the fundamental poultry processing undertaken at the site and hence the proposed changes will not alter the named activities as defined in Table S1.1 of the EP, nor will it introduce any additional listed Schedule 1 activities.

2.2 Regularisation of the Permit

The original EP application for EPR/JP3433WU contained two errors that 2SFG wishes to clarify:

- The main refrigeration system onsite is a fluorinated gas (F gas) system and has never incorporated ammonia gas.
- Wastewater effluent generated at the site is not treated in an onsite effluent treatment plant. Effluent passes into one of three on-site interceptors to remove fats oil and grease prior to discharge to sewer at emission point S1.

Since the original EP was issued in 2016, there have also been minor changes to the following activities:

- The site no longer produces glazed wings and drumsticks (added value) (fresh and frozen) involving the use of seasonings, marinades, dry rubs etc.
- Replacement of onsite boilers with three new boilers that are under 1MWth.
- Addition of a tray wash unit with gas fired air drying.
- Addition of 6 No. external compressors to support the main refrigeration system.
- Updates to the cleaning process.
- Additional waste handling bulking activity.

It is considered appropriate to remove the four domestic hot water boilers from the permit as these are not linked to the production process.

The proposed changes listed above will not alter the named activities undertaken at the site as defined in Table S1.1 of the EP, nor will they introduce any additional listed Schedule 1 activities.

In order to ensure that the varied permit correctly reflects the activities now undertaken at the site, Section 3 presents a description of the main site processing activities and the ancillary processes as they currently are.

3.0 Overview of the Process

3.1 Main Process

The plant receives processed chicken carcasses for portioning into a range of uncooked poultry products including:

- Fillets (chicken breast).
- Mini fillets.
- Wings.
- Thighs (boned and de boned).
- Drumsticks.
- Diced chicken.
- Minced chicken.

Products are packaged then can be despatched in film sealed trays, or in vacuum packed multipacks and can be fresh or frozen.

As displayed in Figure 2 below, onsite processing begins with chicken carcasses being delivered to the site and being placed into cold storage. The carcasses are then loaded onto an overhead conveyor where initially the feet are removed, placed in covered plastic pallet boxes (as known by the brand name ‘dolavs’) and placed in cold storage prior to their removal from site. Next the wings and legs are removed from the carcass, packaged and placed in the cold store prior to dispatch.

The remainder of the carcass is placed onto the filleting machine where it is manually portioned and filleted. These filets are then passed on to automated processing system which includes 3 robot units each with 4 cells supplying 6 fillet lines. These lines include x-ray scanning; loading and sealing into packaging trays; weighing; metal detection; and labelling and collection into trays for dispatch. Any residual bones and waste are collected into plastic pallet boxes as waste and placed in the cold store prior to removal from site by a suitably licensed contractor. Finished product and waste plastic pallet boxes are segregated and not stored together in the cold store.

The site has a single spiral freezing unit used for freezing products and this is chilled using the main site refrigeration system. The site originally also had a blast freezer unit; however, this is now out of service and will not be used again.

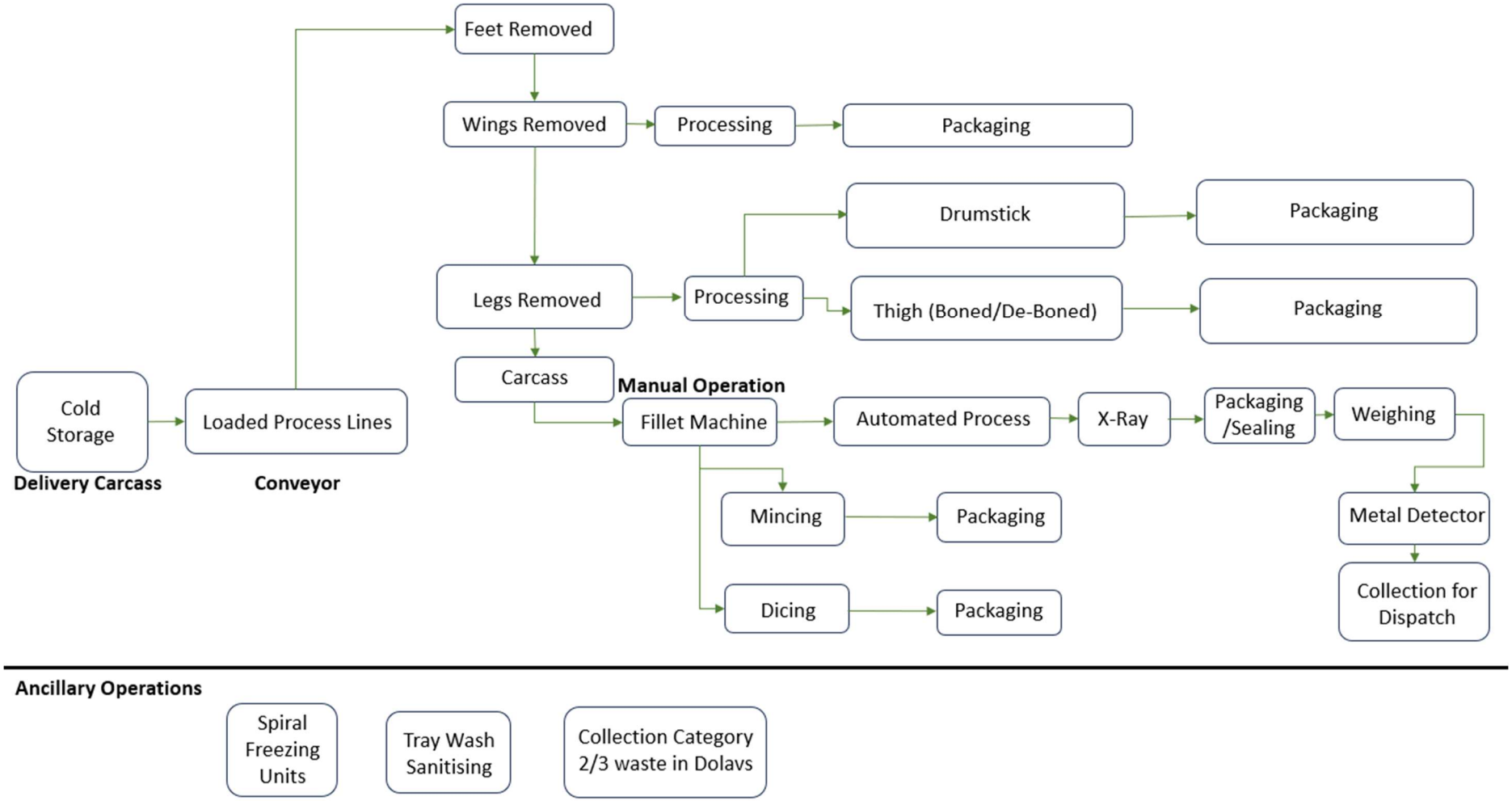
The site also has a tray wash / sanitising unit which is used to sanitise the trays used to collect the packaged chicken ready for dispatch. This unit includes a wet sanitisation stage in which the trays are sprayed with a sterilising solution, and then a drying zone where incoming air is heated in a gas fired direct process heater, passed over the trays and then vented to atmosphere. This unit has a single vent point to air (emission point A6) and emits warm air, products of combustion and moisture only. The drying system is relatively old, and specific thermal input data on the burner is not currently known, but it is understood that this is a relatively small gas burner, and will certainly be rated at well below 1MWth input.

The poultry processing plant is capable of operating for 24 hours a day, 7 days a week. However, the site typically processes poultry for 6 days a week to allow 1 day a week for cleaning and hygiene processes to be implemented.

A revised installation layout plan is presented in Appendix A - Drawing 002.

Figure 1 below presents a flow chart of the onsite process, including the new automated systems.

Figure 1: Flowchart Presenting the Onsite Processes



A list of the specific changes to the poultry processing system since the previous EP application introduced by the automated processing lines is presented in Table 1 below.

Aside from increasing poultry production throughput, automated processing has not resulted in a change in emissions to air or emissions to sewer as detailed in the original permit application documentation.

Table 3-1 Updates to Poultry Processing

Process Lines	Updates
White meat lines	Installing Cone skinners at the start of the process to replace manual skinning.
White meat lines	Shortening the Cone lines.
White meat lines	Installing new trimming stations.
White meat lines	Installing X ray machines.
White meat lines	Installing robotic packing lines in place of manual ones.
White meat lines	Installing new Tray sealing machines.
White meat lines	Installing new end of line equipment.
Dark meat lines	Install new trimming stations
Dark meat lines	Install new packing stations
Dark meat lines	Install new tray sealers
Dark meat lines	Reposition the lines
Dark meat lines	Install X ray on the thigh fillet line.
AV room	Removed meat ball line.
AV room	Removed blast chiller and renovated the room.
AV room	Relocate thermoformer line from centre of the cutting hall in AV room.
AV room	Install second thermoformer line.
AV room	Install utility line.
AV room	Install barriers to form route for product/plastic pallet boxes
AV room	Installed new LED lighting.
Mezzanine	Construct a mezzanine and install end of line equipment and conveyors onto it.
Mezzanine	Install 2 x pallet lifts.
Mezzanine	Install 1 x bulk lift.
Mezzanine	Install bulk line.
Mezzanine	Install new LED lighting above and below the mezzanine.
Mezzanine	Installed new Fire door with platform and stairs from the mezzanine to the rear of the factory (Outside).
Dispatch	Install new conveyor system from the cutting hall to dispatch to transport all white and dark meat finished product crates.

Process Lines	Updates
Cutting hall	Installed new access/fire door, ramp and threshold to the rear of the premises.
Auto thigh	Install new Meyn Auto thigh de boning modules/system.
Auto thigh	Install conveyors to transport thighs, skin and bone.
Auto thigh	Modify existing trimming station.

3.2 Ancillary Processes

3.2.1 Refrigeration

Main Site Refrigeration

The main site refrigeration system was stated in the original environmental permit (EPR/JP3433WU) as using an ammonia refrigerant. This is incorrect, the refrigerant used is an F gas-based system and uses R449a as a refrigerant.

The site maintains an F gas register and has suitable management controls to ensure that they comply with the Fluorinated Greenhouse Gases Regulations 2015. A suitably qualified subcontractor maintains the main site refrigeration system and attends site every 12 month to check for leaks.

The site has also installed an F gas leak detection system within the factory areas where the highest risk of loss exists. Two onsite employees have been trained in leak detection for the refrigeration system and undertake daily visual checks for leaks.

The main chiller system supplies chilled refrigerant via a closed loop circulation system to a number of units around the site including the spiral freezing unit, and air handling units with heat exchangers to provide chilled air into the main process and poultry storage areas. The main refrigeration system is linked to the two evaporative condensers (cooling tower) units as detailed in the original permit application documentation and referenced as emission points A2 and A3.

Additional Refrigeration Units

The site has also installed a number of additional (6 No.) external refrigeration / chiller units. This is to cope with the additional refrigeration load during periods of higher ambient temperature. These units are not currently listed in the permit and have been installed on a ‘temporary’ basis, although they can be on site year-round, they typically operate from April to October as required. Table 2 presents a summary of the external refrigeration / chiller units.

The location of each refrigeration / chiller unit is presented in Drawing 003.

Table 3-2 :External Compressor Units

Unit	Location	Date Installed	Size / Capacity	Refrigerant
C1	Southern external wall of building	April 2023	160 kW	Internal F-Gas within compressor, coolant to end users is predominantly glycol which runs around the buildings cooling system

Unit	Location	Date Installed	Size / Capacity	Refrigerant
C2	Southern external wall of building	April 2023	160 kW	Internal F-Gas within compressor, coolant to end users is predominantly glycol which runs around the buildings cooling system
C3	Southern external wall of building	April 2023	160 kW	Internal F-Gas within compressor, coolant to end users is predominantly glycol which runs around the buildings cooling system
C4	Western external wall of building	April 2023	160 kW	Internal F-Gas within compressor, coolant to end users is predominantly glycol which runs around the buildings cooling system
C5	North-eastern external wall of building	April 2023	160 kW	Internal F-Gas within compressor, coolant to end users is predominantly glycol which runs around the buildings cooling system
C6	Noth-eastern boundary of site	April 2023	160 kW	Internal F-Gas within compressor, coolant to end users is predominantly glycol which runs around the buildings cooling system

3.2.2 Combustion Units

The current permit EPR/JP3433WU lists four domestic hot water boilers rated at approximately 70kW. These boilers are not part of the regulated activities, as they are used solely to provide hot water to the office and welfare areas and hence it is requested that they are removed from the permit.

The site has recently (2021) replaced the two 0.4MWth hot boilers listed in permit EPR/JP3433WU with the boilers listed in Table 3 below.

Table 3-3: Recently Installed Boilers

Boiler	Use	Net Rated Thermal Input	Emission Point Reference
1 x Bosch UT-L2 with Weishaupt WG40N/1A burner	Medium pressure hot water to the processing areas.	550kW (Natural gas)	A1
2 x Lochinvar Eco Charger ECH-33-370GCE hot water boilers	Hot water boilers to provide hot water for handwashing to the processing areas	30.5kW each (Natural Gas)	A4 A5

These three boilers each vent via independent flues to discharge above the building roof. The locations of these new / emission points are presented in Table 3-4 and Appendix A Drawing 003.

The Medium Combustion Plant Directive (MCPD[3]) was incorporated into UK law in early 2018 via the Environmental Permitting (England and Wales) (amendment) Regulations (EPR) 2018.

The MCPD, as set out in Schedule 25A of the EPR 2018 amendment, defines the scope, definitions, exclusions and how the regulations apply to types of medium combustion plant (MCP), MCP being combustion plant with a rated thermal input of 1 - 50MWth regardless of the type of fuel used.

The net rated thermal input of the three new boilers utilised for the process is <1MWth, as such, the MCPD does not apply.

The overall emissions from these units are lower than the those assessed in the original permit application, and hence it is considered that the original air quality impact assessment does not need to be revised.

3.2.3 Summary of Emission Points to Air

Table 3-4 presents a summary of the emission points to air from the site activities:

Table 3-4: Emission Points to Air

Emission Point	Source	Emission Point Location	Emissions	Emissions Monitoring Required
A1	1 x Bosch UT-L2 boiler with Weishaupt WG40N/1A burner - 550kW net thermal input, natural gas fired	SO 98818 92789	Products of combustion NOx, CO	No – below the threshold for MCP
A2	Cooling tower (linked to main site refrigeration system)	SO 98828 92778	Water vapour	No
A3	Cooling tower (linked to main site refrigeration system)	SO 98823 92775	Water vapour	No
A4	Lochinvar Eco Charger ECH-33-370GCE hot water boiler - 30.5kW net thermal input, natural gas fired	SO 98813 92789	Products of combustion NOx, CO	No – below the threshold for MCP
A5	Lochinvar Eco Charger ECH-33-370GCE hot water boiler - 30.5kW net thermal input, natural gas fired	SO 98812 92789	Products of combustion NOx, CO	No – below the threshold for MCP
A6	Tray wash / sanitiser drying air - natural gas fired	SO 98861 92808	Products of combustion NOx, CO Water vapour	No - direct process dryer and <1MWth

[3] EU Directive 2015/2193 of the European Parliament and of the Council of 25 November 2015 on the limitation of emissions of certain pollutants into the air from medium combustion plants. EUR-Lex - 32015L2193 - EN - EUR-Lex (europa.eu)

3.2.4 Waste Handling

Some of the waste handling and disposal activities defined in the original EP application have altered since the 2016 application was prepared.

The majority of waste from the process (approximately 603,900kg per week) is Category 3 waste (low risk animal by products as per the DEFRA classification[4]) and is typically sent for use in the manufacture of pet foods / animal feed or as a substrate for anaerobic digestion.

A small amount (approximately 6,100kg per week) of Category 2 waste (high risk animal by products as per the DERFA classification) is generated by the site and is securely destroyed via incineration, rendering or other energy recovery process.

Category 2 and 3 waste is collected and stored in plastic, covered plastic pallet boxes (approximately 500 litre capacity) in a chilled storage area. Once enough waste has collated for a full load of waste for offsite disposal, collection by a suitably licensed subcontractor is arranged. The plastic pallet is then transferred to the yard prior to the specified collection time. Plastic pallet boxes containing waste are stacked typically no more than 4 boxes high and no more than 64 plastic pallet boxes are stored temporarily in the yard at one time (the equivalent of a full load on a curtain side truck).

The waste is removed from site in one of two ways:

- 1. The covered plastic pallet boxes are loaded directly onto a curtain side truck using a forklift truck or telehandler and removed from site; or
- 2. The plastic pallet boxes are emptied into an open top HGV trailer using a telehandler (i.e., bulking up the waste material into a single container). This container is then covered, and the waste materials removed from site.

The selection as to whether the waste needs to be bulked up on site will be dependent on a number of factors including its proposed destination and whether the site receiving the waste has the facilities to be able to offload and process the individual plastic pallet boxes.

The selection of the waste disposal routes for the site and management of the associated disposal contracts is contracted to Amber Foods Limited which is a sister company to 2SFG and acts as a licenced waste broker.

The onsite waste loading and bulking up activities are undertaken subject to the site's waste management protocols.

3.2.5 Cleaning and Hygiene

Cleaning is undertaken manually at the site. Jet washers fed from the medium pressure hot water circuit (powered by the Bosch UT-L2 boiler) are used to remove poultry debris. Cleaning chemicals are then sprayed directly on the processing areas to assist in removing any residual poultry debris and to sanitise the area and a second jet wash occurs to remove the residual cleaning chemicals.

Wastewater effluent flows into internal effluent drains which contain catch pots to collect poultry debris.

Site cleaning and hygiene processes are undertaken on a daily basis at the site, with a deep clean being undertaken once per week. No additional cleaning will be undertaken as a result of the increase in throughput due to the new automated equipment.

A list of hygiene chemicals used at the site is presented in Section 3.2.1 below.

[4] Animal by-product categories, site approval, hygiene and disposal - GOV.UK (www.gov.uk)

3.2.6 Effluent Discharge

The volume, characteristics, control processes and route of discharge of effluent generated by the process has not changed in relation to the recent process changes. There is no onsite 'effluent treatment plant', this has never existed at the site.

The site's wastewater is discharged to foul sewer as either domestic sewerage or as trade effluent. Process wastewater is discharged under the terms of a trade effluent consent issued by Severn Trent Water (consent reference 006196V, dated May 2005).

All process wastewater is collected into the site drainage system, there are catchment pots fitted to the process drains inside the factory to capture solid poultry waste. The effluent then passes one of three on-site Condor Filtaflo units (to remove fats oil and grease) prior to discharge to sewer at emission point S1. The interceptors are emptied every three weeks.

Severn Trent undertake quarterly monitoring at S1. These results are not provided to 2SFG. However, Severn Trent have not raised any non-conformances regarding the composition of effluent with 2SFG.

Uncontaminated site surface water from outdoor hardstanding areas including the yard travels through an onsite interceptor and is discharged to the municipal sewer system.

3.2.7 Chemical Storage

Chemical storage at the site comprises a fenced compound over concrete hardstanding located in the southwest corner of the yard. This storage arrangement has not changed since the original permit was issued.

The materials stored in this compound are mainly cleaning chemicals which are delivered to the site in small containers which have a typical capacity of 25 litres. These containers are placed over bunded stillages whilst stored in the compound to provide suitable secondary containment of any potential leaks/losses. All cleaning materials used on site are food grade products.

A locked bunded chemical store next to the cooling towers also houses 25L containers of dosing chemicals for the cooling system – this is unchanged from the original permit application.

The updated list of cleaning chemicals used at the site are listed in Table 3-5 below:

Table 3-5: List of Chemicals Used at the Site.

Reference	Chemicals	Quantity
HLM28/4X5	M8 Hand-soap	4 BAGS
HLHP/BOX	M7 Hand Sanitiser	4 BAGS
HLP18/21	OPD Perbac	25 LTR
HLP22/1500	Active Wipes	BUCKET
HLC61/25	Clorfoam Plus	25 LTR
HLH22/25	Sodium Hypochlorite	25 LTR
HLM7/25	Maxifoam Acid	25 LTR
HLC73/30	Causdeta	30 LTR
HLA28/25	Active	25 LTR
HLN1/30	Nipac	25 LTR

Reference	Chemicals	Quantity
HLM8/25	Impact	

3.2.8 Secondary / Tertiary Containment Provisions

There are no changes on the secondary/tertiary containment provisions from the original permit.

3.2.9 Water Use

Water use at the site will be unchanged as a result of the process changes (refer Section 3.2.4 above).

3.2.10 Energy Use

The addition of the automated lines has led to a small increase in energy use which is commensurate to the increased production throughout.

The automated lines have resulted in a more efficient process where less animal bypass waste is generated per carcass.

3.3 Emissions to Land

There will be no emissions to land associated with the updates to the process.

3.4 Noise

The automated production lines have been installed within the main factory building. Roller shutter doors at the site are only utilised when needed and are not left open for extended periods of time. As such, the noise impact to nearby receptors from this activity is considered to be low.

The 6 No. external compressors have potential to generate noise. Two of the compressors are located in the northern yard and are in close proximity to residential receptors.

2SFG has commissioned two noise impact surveys in recent years to assess the impact to offsite receptors that focus on the northern and southern areas of site respectively:

- Southern noise survey: EEUK. Environmental Noise Assessment[5] undertook a noise survey between 21st February and 4th March 2020 (Appendix B). This survey concluded that:

  'It was unlikely that the specific sound source would have an adverse impact or significant adverse impact on the nearest residential receptors.

- Northern noise survey: Acoustical Control Engineers and Consultants[6] undertook a noise survey on 13th April 2023 (report presented in Appendix C). This survey concluded that:

  'Criteria have been identified for sound emitted from the proposed plant to achieve suitable conditions at the nearest dwellings to protect the amenity of the neighbouring residents.

[5] EEUK. Environmental Noise Assessment for 2 Sisters Food Group dated 10 March 2020 reference PN11455.

[6] Acoustical Control Engineers and Consultants Acoustic Impact Assessment for proposed new plant at: 2 Sisters Food Group, dated 02 May 2023 reference B5557 2023-04-28 R.

The potential noise impacts to offsite receptors have been assessed and found not to be of significant concern.

The noise management plan for the site is being updated with the process changes and will be in place prior to receipt of the permit variation.

3.5 Odour

The site has not received nuisance odour complaints from nearby residents and businesses in recent times.

The operation of the automated process lines it not anticipated to lead to any new sources of odour at the site as it is undertaken within the factory building and roller shutter doors are closed when not in use.

Bulking up of animal by product waste may have the potential to generate odour when the trailer is uncovered during the loading of waste.

However, this temporary activity is undertaken quickly to limit the presence of waste in yard. Covered plastic pallet boxes containing Categories 2 and 3 waste are only transferred to the yard prior to a scheduled waste collection. Plastic pallet boxes are transferred via a telehandler into the trailer quickly. The trailer is covered once the waste is loaded and removes the waste from site straight away.

As the exposure time to potential odour is minimal, it is considered that an odour assessment is not required for this new activity. However, the onsite odour management plan[7] is to be updated to include the bulking up activities.

The plan will also be updated to remove reference to ‘ammonia plant’ which has been clarified through a site visit on 23 August 2023 not to have been installed at the site.

3.6 Pests

Pest management arrangements are in place at the site, this includes a contract with an appointed pest control company who regularly visit site to ensure pest control is adequate.

Regular inspections for pests include:

- Visual inspection for signs of pests/infestation.
- Checking of all pest monitoring points for activity and that each one is serviced/clean/intact/tethered in place.
- Replacement of any lures/baits/damaged devices, as required.
- Occasional use of hawks / scarers to deter birds.

3.7 Energy Efficiency

The automated portioning and packaging line systems have been designed to incorporate energy efficient equipment where possible to minimise the additional energy use at the site.

The three recently installed boilers at the site are below 1MWth and were selected due to their increased energy efficiency.

[7] Arcadis Odour Management Plan (OMP) 2 Sisters Food Group (Site D) Environmental Permit Application EPR / JP3433WU / A001 dated 12 January 2016.

Temporary compressors are used to support the main refrigeration system in times of increased ambient temperatures (predominantly between April and October). The energy ratings on each of these units is presented in Table 3-2.

3.8 Waste Minimisation and Management Techniques

There are no changes to the procedures governing waste disposal as a result of this permit variation. Wastes will be assessed and disposed of, in line with current procedures and practices at the site.

The site is continually trying to find ways to minimise waste, the automated lines are more efficient and generate less waste per bird than previous manual production techniques. Wastes are disposed of only to permitted facilities and approved waste management contractors in line with Duty of Care guidance.

Waste generation is tracked on a week to week basis and monitored as a specific metric (as tonnes waste/tonne product) and waste minimisation projects may be initiated if deemed appropriate.

3.9 Environmental Management System

2SFG operate an environmental management system (EMS) in line with the ISO14001 standard. The site operates in accordance with the EMS, as put forward in the original environmental permit application. However, it is noted that the EMS has been updated to include the following:

- Automated process lines.
- Waste bulking activity.
- Temporary compressors.
- New boilers.
- Updated cleaning chemicals.

3.10 Site Condition Report

The increase in throughput and regularisation of the EP has not resulted in changes to the EP boundary.

4.0 Compliance with Best Available Techniques

A Best Available Techniques (BAT) assessment has been undertaken to support the permit variation.

The guidance documents used to undertake the BAT assessment were:

- Best Available Techniques (BAT) Reference Document for the Food, Drink and Milk Industries and the associated BAT conclusions (2019); and
- Reference Document on Best Available Techniques for Energy Efficiency February 2009 (corrected version as of 09/2021).

The BAT assessment is presented in Appendix D.

5.0 Environmental Risk Assessment

A qualitative environmental risk assessment of the potential risks to the environment linked to the operation of the proposed changes has been undertaken to support this application for variation.

The environmental setting is unchanged from that presented in the existing Site Condition Report submitted as part of the original permit application.

The assessment includes consideration risks to the environment from the process changes and associated:

- Handling of chemicals.
- Handling of Waste.
- Noise.
- Odour.
- Pests.

The assessment includes:

- A review of the prevention, control and mitigation techniques.
- A review of the pathways and receptors of any releases.
- An assessment of the overall risk.

The assessment is presented in Appendix E.

6.0 Directors Details

Application form Part A requests the detail of 2SFG directors. This information is presented in Appendix F.

Appendix A Drawings

Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

SLR Project No.: 410.065277.00001

3 October 2023

Appendix B 2020 Noise Assessment

Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

SLR Project No.: 410.065277.00001

3 October 2023

Appendix C 2023 Noise Assessment

Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

SLR Project No.: 410.065277.00001

3 October 2023

Appendix D BAT Compliance Assessment

Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

SLR Project No.: 410.065277.00001

3 October 2023

D1. Food, Drink, Milk Industries BREF (November 2019) – Assessment of BAT

Table AppD-01 Food, Drink, Milk Industries BREF (November 2019) – Assessment of BAT

BATc. No.	BAT Justification	Demonstration of BAT Compliance
BATc 1	In order to improve the overall environmental performance, BAT is to elaborate and implement an environmental management system (EMS) that incorporates all of the following features: (i) Commitment, leadership, and accountability of the management, including senior management, for the implementation of an effective EMS; 4.12.2019 EN Official Journal of the European Union L 313/65. (ii) An analysis that includes the determination of the organisation's context, the identification of the needs and expectations of interested parties, the identification of characteristics of the installation that are associated with possible risks for the environment (or human health) as well as of the applicable legal requirements relating to the environment. (iii) Development of an environmental policy that includes the continuous improvement of the environmental performance of the installation. (iv) Establishing objectives and performance indicators in relation to significant environmental aspects, including safeguarding compliance with applicable legal requirements. (v) Planning and implementing the necessary procedures and actions (including corrective and preventive actions where needed), to achieve the environmental objectives and avoid environmental risks. (vi) Determination of structures, roles and responsibilities in relation to environmental aspects and objectives and provision of the financial and human resources needed. (vii) Ensuring the necessary competence and awareness of staff whose work may affect the environmental performance of the installation (e.g., by providing information and training). (viii) Internal and external communication. (ix) Fostering employee involvement in good environmental management practices. (x) Establishing and maintaining a management manual and written procedures to control activities with significant environmental impact as well as relevant records. (xi) Effective operational planning and process control. (xii) Implementation of appropriate maintenance programmes. (xiii) Emergency preparedness and response protocols, including the prevention and/or mitigation of the adverse (environmental) impacts of emergency situations. (xiv) When (re)designing a (new) installation or a part thereof, consideration of its environmental impacts throughout its life, which includes construction, maintenance, operation and decommissioning. (xv) Implementation of a monitoring and measurement programme, if necessary, information can be found in the Reference Report on Monitoring of Emissions to Air and Water from IED Installations. (xvi) Application of sectoral benchmarking on a regular basis. (xvii) Periodic independent (as far as practicable) internal auditing and periodic independent external auditing in order to assess the environmental performance and to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained. (xviii) Evaluation of causes of nonconformities, implementation of corrective actions in response to nonconformities, review of the effectiveness of corrective actions, and determination of whether similar nonconformities exist or could potentially occur. (xix) Periodic review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness. (xx) Following and taking into account the development of cleaner techniques.	The site has an environmental management system (EMS) which is aligned to the requirements of ISO 14001, but is not externally accredited or certified, there is also an energy management system (refer to Section 3.9 of the main report). These management systems are considered to address the majority of the indicative general BAT requirements. 2SFG has updated the EMS to incorporate the changes to the process and ancillary operations outlined in Section 3, to ensure the EMS meets BAT 1. 2SFG are considered to be compliant with BAT.

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td></td><td>Specifically for the food, drink and milk sector, BAT is to also incorporate the following features in the EMS:
(i) Noise management plan (see BAT 13).
(ii) Odour management plan (see BAT 15); L 313/66 EN Official Journal of the European Union 4.12.2019.
(iii) Inventory of water, energy and raw materials consumption as well as of wastewater and waste gas streams (see BAT 2).
(iv) Energy efficiency plan (see BAT 6a).</td><td></td></tr>
<tr><td>BATc 2</td><td>In order to increase resource efficiency and to reduce emissions, BAT is to establish, maintain and regularly review (including when a significant change occurs) an inventory of water, energy and raw materials consumption as well as of wastewater and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features:
I. Information about the food, drink and milk production processes, including:
(a) Simplified process flow sheets that show the origin of the emissions.
(b) Descriptions of process-integrated techniques and wastewater/waste gas treatment techniques to prevent or reduce emissions, including their performance.
II. Information about water consumption and usage (e.g., flow diagrams and water mass balances), and identification of actions to reduce water consumption and wastewater volume (see BAT 7).
III. Information about the quantity and characteristics of the wastewater streams, such as:
(a) average values and variability of flow, pH and temperature.
(b) average concentration and load values of relevant pollutants/parameters (e.g., TOC or COD, nitrogen species, phosphorus, chloride, conductivity) and their variability.
IV. Information about the characteristics of the waste gas streams, such as:
(a) average values and variability of flow and temperature.
(b) average concentration and load values of relevant pollutants/parameters (e.g., dust, TVOC, CO, NOX, SOX) and their variability.
(c) presence of other substances that may affect the waste gas treatment system or plant safety (e.g., oxygen, water vapour, dust).
V. Information about energy consumption and usage, the quantity of raw materials used, as well as the quantity and characteristics of residues generated, and identification of actions for continuous improvement of resource efficiency (see for example BAT 6 and BAT 10).
VI. Identification and implementation of an appropriate monitoring strategy with the aim of increasing resource efficiency, taking into account energy, water and raw materials consumption. Monitoring can include direct measurements, calculations or recording with an appropriate frequency. The monitoring is broken down at the most appropriate level (e.g., at process or plant/installation level).</td><td>In accordance with the requirements of the site's EMS; water, energy and raw material consumption are regularly reviewed, and an inventory maintained. This activity has not changed as a result of the process changes.
BAT not applicable for this variation.</td></tr>
<tr><td>BATc 3</td><td>For relevant emissions to water as identified by the inventory of wastewater streams (see BAT 2), BAT is to monitor key process parameters (e.g., continuous monitoring of wastewater flow, pH and temperature) at key locations (e.g., at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).</td><td>Discharge to sewer has not changed as a result of onsite process changes.
BAT not applicable for this variation.</td></tr>
<tr><td>BATc 4</td><td>BAT is to monitor emissions to water with at least the frequency given below and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.
<table>
<tr><th>Substance/parameter</th><th>Standard(s)</th><th>Minimum monitoring frequency</th><th>Monitoring associated with</th></tr>
<tr><td>Chemical oxygen demand (COD) ([2]) ([3])</td><td>No EN standard available</td><td>Once every day ([4])</td><td>BAT 12</td></tr>
</table></td><td>BAT not applicable.
Compliance with BAT 4 is not applicable as the relevant monitoring requirements relate to discharges made direct to a receiving water body. The effluent discharge from the site is discharged to sewer where it is subject to treatment at the municipal wastewater treatment works prior to discharge to water.</td></tr>
</table>

BATc. No.	BAT Justification				Demonstration of BAT Compliance
	Total nitrogen (TN) ([2])	Various EN standards available (e.g., EN 12260, EN ISO 11905-1)			
	Total organic carbon (TOC) ([2]) ([3])	EN 1484			
	Total phosphorus (TP) ([2])	Various EN standards available (e.g., EN ISO 6878, EN ISO 15681-1 and -2. EN ISO 11885)			
	Total suspended solids (TSS) ([2])	EN 872			
	Biochemical oxygen demand (BODn) ([2])	EN 1899-1	Once every month		
	Chloride (Cl^-)	Various EN standards available (e.g., EN ISO 10304-1, EN ISO 15682)	Once every month	-	
	Notes: ([1]) The monitoring only applies when the substance concerned is identified as relevant in the wastewater stream based on the inventory mentioned in BAT 2. ([2]) The monitoring only applies in the case of a direct discharge to a receiving water body. ([3]) TOC monitoring and COD monitoring are alternatives. TOC monitoring is the preferred option because it does not rely on the use of very toxic compounds. ([4]) If the emission levels are proven to be sufficiently stable, a lower monitoring frequency can be adopted but, in any case, at least once every month.				

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td>BATc 5</td><td>BAT is to monitor channelled emissions to air with at least the frequency given below and in accordance with EN standards.
<table>
<tr><th>Substance/ Parameter</th><th>Sector</th><th>Specific process</th><th>Standard(s)</th><th>Minimum monitoring frequency (1)</th><th>Monitoring associated with</th></tr>
<tr><td rowspan="10">Dust</td><td rowspan="4">Animal feed</td><td>Drying of green fodder</td><td rowspan="10">EN 13284-1</td><td rowspan="3">Once every three months (2)</td><td>BAT 17</td></tr>
<tr><td>Grinding and pellet cooling in compound feed manufacture</td><td>BAT 17</td></tr>
<tr><td>Extrusion of dry pet food</td><td>Once every year</td><td>BAT 17</td></tr>
<tr><td>Brewing</td><td>Handling and processing of malt and adjuncts</td><td>Once every year</td><td>BAT 20</td></tr>
<tr><td>Dairies</td><td>Drying processes</td><td>Once every year</td><td>BAT 23</td></tr>
<tr><td>Grain milling</td><td>Grain cleaning and milling</td><td>Once every year</td><td>BAT 28</td></tr>
<tr><td>Oilseed processing and vegetable oil refining</td><td>Handling and preparation of seeds, drying and cooling of meal</td><td>Once every year</td><td>BAT 31</td></tr>
<tr><td>Starch production</td><td>Drying of starch, protein and fibre</td><td>Once every year</td><td>BAT 34</td></tr>
<tr><td>Sugar manufacturing</td><td>Drying of beet pulp</td><td>Once every month (2)</td><td>BAT 36</td></tr>
<tr><td>$PM_{2.5}$ and PM_{10}</td><td>Sugar manufacturing</td><td>Drying of beet pulp</td><td></td><td>BAT 36</td></tr>
<tr><td>TVOC</td><td>Fish and shellfish processing</td><td>Smoke chambers</td><td>EN12619</td><td>Once every year</td><td>BAT 26</td></tr>
</table></td><td>No changes in emission points to air has occurred due to the process changes.
BAT not applicable for this variation.</td></tr>
</table>

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td></td><td>
<table>
<tr><td></td><td>Meat processing</td><td>Smoke chambers</td><td></td><td></td><td>BAT 29</td></tr>
<tr><td></td><td>Oilseed processing and vegetable oil refining (3)</td><td>-</td><td></td><td></td><td>-</td></tr>
<tr><td></td><td>Sugar manufacturing</td><td>High temperature drying of beet pulp</td><td></td><td></td><td>-</td></tr>
<tr><td>NOx</td><td>Meat processing (4)</td><td>Smoke chambers</td><td>EN 14792</td><td>Once every year</td><td>-</td></tr>
<tr><td></td><td>Sugar manufacturing</td><td>High temperature drying of beet pulp</td><td></td><td></td><td></td></tr>
<tr><td>CO</td><td>Meat processing (4)</td><td>Smoke chambers</td><td>EN 15058</td><td></td><td></td></tr>
<tr><td></td><td>Sugar processing</td><td>High temperature drying of beet pulp</td><td></td><td></td><td></td></tr>
<tr><td>SOx</td><td>Sugar manufacturing</td><td>Drying of beet pulp when natural gas is not used</td><td>EN 14791</td><td>Twice every year (2)</td><td>BAT 37</td></tr>
</table>
Notes:
(1) The measurements are carried out at the highest expected emission state under normal operating conditions.
(2) If the emission levels are proven to be sufficiently stable, a lower monitoring frequency can be adopted but, in any case, at least once every year.
(3) The measurement is carried out during a campaign of two days.
(4) The monitoring only applies when a thermal oxidiser is used.
</td><td></td></tr>
<tr><td>BATc 6</td><td>In order to increase energy efficiency, BAT is to use BAT 6a and an appropriate combination of the common techniques listed in the techniques below.
<table>
<tr><th colspan="2">Technique</th><th>Description</th></tr>
<tr><td>(a)</td><td>Energy efficiency plan</td><td>An energy efficiency plan, as part of the environmental management system (see BAT 1), entails defining and calculating the specific energy consumption of the activity (or activities), setting key performance indicators on an annual basis (for example for the specific energy consumption) and planning periodic improvement targets and related actions. The plan is adapted to the specificities of the installation.</td></tr>
</table>
</td><td>The site has implemented environmental and energy management systems as detailed in BAT 1. 2SFG also maintains an inventory of energy consumption via the computerised system which is subject to regular review.

BAT not applicable for this variation.</td></tr>
</table>

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td></td><td>
<table>
<tr><td>(b)</td><td>Use of common techniques</td><td>Common techniques include techniques such as: — burner regulation and control; — cogeneration; — energy-efficient motors; — heat recovery with heat exchangers and/or heat pumps (including mechanical vapour recompression); — lighting; — minimising blowdown from the boiler; — optimising steam distribution systems; — preheating feed water (including the use of economisers); — process control systems; — reducing compressed air system leaks; — reducing heat losses by insulation; — variable speed drives; — multiple-effect evaporation; — use of solar energy.</td></tr>
</table>
Further sector-specific techniques to increase energy efficiency are given in Sections 2 to 13 of these BAT conclusions.</td><td></td></tr>
<tr><td>BATc 7</td><td>In order to reduce water consumption and the volume of wastewater discharged, BAT is to use BAT 7a and one or a combination of the techniques b to k given below.
<table>
<tr><th colspan="2">Technique</th><th>Description</th><th>Applicability</th></tr>
<tr><td colspan="4">Common techniques</td></tr>
<tr><td>(a)</td><td>Water recycling and/or re-use</td><td>Recycling and/or reuse of water streams (preceded or not by water treatment), e.g., for cleaning, washing, cooling or for the process itself</td><td rowspan="3">May not be applicable due to hygiene and food safety requirements</td></tr>
<tr><td>(b)</td><td>Optimisation of water flow</td><td>Use of control devices, e.g., photocells, flow valves, thermostatic valves, to automatically adjust the water flow.</td></tr>
<tr><td>(c)</td><td>Optimisation of water nozzles and hoses</td><td>Use of correct number and position of nozzles; adjustment of water pressure.</td></tr>
<tr><td>(d)</td><td>Segregation of water streams</td><td>Water streams that do not need treatment (e.g., uncontaminated cooling water or uncontaminated run-off water) are segregated from wastewater that has to undergo treatment, thus enabling uncontaminated water recycling.</td><td>The segregation of uncontaminated rainwater may not be applicable in the case of existing wastewater collection systems.</td></tr>
<tr><td colspan="4">Techniques related to cleaning operations</td></tr>
<tr><td>(e)</td><td>Dry cleaning</td><td>Removal of as much residual material as possible from raw materials and equipment before they are cleaned with liquids, e.g., by using compressed air, vacuum systems or catchpots with a mesh cover.</td><td>Generally applicable.</td></tr>
</table></td><td>The proposed changes will not result in an increase in water consumption over that outlined in original permit.

No significant changes to the site’s cleaning and hygiene procedures.

BAT not applicable for this variation.</td></tr>
</table>

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td></td><td>
<table>
<tr><td>(f)</td><td>Pigging system for pipes</td><td>Use of a system made of launchers, catchers, compressed air equipment, and a projectile (also referred to as a ‘pig’, e.g., made of plastic or ice slurry) to clean out pipes. In-line valves are in place to allow the pig to pass through the pipeline system and to separate the product and the rinsing water.</td><td></td></tr>
<tr><td>(g)</td><td>High-pressure cleaning</td><td>Spraying of water onto the surface to be cleaned at pressures ranging from 15 bar to 150 bar.</td><td>May not be applicable due to health and safety requirements.</td></tr>
<tr><td>(h)</td><td>Optimisation of chemical dosing and water use in cleaning-in-place (CIP)</td><td>Optimising the design of CIP and measuring turbidity, conductivity, temperature and/or pH to dose hot water and chemicals in optimised quantities.</td><td rowspan="4">Generally applicable.</td></tr>
<tr><td>(i)</td><td>Low-pressure foam and/or gel cleaning</td><td>Use of low-pressure foam and/or gel to clean walls, floors and/or equipment surfaces.</td></tr>
<tr><td>(j)</td><td>Optimised design and construction of equipment and process areas</td><td>The equipment and process areas are designed and constructed in a way that facilitates cleaning. When optimising the design and construction, hygiene requirements are taken into account.</td></tr>
<tr><td>(k)</td><td>Cleaning of equipment as soon as possible</td><td>Cleaning is applied as soon as possible after use of equipment to prevent wastes hardening.</td></tr>
</table>
Further sector-specific techniques to reduce water consumption are given in Section 6.1 of these BAT conclusions.
</td><td></td></tr>
<tr><td>BATc 8</td><td>
In order to prevent or reduce the use of harmful substances, e.g., in cleaning and disinfection, BAT is to use one or a combination of the techniques given below.
<table>
<tr><th colspan="2">Technique</th><th>Description</th></tr>
<tr><td>(a)</td><td>Proper selection of cleaning chemicals and/or disinfectants</td><td>Avoidance or minimisation of the use of cleaning chemicals and/or disinfectants that are harmful to the aquatic environment, in particular priority</td></tr>
</table>
</td><td>Cleaning chemicals in use at the site are approved for use in food manufacturing processes. All chemicals in use on site are subject to a Control of Substances Hazardous to Health (COSHH) assessment, this includes assessment of the potential environmental hazards. 2SFG will ensure that all hazardous chemicals are stored appropriately to minimise the risk of release to the environment.</td></tr>
</table>

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td></td><td>
<table>
<tr><td></td><td></td><td>substances considered under the Water Framework Directive 2000/60/EC of the European Parliament and of the Council (1) When selecting the substances, hygiene and food safety requirements are taken into account.</td></tr>
<tr><td>(b)</td><td>Reuse of cleaning chemicals in cleaning-in-place (CIP)</td><td>Collection and reuse of cleaning chemicals in CIP. When reusing cleaning chemicals, hygiene and food safety requirements are taken into account.</td></tr>
<tr><td>(c)</td><td>Dry cleaning</td><td>See BAT7e.</td></tr>
<tr><td>(d)</td><td>Optimised design and construction of equipment and process area.</td><td>See BAT 7j.</td></tr>
</table>
(1) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L327, 22.12.2000, p. 1).
</td><td>a) Optimisation of chemicals used in cleaning processes is undertaken by proper selection of appropriate chemicals.
b) CIP not utilised.
c) Use of dry-cleaning methods (catch pots with a mesh cover) to collect waste prior to water cleaning taking place.
d) The equipment and process areas are designed and constructed in a way that facilitates cleaning and are situated on impermeable surfacing that drains to one of three interceptors that collect fats, oil and grease.

2SFG is considered to be compliant.</td></tr>
<tr><td>BATc 9</td><td>In order to prevent emissions of ozone-depleting substances and of substances with a high global warming potential from cooling and freezing, BAT is to use refrigerants without ozone depletion potential and with a low global warming potential.</td><td>2SFG use R449a in their main refrigeration system which has a global warming potential (GWP) of 1,397, below the EU banned threshold of 2500 GWP that began on 01 January 2020.

R449a is not on the list of ozone-depleting substances as presented by the EA[8]

2SFG is considered to be compliant.</td></tr>
<tr><td>BATc 10</td><td>In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below.
<table>
<tr><th colspan="2">Techniques</th><th>Description</th><th>Applicability</th></tr>
<tr><td>(a)</td><td>Anaerobic digestion</td><td>Treatment of biodegradable residues by microorganisms in the absence of oxygen, resulting in biogas and</td><td>May not be applicable due to the quantity and/or nature of the residues.</td></tr>
</table>
</td><td>The destination and nature of waste has not changed as a result of the process changes.

No onsite waste treatment or wastewater processing. Category 3 poultry waste is sent for use in the production of animal feed.

2SFG is considered to be compliant.</td></tr>
</table>

[8] GOV.UK Guidance Ozone-depleting substances (ODS) dated 1 December 2020 Accessed on 19 September 2023, Accessed at: Ozone-depleting substances (ODS) - GOV.UK (www.gov.uk)

BATc. No.	BAT Justification				Demonstration of BAT Compliance
			digestate. The biogas is used as a fuel, e.g., in a gas engine or in a boiler. The digestate may be used, e.g., as a soil improver.		
	(b)	Use of residues	Residues are used, e.g., as animal feed.	May not be applicable due to legal requirements.	
	(c)	Separation of residues	Separation of residues, e.g., using accurately positioned splash protectors, screens, flaps, catchpots, drip trays and troughs.	Generally applicable.	
	(d)	Recovery and reuse of residues from the pasteuriser	Residues from the pasteuriser are fed back to the blending unit and are thereby reused as raw materials.	Only applicable to liquid food products.	
	(e)	Phosphorus recovery as struvite	See BAT 12g.	Only applicable to wastewater streams with a high total phosphorus content (e.g., above 50 mg/l) and a significant flow.	
	(f)	Use of wastewater for land spreading	After appropriate treatment, wastewater is used for land spreading in order to take advantage of the nutrient content and/or to use the water.	Only applicable in the case of a proven agronomic benefit, a proven low level of contamination and no negative impact on the environment (e.g., on the soil, the groundwater and surface water). The applicability may be restricted	

BATc. No.	BAT Justification	Demonstration of BAT Compliance
	due to the limited availability of suitable land adjacent to the installation. The applicability may be restricted by the soil and local climatic conditions (e.g., in the case of wet or frozen fields) or by legislation.	
BATc 11	In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for wastewater.	Changes onsite will not increase the volume of wastewater generated. No direct discharge to controlled waters, all effluent is discharged to sewer. BAT not applicable for this variation.
BATc 12	In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below.	Changes onsite will not increase the characteristics or volume of wastewater generated. BAT not applicable for this variation.
BATc 13	To prevent or reduce noise, BAT is to set up, implement and regularly review a noise management plan as part of the EMS that includes the elements as detailed in the BREF. BAT 13 is only applicable to cases where a noise nuisance at sensitive receptors is expected and/or has been substantiated.	Two noise assessments have recently been undertaken at the site to assess the impact to offsite receptors, including the temporary compressors located in the northern yard. 2SFG is in the process of updating the current noise management plan to incorporate the process changes. Once this exercise is complete, 2SFG will be considered to be compliant with BAT.
BATc 14	To prevent or reduce noise emissions, BAT is to use one or a combination of the techniques detailed in the BREF.	2SFG undertake the following operational measures to reduce the impact from noise at the site: ▪ Inspection and maintenance of equipment. ▪ Closing of doors enclosed areas, where possible. ▪ Equipment operation by experienced staff. ▪ Avoidance of noisy activities at night, if possible. 2SFG is considered to be compliant.

<table>
<tr><th>BATc. No.</th><th>BAT Justification</th><th>Demonstration of BAT Compliance</th></tr>
<tr><td>BATc 15</td><td>To prevent or reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan as part of the EMS that includes the elements as detailed in the BREF (BAT 14 is only applicable to cases where odour nuisance at sensitive receptors is expected and/or has been substantiated).</td><td>The site has not received nuisance odour complaints from nearby residents and businesses in recent times. Site operatives conduct daily checks and record any instances of unacceptable odour.

Bulking up of animal by product waste may have the potential to generate odour when the trailer is uncovered during the loading of waste. However, this activity is undertaken quickly to limit the presence of waste in the yard.

The current onsite odour management plan has been updated to include the bulking up activities.

2SFG is considered to be compliant.</td></tr>
<tr><td>Section 9.1
Energy efficiency</td><td>General techniques to increase energy efficiency are given in Section 1.3 of these BAT conclusions. The indicative environmental performance level is presented in the table below.
<table><tr><th>Unit</th><th>Specific energy consumption (yearly average)</th></tr><tr><td>MWh/tonne of raw materials</td><td>0.25-2.6 ([1]) ([2])</td></tr></table>
([1]) The specific energy consumption level does not apply to the production of ready meals and soups.
([2]) The upper end of the range may not apply in the case of a high percentage of cooked products.</td><td>Management of energy efficiency has not changed as a result of the process changes onsite. BAT not applicable for this variation.

It is noted that process changes introduced, energy efficient boilers and automated lines are a result of the site’s energy efficiency management.

Indicative performance level data is submitted to the Environment Agency on an annual basis as part of the reporting requirements within the Environmental Permit.

2SFG is considered to be compliant.</td></tr>
<tr><td>Section 9.2. Water consumption and wastewater discharge</td><td>General techniques to reduce water consumption and the volume of wastewater discharged are given in Section 1.4 of these BAT conclusions. The indicative environmental performance level is presented in the table below.
<table><tr><th>Unit</th><th>Specific energy consumption (yearly average)</th></tr><tr><td>m^3/tonne of raw materials</td><td>1.5-8.0([1])</td></tr></table>
1.The specific wastewater discharge level does not apply to processes using direct water cooling and to the production of ready meals and soups.</td><td>The proposed changes will not result in an increase in water consumption or wastewater discharged above that outlined in original permit.

Indicative performance level data is submitted to the Environment Agency on an annual basis as part of the reporting requirements within the Environmental Permit.

2SFG is considered to be compliant.</td></tr>
</table>

D2 Reference Document on Best Available Techniques for Energy Efficiency, February 2009 – Assessment of BAT

Table AppD-02 Reference Document on Best Available Techniques for Energy Efficiency, February 2009 – Assessment of BAT

BATc. No.	BAT	BAT Justification	Demonstration of BAT Compliance
BATc. 1	Energy Management System	BAT is to implement an Energy Management System. that incorporates, as appropriate to the local circumstances, all of the following features. a. Commitment of top management (commitment of the top management is regarded as a precondition for the successful application of energy efficiency management). b. Definition of an energy efficiency policy for the installation by top management. c. Planning and establishing objectives and targets (see BAT 2, 3 and 8). d. Implementation and operation of procedures paying particular attention to: i) Structure and responsibility. ii) Training, awareness and competence (see BAT 13). iii) Communication. iv) Employee involvement. v) Documentation. vi) Effective control of processes (see BAT 14). vii) Maintenance (see BAT 15). viii) Emergency preparedness and response. ix) Safeguarding compliance with energy efficiency-related legislation and agreements (where such agreements exist). e. Benchmarking: the identification and assessment of energy efficiency indicators over time (see BAT 8), and the systematic and regular comparisons with sector, national or regional benchmarks for energy efficiency, where verified data are available (see Sections 2.1(e),2.16 and BAT 9). f. Checking performance and taking corrective action paying particular attention to: i) monitoring and measurement (see BAT 16). ii) Corrective and preventive action. iii) Maintenance of records. iv) independent (where practicable) internal auditing in order to determine whether or not the energy efficiency management system conforms to planned arrangements and has been properly implemented and maintained (see BAT 4 and 5). g. Review of the energy management system and its continuing suitability, adequacy and effectiveness by top management. h. Preparation and publication (and possibly external validation) of a regular energy efficiency statement describing all the significant environmental aspects of the installation, allowing for year-by-year comparison against environmental objectives and targets as well as with sector benchmarks as appropriate. i. Having the management system and audit procedure examined and validated by an accredited certification body or an external management system verified.	2SFG implement an energy management system. The energy management system has not changed as a result of the process changes. BAT not applicable for this variation. 2SFG are continuing to operate the energy management system as set out in the original permit application.

BATc. No.	BAT	BAT Justification	Demonstration of BAT Compliance
		j. When designing a new unit, taking into account the environmental impact from the eventual decommissioning of the unit. k. Development of energy-efficient technologies, and to follow developments in energy efficiency techniques.	
BATc. 2	Energy Management System	Continuously minimise the environmental impact of an installation by planning actions and investment on an integrated basis…considering the cost benefits and cross media effects.	Monitoring of environmental impact has not changed as a result of process changes. BAT not applicable for this variation. 2SFG are continuing to assess environmental impact as set out in the original permit application.
BATc. 3	Energy Management System	Identify aspects of an installation that influence energy efficiency by carrying out an audit.	Energy efficiency auditing has not changed as a result of the process changes. BAT not applicable for this variation. 2SFG are continuing to assess energy efficiency as set out in the original permit application. However, 2SFG operates under the ESOS scheme which requires an energy audit every four years at the site. The latest ESOS audit occurred in November 2022.
BATc. 4	Energy Management System	When carrying out an audit, ensure that the audit identifies the following aspects: ▪ Energy use and type and its component systems and processes. ▪ Energy-using equipment and type and quantity of energy used in the installation. ▪ Possibilities to minimise energy use. ▪ Possibilities to use alternative sources or use of energy that is more efficient. ▪ Possibility to apply energy surplus to other processes. ▪ Possibilities to upgrade heat quality.	Changes to the energy audit system have not changed as a result of the process changes. BAT not applicable for this variation. 2SFG is continuing to operate energy audits as set out in the original permit application.
BATc. 5	Energy Management System	Use tools or methodologies to assist with identifying and quantifying energy optimisation such as: ▪ Energy models, databases and balances. ▪ A technique such as pinch methodology exergy or enthalpy analysis or thermo-economics. ▪ Estimates and calculations.	Changes to the energy optimisation system have not changed as a result of the process changes. BAT not applicable for this variation. 2SFG is continuing to operate the energy optimisation system as set out in the original permit application.
BATc. 6	Energy Management System	BAT is to identify opportunities to optimise energy recovery within the installation, between systems within the installation and/or with a third party.	Process changes introduced do not impact the methodology for identifying energy recovery at the site. BAT not applicable for this variation.
BATc. 7	Energy Management System	Optimise energy efficiency by taking a systems approach to energy management. Systems to be considered for optimising as a whole are, for example: ▪ Process units. ▪ Heating systems such as steam and hot water. ▪ Cooling and vacuum. ▪ Motor driven systems such as compressed air and pumping. ▪ Lighting.	Changes to the energy optimisation system have not changed as a result of the process changes. BAT not applicable for this variation. 2SFG is continuing to operate the energy management system as set out in the original permit application.

BATc. No.	BAT	BAT Justification	Demonstration of BAT Compliance
		▪ Drying, separation and concentration.	
BATc. 8	Energy Management System	Establish energy efficiency indicators by: ▪ Identifying suitable energy efficiency indicators for the installation, and where necessary individual processes, systems, units and measure change over time. ▪ Identifying and recording appropriate boundaries associated with the indicators. ▪ Identifying and recording factors that can cause variance in energy efficiency of the process, system, units.	Energy efficiency indicators set out as per the original permit application have not changed as a result of the process changes. BAT not applicable for this variation.
BATc. 9	Energy Management System	BAT is to carry out comparisons with sector, national or regional benchmarks, where validated data are available.	2SFG will continue to undertake internal benchmarking exercises as per the original permit application. BAT not applicable for this variation.
BATc. 10	Energy Efficient Design (EED)	Optimise energy efficiency when planning a new installation, unit or system or significant upgrade by considering: ▪ Initiating EED at early design stage. ▪ Development/selection of energy efficient technologies. ▪ EED should be carried out by an energy expert. ▪ Initial mapping of energy consumption should also be addressed which parties in the project organisations influence the future energy consumption and should optimise the energy efficiency design of the future plant.	Energy efficiency is considered at the very beginning of all projects, including the installation of automated process lines, installation of energy efficient boilers and temporary compressors. All new CAPEX projects must be signed off by the senior managers and all projects go through an environmental and energy risk assessment procedures. 2SFG is considered to be compliant.
BATc. 11	Increased Process Integration	Seek to optimise the use of energy between more than one process or system with the installation or with a third party.	Due to the nature of the process changes the opportunity to optimise the use of energy between more than one process is not practicable. 2SFG is considered to be compliant.
BATc. 12	Managing and maintaining the impetus of energy efficiency initiatives	Maintain the impetus of the energy efficiency programme by using a variety of techniques such as: ▪ Implementing specific energy efficiency measures. ▪ Accounting for energy usage based on real (metered) values. ▪ Creation of financial profit centres for energy efficiency. ▪ Benchmarking. ▪ Fresh look at existing management systems. ▪ Using change management techniques.	Refer BAT 3, BAT 5, BAT 6, BAT 7 and BAT 9 above. 2SFG is considered to be compliant as per the original permit application.
BATc. 13	Maintaining Expertise	Maintain expertise in energy efficiency and energy using systems by using: ▪ Skilled staff. ▪ Training staff offline periodically. ▪ Sharing in-house resources between sites. ▪ Use of appropriately skilled consultants. ▪ Outsourcing specialist systems and/or functions.	2SFG will continue to maintain expertise in energy efficiency and energy systems as per the original permit application. BAT not applicable for this variation.
BATc. 14	Effective Control of Processes	Ensure that the effective control of processes is implemented by techniques such as: ▪ Having systems in place to ensure that procedures are known, understood and complied with. ▪ Ensuring that the key performance parameters are identified, optimised for energy efficiency and monitored. ▪ Documenting or recording these parameters.	Operating procedures have been developed for the site and staff are suitably trained in the operation and maintenance of plant and equipment to ensure optimal operation. These procedures have been updated to include the automated production lines, new boilers and temporary external compressors. 2SFG is considered to be compliant.

BATc. No.	BAT	BAT Justification	Demonstration of BAT Compliance
BATc. 15	Maintenance	BAT is to carry out maintenance at installations to optimise energy efficiency by applying all of the following: ▪ Clearly allocating responsibility for the planning and execution of maintenance. ▪ Establishing a structured programme for maintenance based on technical descriptions of the equipment, norms, etc. as well as any equipment failures and consequences. ▪ Supporting the maintenance programme by appropriate record keeping systems and diagnostic testing. ▪ Identifying from routine maintenance, breakdowns and/or abnormalities possible losses in energy efficiency, or where energy efficiency could be improved. ▪ Identifying leaks, broken equipment, worn bearings, etc. that affect or control energy usage, and rectifying them at the earliest opportunity.	The site has a preventative maintenance programme in place; the maintenance of equipment is undertaken in accordance with manufacturer's requirements to ensure the efficiency, including energy efficiency, of equipment is maintained. The maintenance programme has been updated to include the automated production lines, new boilers and temporary external compressors. Designated maintenance personnel undertake the required maintenance activities, where required specialist contractors will be appointed to undertake maintenance of specific equipment. Records of maintenance are retained at the site. 2SFG is considered to be compliant.
BATc. 16	Monitoring and Measurement	Establish and maintain documented procedures to monitor on a regular basis key characteristics of operations and activities that can have a significant impact on energy efficiency.	2SFG have energy KPIs for utilities, machinery, and equipment. The process changes have been incorporated into 2SFG KPIs. Operations and activities that may have a significant impact on energy efficiency are also tracked in the inventory of energy consumption via the computerised system which is subject to regular review. Energy usage is discussed at weekly meetings. 2SFG is considered to be compliant.
BATc. 17	Combustion	Optimise energy efficiency of combustion as per the techniques stated in the BREF.	The three recently installed boilers run on natural gas, and each have a rated thermal input less than 1MWth. The burner on the Bosch UT-L2 is optimised. The two Lochinvar boilers have 91% thermal efficiency. The boilers are subject to regular maintenance and servicing in accordance with the manufacturer's requirements, this ensures optimal performance of this plant. The boilers are controlled by an integrated automation system which ensures efficient operation. 2SFG is considered to be compliant.
BATc. 18	Steam Systems	Optimise the energy efficiency by using techniques as those stated in the BREF.	BAT not applicable, the site does not generate steam.
BATc. 19	Heat Recovery	Maintain efficiency of heat exchangers by monitoring the efficiency periodically and preventing/removing fouling.	Heat exchangers within the main refrigeration system are monitored periodically for efficiency and are subject to cleaning periodically to prevent/remove fouling. 2SFG is considered to be compliant.
BATc. 20	Cogeneration	Seek possibilities for cogeneration inside or outside the Installation (with a third party)	BAT not applicable, no change to the possibilities for cogeneration of electricity has occurred with the process changes.
BATc. 21	Electrical Power Supply	BAT is to increase the power factor according to the requirements of the local electricity distributor by using techniques such as: ▪ Installing capacitors in the AC circuits to decrease the magnitude of reactive power. ▪ Minimising the operation of idling or lightly loaded motors. ▪ Avoiding the operation of equipment above its rated voltage. ▪ When replacing motors, using energy efficient motors.	No changes to the power factor have occurred as a result of the process changes. BAT not applicable to permit variation.

BATc. No.	BAT	BAT Justification	Demonstration of BAT Compliance
BATc. 22		BAT is to check the power supply for harmonics and apply filters if required.	No changes to the process for harmonics and filter application has changed since the original permit application. BAT not applicable to permit variation.
BATc. 23		BAT is to optimise the power supply efficiency by using techniques such as: ▪ Ensure power cables have the correct dimensions for the power demand. ▪ Keep online transformer(s) operating at a load above 40 - 50 % of the rated power. Use high efficiency/low loss transformers. ▪ Place equipment with a high current demand as close as possible to the power source (e.g., transformer).	2SFG currently optimise the power supply as per the requirements outlined in BAT 23 and specific equipment requirements as outlined by the manufacturer. 2SFG is considered to be compliant.
BATc. 24	Electric Motor Driven Sub-Systems	Optimise electric motors as per requirements outlined in the BREF.	The installation of automated lines included installation of high efficiency electric motors. 2SFG is considered to be compliant.
BATc. 25	Compressed Air Systems	Optimise compressed air systems by … surveys and fixing of leaks as per requirements outlined in the BREF.	The site has installed an F gas leak detection system within the factory areas where the highest risk of loss exists. Two onsite employees have been trained in leak detection for the refrigeration system and undertake daily visual checks. The external compressors are also subject to regular checks for leaks. The end use and working pressure of the external compressors are optimised. 2SFG is considered to be compliant.
BATc. 26	Pumping Systems	Optimise pumping systems as per requirements outlined in the BREF.	Pumping systems have been designed/specified to the correct sizing; oversized pumps have not been specified. All new pumps are correctly matched to the motor duty. The pumps and motors will be subject to regular planned preventative maintenance. All pipework has been designed to the correct diameter for the designated activity and pipeline layouts designed to minimise the need for bends and valves. 2SFG is considered to be compliant.
BATc. 27	HVAC Systems	Optimise Heating, ventilation, and air conditioning (HVAC) systems using techniques outlined in the BREF.	BAT not applicable to variation, no change to the HVAC system has occurred with the process changes.
BATc. 28	Lighting	Optimise artificial lighting systems by using techniques outlined in the BREF.	BAT not applicable to variation, no change to the lighting system will be undertaken as part of the process changes.
BATc. 29	Drying, Separation & Concentration Processes	Optimise drying, separation and concentration processes by using techniques such as those outlined in the BREF.	BAT not applicable to variation, no change to the tray wash and drying system will be undertaken as part of the process changes.

Appendix E Environmental Risk Assessment

Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

SLR Project No.: 410.065277.00001410.065277.00001

3 October 2023

Table E1: Environmental Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Spillages						
Spillage of materials or loss of containment (liquids).	Soil and groundwater beneath the site Offsite surface water receptors Ecological receptors	Migration of spills: ▪ Onto unmade ground and penetration into soil and groundwater. ▪ Into the surface water drainage system ▪ Into and along surface water routes.	Chemicals stored at the site comprise predominantly food grade cleaning products and boiler / cooling tower dosing chemicals contained within 25-50L sealed containers. The chemical store is outdoors in the southeast corner, it is covered, and chemicals are stored on bunded pallets. The site's chemical store is away from the surface water drainage system. Additionally, 25L containers of additive for the dosing the cooling towers, are stored by the cooling towers. These are stored in a locked cabinet with an integral bund, away from surface water drains. The external yard is surfaced with impermeable hardstanding. Chemicals that are stored indoors are on palletised bunds away from the effluent drainage system. Spill kits are deployed around the site. All processing takes place undercover or in buildings. Internal or external bunds are routinely maintained and are under a condition monitoring schedule. Employees receiving training in handling and storage of chemicals. A spill management procedure is in place to deal with spillages should they occur. During operational hours, the site staff undertake daily monitoring of the storage areas for evidence of spillage and leakage. If evidence of spillage is seen, the affected area will be cleaned, and appropriate repairs implemented. The site has an emergency preparedness procedure, this clearly documents the emergency response to be implemented in the event of significant pollution incident. This plan includes details of emergency services, contact numbers for key site personnel and guidance on when external emergency services/agencies should be alerted. The site also has a spill management procedure. This indicates the areas of the site where there is storage of potentially hazardous materials and available spill kits, includes contact (telephone) details for key senior personnel and the emergency services to be contacted in the event of a spillage and the actions to be taken in the event of a spillage to minimise the risk of environmental damage. The site manager is responsible for implementing risk management measures in accordance with the management system.	The probability is very low for both source – pathway – receptor linkages due to the limited inventory of hazardous materials on site, the integrity of the primary containment systems, and the control measures in place.	Negligible Impact Loss would be contained to site	Very low. **Mitigation measures are considered BAT**
Loss of primary containment during chemical handling and offloading.	Soil and groundwater beneath the site. Offsite surface water receptors Ecological receptors	Migration of spills: ▪ Onto unmade ground and penetration into soil and groundwater. ▪ Into the surface water drainage system ▪ Into and along surface water routes.	Chemicals offloaded and handled on site are predominantly food grade cleaning products and boiler / cooling tower dosing chemicals contained within 25-50L sealed containers, so potential volumes of loss in the event of a spillage are very small. Most of the chemicals used on site are food grade materials or cleaning agents. There is a chemical handling procedure for offloading chemicals and handling chemicals onsite. Chemicals are offloaded and handled only in areas that have impermeable hardstanding.	The probability is very low for both source – pathway – receptor linkages due to the integrity of the primary containment systems, and the control measures in place.	Negligible Impact Loss would be contained to site	Very low. **Mitigation measures are considered BAT**

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
			Materials suitable for absorbing and containing minor spillages are maintained on site. If a spillage occurs, the affected area will be cleaned. All waste is segregated and transferred offsite by a suitably licensed subcontractor. The site operates under an emergency preparedness procedure, this clearly documents the emergency response to be implemented in the event of significant pollution incident. This plan includes details of emergency services, contact numbers for key site personnel and guidance on when external emergency services/agencies should be alerted. The site also operates under a spill procedure. This indicates the areas of the site where there is bulk storage of materials and available spill kits, includes contact (telephone) details for key senior personnel and the emergency services to be contacted in the event of a spillage and the actions to be taken in the event of a spillage to minimise the risk of environmental damage. The site manager is responsible for implementing risk management measures in accordance with the management system.			
Handling of Categories 2 and 3 waste. Potential for escape of waste See below for potential odour risks	Soil and groundwater beneath the site. Offsite surface water receptors Ecological receptors	Migration of escape of waste: ▪ Onto unmade ground and penetration into soil and groundwater. ▪ Into the surface water drainage system ▪ Into and along surface water routes.	The majority of waste on site is category 3 and a minority classified as category 2. The handling of waste is undertaken in the yard on impermeable hardstanding away from surface water drains. The waste is solid and not likely to migrate across hardstanding. Waste is only transferred to the yard immediately prior to a collection. Transfer of waste onto waste transfer trucks is undertaken in accordance with a waste handling procedure to ensure that waste is transferred carefully reducing the potential for escape / spills of Category 2/3 waste, Any waste spilled during waste transfer is cleaned up immediately. The site manager is responsible for implementing risk management measures in accordance with operational and management procedures.	The probability is very low for both source – pathway – receptor linkages due to the nature of the waste, the integrity of the primary containment systems, and the control measures in place.	Negligible Impact Loss would be contained to site	Very low. **Mitigation measures are considered BAT**
Nuisance						
Odour - Handling of Categories 2 and 3 waste	Adjacent commercial/industrial properties. Residential receptors	Odour transported through the air, with variables such as wind and climate worsening /ameliorating the hazard.	The site has not received nuisance odour complaints from nearby residents and businesses in recent times. Site operatives conduct daily checks and record any instances of unacceptable odour. The operation of the automated process lines it not anticipated to lead to any new sources of odour at the site as it is undertaken within the factory building and roller shutter doors are closed when not in use. Bulking up of animal by product waste may have the potential to generate odour when the trailer is uncovered during the loading of waste. However, this activity is undertaken quickly to limit the presence of waste in the yard. Further detail on odour management can be found in Section 3.5 of the main report. The current onsite odour management plan is to be updated to include the bulking up activities. The site manager is responsible for implementing risk management measures in accordance with operational and management procedures.	The probability is very low for both source – pathway – receptor linkages due to the integrity of the primary containment systems, and the control measures in place.	Negligible Impact Loss would be contained to site	Low. **Once the odour management plan is updated - Mitigation measures are considered BAT.**
Noise - activities occurring on site including machinery, on-site vehicle use and alarm systems	Adjacent commercial/industrial properties. Residential receptors	Noise travels through sound waves, which can be transported longer distances or be louder in certain locations depending on open space and	The site is located within close proximity to residential properties. The equipment is subject to regular preventative maintenance in accordance with the manufacturer's requirements. A record of the inspection findings and any complaints will be made in the site diary. Noise	The probability is very low for both source – pathway – receptor linkages due to the integrity of the primary	Negligible Impact Loss would be contained to site	Low. **Once the noise management plan is updated -**

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
		how loud the source of the noise is.	complaints are recorded as per the nuisance procedure and communicated with the EA. The 6 No. external compressors have potential to generate noise. Two noise assessments have recently been undertaken at the site to assess the impact to offsite receptors. These assessments concluded that the potential for noise generated from the site to impact offsite residential receptors is considered to be low. 2SFG is in the process of updating the current noise management plan to incorporate the process changes and the findings of recent noise impact assessments. Once this exercise is complete, 2SFG are considered to be compliant with BAT. The site manager is responsible monitoring and managing noise levels, in accordance with the management system.	containment systems, and the control measures in place.		**Mitigation measures are considered BAT.**
Pests	Adjacent commercial/industrial properties. Residential receptors	Land, Water, Air	The site handles materials that would be expected to attract pests, including animal by product waste. The site is inspected daily to ensure that pests are not present on site. In the event that pests are found, an investigation will be undertaken to locate the problematic waste. The problematic material will be isolated and removed from site to a suitably licenced facility. The site uses hawks and scarers to deter birds. In the unlikely event that vermin or pests are identified on site, a specialist pest control contractor will be employed to undertake measures to remove the animals from the site. Bulking up of animal by product waste may have the potential to attract birds when the trailer is uncovered during the loading of waste. However, this activity is undertaken quickly to limit the presence of uncovered waste in the yard. The site manager will be responsible for implementing risk management measures such as pest control in conjunction with the environmental management system.	The probability is very low for both source – pathway – receptor linkages due to the integrity of the primary containment systems, and the control measures in place.	Negligible Impact Loss would be contained to site	Very low. **Mitigation measures are considered BAT**

Appendix F Directors Details

Application for Variation of Environmental Permit Number EPR/JP3433WU – V002

Supporting Documentation

2 Sisters Food Group Limited

SLR Project No.: 410.065277.00001410.065277.00001

3 October 2023

Environmental Permit Variation – EPR/JP3433WU

Company Name: 2 Sisters Food Group Limited

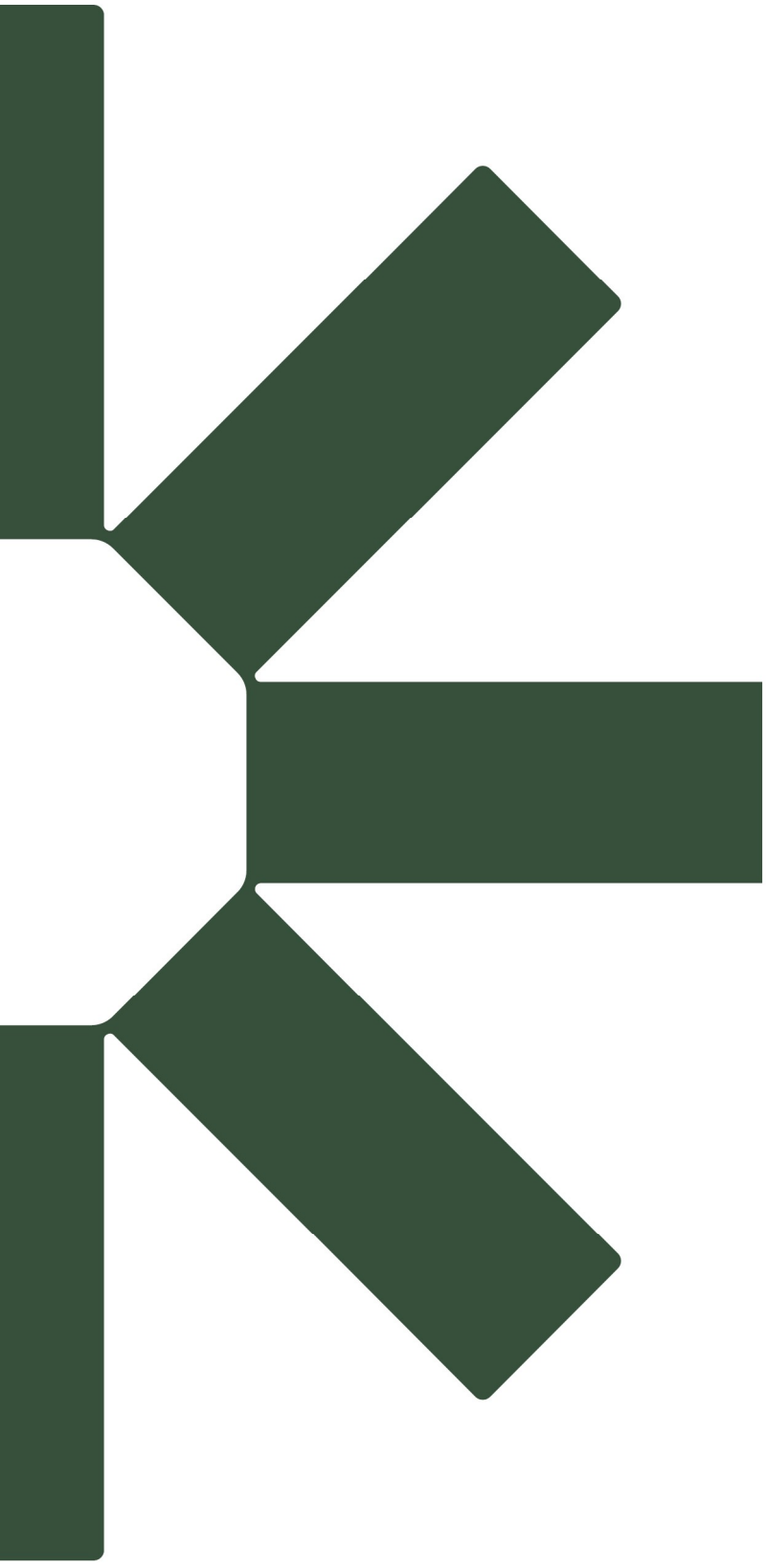
Company Number: 02826929

Incorporated on: 15 June 1993

Registered Address: Trinity Park House Trinity Business Park, Fox Way, Wakefield, West Yorkshire, WF2 8EE

Director's Details:

TITLE	FIRST NAME	LAST NAME	POSITION	DATE OF BIRTH
Mr	Ranjit Singh	BOPARAN	Director	August 1966
Mr	Baljinder	KAUR BOPARAN	Director	January 1968
Mr	Richard John	PENNYCOOK	Director	February 1964
Mr	Craig Ashley	TOMKINSON	Director	March 1982



Making Sustainability Happen