BAT No.	Topic	Brief Description	BAT	Applicable BAT-AEL	Compliant now?	Derogation needed?	Provide brief comments on how compliance with BAT is (or will be) achieved Where "not applic" is given, please explain why
1	EMS	Improve overall environmental performance	Implement an 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;	-	Yes		The operator is part of Pilgrim group's environmental corporate strategy and operates and EMS in accordance with ISO14001:2015. The Senior Management Team are committed to implementation of the EMS.
			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;	-	Yes		The operator is part of Pilgrim group's environmental corporate strategy and operates an EMS in accordance with ISO14001:2015. This takes account of risks to the environment, applicable legal compliance and the needs/interests of stakeholders
			iii) development of an environmental policy that includes the continuous improvement of the environmental performance of the installation;	-	Yes		The operator is part of Pilgrim group's environmental corporate strategy and operates an EMS in accordance with ISO14001:2015. A corporate Environmental Policy is in place.
			iv) establishing objectives and performance indicators in relation to significant environmental aspects, including safeguarding compliance with applicable legal requirements;	-	Yes		The operator is part of Pilgrim group's environmental corporate strategy and operates and EMS in accordance with ISO14001:2015. The EMS provides the framework for objectives and targets to be set related to the site's significant aspects. KPIs are in place related to environmental performance and compliance.
			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;	-	Yes		Continuous Improvement programme in place to achieve efficiency targets.
			vi) determination of structures, roles and responsibilities in relation to environmental aspects and objectives and provision of the financial and human resources needed;	-	Yes		Organisation and Responsibilities for the EMS are documented for the Redruth facility
			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);	-	Yes		The environmental training needs of personnel whose actions impact on environmental performance are identified as part of the EMS and implemented through the site-wide training plan.
			viii) internal and external communication;	-	Yes		Internal and external communications procedures in place.
			ix) fostering employee involvement in good environmental management practices;	-	Yes		The site consults with all employees from a SHE perspective.
			x) Establishing and maintaining a management manual and written procedures to control activities with significant environmental impact as well as relevant records;	-	Yes		The operator is part of Pilgrim group's environmental corporate strategy and operates a documented EMS in accordance with ISO14001:2015 that defines the operational control and record requirements of the system.
			xi) effective operational planning and process control;	-	Yes		Operational planning and process controls are in place as part of EMS and the wider governance programme for the site.
			xii) implementation of appropriate maintenance programmes;	-	Yes		Electronic maintenance scheduling and response system
			xiii) emergency preparedness and response protocols, including the prevention and/or mitigation of the adverse (environmental) impacts of emergency situations;	-	Yes		Redruth Emergency Plans - The site is fenced to prevent unauthorised access and operates manned 24 hour security together with CCTV covering the facility. The site assesses fire and explosion risk as a part of its response to DSEAR, asset and fire protection. Fire prevention measures are employed to reduce risk to life and infrastructure to as low as is reasonably practicable. An accident plan is present on site which includes emergency procedures including environmental matters that is trained out to relevant personnel. Emergency response plans are subject to periodic testing and all critical response equipment are identified and inspected as part of a planned schedule. Contingency measures include access to key replacement plant and equipment in the event of breakdowns or unplanned events.
			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;	-	Yes		Project Management processes consider environmental impacts through the project life cycle
			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;	-	Yes		Environmental monitoring parameters are monitored at Redruth including production, raw materials use, packaging use, incidents/spills, energy use, water use, product waste, solid waste, air emissions, effluent.
			xvi) application of sectoral benchmarking on a regular basis;	-	Yes		Pilgrim produce annual reports which allow for benchmarking within group and across the sector.

			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;	-	Yes		The site receives external audits from Group of its EMS. Regular site-based internal audits of the EMS are also carried out.
			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;	-	Yes		Actions arising from audits or inspections or as a result of incident investigations are recorded and tracked to close out.
			xix) periodic review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness;	-	Yes		Management Review procedure and process in place as part of the EMS.
			xx) following and taking into account the development of cleaner techniques.	-	Yes		Individual department heads responsible for tracking developments in technology in their areas.
			BAT is also to incorporate the following features in the EMS: i) noise management plan (see BAT 13);	-	Other (please explain)		There is no history of noise complaints at the site. As part of the EMS the operator has in place all the components of an noise management plan which includes a protocol for actions and timelines in the event of an incident, monitoring and responding to noise incidents, inventory of noise sources, risk assessment and operational controls aimed at preventative maintenance, management, monitoring and inspection of all potential sources.
			ii) odour management plan (see BAT 15);	-	Other (please explain)		There is no history of odour complaints at the site. As part of the EMS the operator has in place all the components of an odour management plan which includes a protocol for actions and timelines in the event of an incident, monitoring and responding to odour incidents, inventory of odour sources, risk assessment and operational controls aimed at preventative maintenance, management, monitoring and inspection of all potential sources.
			iii) inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams (see BAT 2);	-	Yes		Summary of Environmental Monitoring sets out parameters that are monitored at Redruth including production, raw materials use, packaging use, incidents/spills, energy use, water use, product waste, solid waste, air emissions, effluent. All parameters reported electronically to UK group system.
			iv) energy efficiency plan (see BAT 6a).	-	Yes		Energy efficiency targets are in place and KPI's tracked to ensure site progress towards climate change agreement targets.
2	EMS - inventory of inputs & outputs	Increase resource efficiency and reduce emissions	Establish, maintain and regularly review (including when a significant change occurs) an inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features:	-	Yes		Utilities and materials usage including relative waste generation and yield data are continuously reviewed by the management team. Environmental KPIs and associated targets are tracked locally and reported into Group.
			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 waste water/waste gas treatment techniques to prevent or reduce emissions, including their performance.	-	Yes		HACCP plans describe the process flow. The main application provides a summary of these as well as the techniques employed in the new plant to minimise wastes and emissions.
			II. Information about water consumption and usage (e.g. flow diagrams and water mass balances), and identification of actions to reduce water consumption and waste water volume (see BAT 7).	-	Yes		Water consumption is monitored and tracked, and reduction targets are in place managed through CI programme across the site.
			III. Information about the quantity and characteristics of the waste water 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.	-	Yes		The effluent plant operation is periodically reviewed and process optimised by retained 3rd party specialists. This includes inspection, calibration and analysis of wastewater influent streams including the parameters highlighted.
			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).	-	Other (please explain)		Combustion plant emissions have been screened and risk assessed as part of this application.
			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).	-	Yes		Energy consumption, raw materials and waste streams are monitored and tracked. The information collected is used to generate recommendations for improvement projects, which will be taken forward for business case/capex where feasible.

			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).	-	Yes		Energy consumption, raw materials and waste streams are monitored and tracked as close to the point of use/generation. The information collected is used to generate recommendations for improvement projects, which will be taken forward for business case/capex where feasible.
3	Monitoring - process parameters for emissions to water	Monitor key process parameters at key locations for emissions to water	For relevant emissions to water as identified by the inventory of waste water streams (see BAT 2), BAT is to monitor key process parameters (e.g. continuous monitoring of waste water 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).	-	Other (please explain)		Flow rate is monitored constantly. Continuous pH monitoring in place. Temperature is not routinely measured.
4	Monitoring - emissions to water	Monitor emissions to water to the required frequencies and standards	BAT is to monitor emissions to water with at least the frequency given [refer table] 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.	-	Other (please explain)		Periodic spot samples analysed off site in addition to testing undertaken by South West Water.
5	Monitoring - air emissions	Monitor channelled emissions to air to the required frequencies and standards	BAT is to monitor channelled emissions to air with at least the frequency given [refer table] and in accordance with EN standards.	-	Other (please explain)		Currently no requirement to monitor air emissions. Due to the scale and nature of the emissions no monitoring of releases to atmosphere are considered necessary.
6	Energy efficiency	Increase energy efficiency	In order to increase energy efficiency, BAT is to use an energy efficiency plan (BAT 6a) and an appropriate combination of the common techniques listed in technique 6b within the table in the BATCs.	-	Yes		The elements of a plan are in place. The operator measures energy consumption and benchmarks progress against KPI's. Projects identified on an ongoing basis through CI which can contribute to meeting energy efficiency targets.
7	Water and waste water minimisation	Reduce water consumption and the volume of waste water discharged	In order to reduce water consumption and the volume of waste water discharged, BAT is to use BAT 7a and one or a combination of the techniques b to k given below. [for detail of each technique, refer BAT 7 table in BATCs) (a) water recycling and/or reuse (b) Optimisation of water flow (c) Optimisation of water nozzles and hoses (d) Segregation of water streams *Techniques related to cleaning operations:* (e) Dry cleaning (f) Pigging system for pipes (g) High-pressure cleaning (h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP) (i) Low-pressure foam and/or gel cleaning (j) Optimised design and construction of equipment and process areas (k) Cleaning of equipment as soon as possible	-	Yes		Water recycling opportunities are review as part of the CI process and have delivered water saving opportunities including cooling water and condensate returns. The manufacturing processes are partly automated and controlled by a PLC system. This includes temperatures, flows and levels. Cleaning water is pressure controlled. Hoses with nozzles used for some environmental cleaning. Effluent and surface water drainage are physically segregated minimising the amount of uncontaminated water that is treated on site. Teams are trained and asked to operate to 'Clean as you Go' principles to minimise waste to drain and employ dry clean up where possible. Tubs/bins are scraped out prior to cleaning. Catchpots in place on factory drains to prevent large solids reaching effluent plant. Cleaning water is pressure controlled. Mobile scrubber unit utilised in curing area all techniques utilised on site The development process takes into account the hygiene requirements of the process and ensure efficient cleaning can be facilitated. New equipment installations go through HAZOP and HACCP process to identify any potential issues. Dry clean up equipment is available in all manufacturing areas.
8	Use of harmful substances	Prevent or reduce the use of harmful substances	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. (a) Proper selection of cleaning chemicals and/or disinfectants (b) Reuse of cleaning chemicals in cleaning-in-place (CIP) (c) Dry cleaning (d) Optimised design and construction of equipment and process areas [for detail of each technique, refer BAT 8 table in BATCs]	-			Cleaning chemicals appropriate to meet customer and food standards and systems are used, plus other chemicals used for environmental cleaning, water and effluent treatment. See raw materials inventory in main application for a full list of chemicals used. Teams are trained and asked to operate to 'Clean as you Go' principles to minimise waste to drain and employ dry clean up where possible. Dry clean up equipment is available in all manufacturing areas The process take into account the hygiene requirements and ensure efficient cleaning can be facilitated. New equipment installations go through HAZOP and HACCP process to identify any potential issues.
9	Use of refrigerants	Prevent emissions of ozone depleting substances and of substances with high global warming potential	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.	-	Yes		Ammonia is used as the main refrigerant gas
10	Resource efficiency	Increase resource efficiency	In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below: (a) Anaerobic digestion (b) Use of residues (c) Separation of residues (d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading	-	Yes		All waste streams are segregated. Effluent sludge is sent to AD avoiding landfill.

11	Emissions to water - waste water buffer storage	Provision of appropriate buffer storage capacity for waste water	In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.	-	Yes		There is sufficient divert capacity on the effluent plant. Effluent is continuously monitored to allow for automatic divert if required.
12	Emissions to water - treatment	To reduce emissions to water	In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below. *Preliminary, primary and general treatment* (a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc) *Aerobic and/or anaerobic treatment (secondary treatment)* (d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitification and/or denitrification (f) Partial nitration - anaerobic ammonium oxidation *Phosphorus recovery and/or removal* (g) Phosphorus recovery as struvite (h) Precipitation (i) Enhanced biological phosphorus removal *Final solids removal* (j) Coagulation and flocculation (k) Sedimentation (l) Filtration (eg sand filtration, microfiltration, ultrafiltration) (m) Flotation [for detail of each technique, refer BAT 12 table 1 in BATCs, copied in to col J]	**Insert applicable AEL(s) here** ***scroll across for table***	Yes		The site uses primary physical screening and secondary Dissolved Air Floatation (DAF) technology which are recognised as BAT within Food, Drink and Milk Industries BREF, 2018. The treated effluent is discharged under consent from South West Water to the local treatment works. There is no discharge to surface water of process effluent.
13	Noise - management plan	Prevent or reduce noise emissions	In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to set up, implement and regularly review a noise management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements: - a protocol containing actions and timelines; - a protocol for conducting noise emissions monitoring; - a protocol for response to identified noise events, eg complaints; - a noise reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures. *Note: BAT13 is only applicable where a noise nuisance at sensitive receptors is expected and/or has been substantiated.*	-	Other (please explain)		There is no history of noise complaints at the site from routine production operations. As part of the EMS the operator has in place all the components of an noise management plan which includes a protocol for actions and timelines in the event of an incident, monitoring and responding to noise incidents, inventory of noise sources, risk assessment and operational controls aimed at preventative maintenance, management, monitoring and inspection of all potential sources. Noise monitoring is periodically undertaken (including vibration (internally) as part of occupational H&S). Plant or equipment with the potential to create noise is internal or enclosed (e.g. compressors, boilers, all processing equipment). Tankers switch off engines while off-loading. Facilities for delivery vehicles to plug in during loading of finished product will be provided to minimise noise from vehicle engines at despatch. Movement of product on to trailers is via a sealed platform between the trailer and the building which will minimise external noise.
14	Noise minimisation	Prevent or reduce noise emissions	In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given below. (a) Appropriate location of equipment and buildings (b) Operational measures (c) Low-noise equipment (d) Noise control equipment (e) Noise abatement [for detail of each technique, refer BAT 14 table in BATCs]	-	Yes		Plant or equipment with the potential to create noise is internal or enclosed (e.g. compressors, boilers, all processing equipment). Ongoing PPM system in place. Tankers switch off engines while off-loading. Facilities for delivery vehicles to plug in during loading of finished product will be provided to minimise noise from vehicle engines at despatch. Movement of product on to trailers is via a sealed platform between the trailer and the building which will minimise external noise. Considered as part of the design specification for all new equipment The design of any new building and equipment will consider BAT for the control of noise.
15	Odour - management plan	Prevent or reduce odour emissions	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements: - a protocol containing actions and timelines; - a protocol for conducting odour monitoring. - a protocol for response to identified odour incidents eg complaints; - an odour prevention and reduction programme designed to identify the source(s); to measure/estimate odour exposure: to characterise the contributions of the sources; and to implement prevention and/or reduction measures. *BAT 15 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.*	-	Other (please explain)		Odour has been considered as part of this application and within the EMS. The measures taken to manage and reduce odours, actions to take in the event of odour being identified are explained as part of this application. No formal odour monitoring is routinely undertaken The site has a complaints procedure as part of the EMS . The EMS identifies potential sources, how they are managed and actions to be taken in the event of reportable odour.

Meat processing

BAT No.	Topic	BAT	Applicable BAT- AEL	Compliant now?	Derogation needed?	COMMENTS Provide brief comments on how compliance with BAT is (or will be) achieved
29	Emissions to air	In order to reduce channelled emissions of organic compounds to air from meat smoking, BAT is to use one or a combination of the techniques given below. (a) Adsorption (b) Thermal oxidation (c) Wet scrubber (d) Use of purified smoke *Table 18* **BAT-associated emission level (BAT-AEL) for channelled TVOC emissions to air from a smoke chamber** Parameter | Unit | BAT-AEL (average over the sampling period) TVOC | mg/Nm³ | 3-50 (1) (2) (1) The lower end of the range is typically achieved when using adsorption or thermal oxidation. (2) The BAT-AEL does not apply when the TVOC emission load is below 500 g/h.		**Yes**	No	The combined hot-smoking and cooking units installed in 2015 for the treatment (smoking) of meats. The facility generates smoke via friction burners within an enclosed environment operating at temperatures ranging from 65 – 95 °C and up to a maximum relative humidity of 98 %. The installation has automated PLC systems that monitor and controls temperature, relative humidity and process times automatically starting the connected smoke generator and exhaust air cleaning system. Periodically the system draws circulating air out of the chamber which will be enriched with steam trapping fats and condensates (including tar) out within a 'washer' before the exhaust gas air stream is discharge to atmosphere. As per the BREF friction smokers have been selected for the reduced potential for emissions to air compared with other smokers and consequentially lower requirement for deposit build up and air treatment 'Table 7.2 - Environmental Impact of different smoke treatment options'. The manufacturers confirms that the equipment meets 'all requirements of EU Directives pertaining to operation of glowing smoke generators'. http://www.vemag-anlagenbau.com/fileadmin/Media/Downloads/PDF/Produkte/EN/H504C_englisch.pdf Since install (2015) the PPM has been carried out as prescribed by the manufacturers O&M. This will ensure they continue to operate within the design specifications.
			TVOC from a smoke chamber **3 - 50 mg/Nm3**			
		Indicative EPLs	**Applicable EPL**	**State current performance**		**Comments on achieved performance: If outside of range, provide justification and/or improvements planned**
EPL	Specific energy consumption	*Table 16* **Indicative environmental performance level for specific energy consumption** Unit | Specific energy consumption (yearly average) MWh/tonne of raw materials | 0,25-2,6 (1) (2) (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.	**0.25 - 2.6** **MWh/tonne of raw materials (annual avg)**	**0.8Mw/t**	No	The operator is part of the underlying climate change agreement for the Food and Drink sector, Agreement Identifier: FDF1/T00146 v3, Facility Identifier FDF1/F00176 as such the SEC and relative performance has been tracked and reported over an extended period. The current performance is 0.8Mw/t which is at the low end of the performance metric for the sector. The SEC is trended on a period basis and reported to Group for internal/group benchmarking of performance against target
EPL	Specific waste water discharge	*Table 17* **Indicative environmental performance level for specific waste water discharge** Unit | Specific waste water discharge(yearly average) m³/tonne of raw materials | 1,5-8,0 (1) (1) The specific waste water discharge level does not apply to processes using direct water cooling and to the production of ready meals and soups.	**1.5 - 8.0** **m3/tonne of raw materials (annual avg)**	**0.57 M3/t**	No	The specific waste water discharge metric M3/t is very low compared to the BREF. This is because of the nature of the activities that give rise to effluent. Water is consumed only for the purpose of the cleaning down of equipment and production areas in line with HCCP and the minimum legal cleaning schedule. Excessive water use is reduced further by dry cleaning methods being employed and a clean as you go policy.

BAT No.	Topic	Brief Description	BAT	Applicable BAT-AEL	Compliant now?	Derogation needed?	Provide brief comments on how compliance with BAT is (or will be) achieved Where "not applic" is given, please explain why
1	EMS	In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features	1.i commitment of the management, including senior management;	-	Yes		The operator has in place an Environment Management System (EMS) that is aligned to the requirements of ISO14001:2015. The EMS includes documented procedures setting out roles and responsibilities including that of senior management.
			1.ii definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation;	-	Yes		The operator has an Environmental Policy in place which commits the site to legal compliance and continuous improvement.
			1.iii planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;	-	Yes		SOP's are in place for all manufacturing processes and cleaning tasks. The operator has a comprehensive Continuous Improvement (CI) governance structure in place which covers all manufacturing and allied activities at the site. Opportunities are identified and assessed for added value, and against ability to impact on key site KPI's including environmental impacts such as water usage and other business/production KPI's. The tracker is reviewed on a period basis.
			1.iv implementation of procedures paying particular attention to: (a) structure and responsibility, (b) recruitment, training, awareness and competence, (c) communication, (d) employee involvement, (e) documentation, (f) effective process control, (g) maintenance programmes, (h) emergency preparedness and response, (i) safeguarding compliance with environmental legislation;	-	Yes		The EMS includes documented management procedures and arrangements covering: a.Management System includes a manual and documented procedures setting out roles and responsibilities. b.All employees receive an induction which includes awareness of the environmental permit and the EMS. All new starters have an individual learning plan which includes all relevant SOP's to support their competence framework which will include any relevant to the management of environmental impacts. c.The management system manual contains procedures relating to internal and external communications processes. d.See point (.b) e.The management system includes a manual, documented procedures and signposting to relevant records. f.SOP's are in place for all processes and cleaning tasks. g.The site operates a computerised PPM system. h.Contingency plans in the event of breakdowns of key plant and equipment or unplanned events. An accident plan is present on site which includes any emergency procedures for environmental matters e.g. spillage. i.A legal register utilised to identify all compliance requirements and the controls required. Records to demonstrate legal compliance are periodically audited by Group as part corporate governance programme.
			1.v checking performance and taking corrective action, paying particular attention to: (a) monitoring and measurement (b) corrective and preventive action, (c) maintenance of records, (d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;	-	Yes		(a)EMS includes a manual and documented procedures setting out the monitoring and measurement programme. KPI's including utilities and waste are tracked. (b)Corrective and preventive action procedures are in place as part of the EMS covering audits, incidents and action reporting. Progress with close out of actions is tracked and reviewed by the senior leadership team. (c)The EMS includes procedures for the identification, maintenance and retention of applicable records (d)The EMS includes a manual and documented procedures setting out the internal/external audit process. The site receives external environmental audits from Group.
			1.vi review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness;;	-	Yes		The EMS includes a manual and documented procedures setting out the management review process. The EMS is reviewed at least annually.
			1.vii following the development of cleaner technologies;	-	Yes		The site is benchmarked against other Pilgrim businesses, and sometimes do visits to other companies or take part in industry forums which help identify best practises which could be brought to the site.
			1.viii consideration for the environmental impacts from the eventual decommissioning of the plant at the stage of designing a new plant, and throughout its operating life;	-	Yes		The site has in place a generic closure plan which is periodically reviewed. New equipment goes through a capex process which includes siting and assessment of efficiency including energy, water use and would, where relevant, include decommissioning considerations.
			1.ix application of sectoral benchmarking on a regular basis;	-	Yes		The site is benchmarked against other Pilgrim businesses in terms of energy, water and food waste, in addition to the review of environmental performance relative to production tonnages. Pilgrim take part in industry forums which help identify best practises which could be brought to the site and shared with others in the sector.
			1.x waste stream management (see BAT 2);	-	Yes		See BAT 2
			1.xi an inventory of waste water and waste gas streams (see BAT 3);	-	Yes		See BAT 3

			1.xii residues management plan (see description in Section 6.6.5)	-	Yes		The site applies the waste hierarchy to all waste residues which is periodically reviewed as part of the EMS. Specific measures are in place to avoid the generation of waste and minimise the generation of residues arising from the treatment of waste. The operation of the ETP is optimised and the site supported by 3rd party specialist.
			1.xiii accident management plan (see description in Section 6.6.5);	-	Yes		The accident management plan is part of the site's EMS and has assessed the specific hazards posed by the plant and the associated risks and consequences. The plan identifies the control measures in place to address these risks and associated procedures to be followed in the event of an incident.
			1.xiv odour management plan (see BAT 12);	-			See BAT 12
			1.xv noise and vibration management plan (see BAT 17)	-			See BAT 17
2	Environmental Performance		2.a Set up and implement waste characterisation and preacceptance procedures	-			Not applicable – the site does not accept 3rd party waste. The activity is restricted to the treatment effluent generated by the permitted installation only covering physical screening, settlement and off site sludge removal to discharge to sewer.
			2.b Set up and implement waste acceptance procedures	-			Not applicable – see above.
			2.c Set up and implement a waste tracking system and inventory	-			Not applicable – see above.
			2.d Set up and implement an output quality management system	-	Yes		Flow and pH of effluent discharge is constantly monitored. Effluent sampling in place to generate composite samples that is used by South West Water for analysis to ensure compliance with discharge consent. This includes suspended solids, chemical oxygen demand, fats, oils and grease.
			2.e Ensure waste segregation	-	Yes		Screenings are collected and further drained prior to removal for disposal. Solids are removed from the effluent stream via the DAF unit to a conical agitated tank.
			2.f Ensure waste compatibility prior to mixing or blending of waste	-	Yes		All liquid effluent generated by the installation are compatible. The balance tank receives screened effluent and allows for stabilisation of the mixed sources of effluent from across the facility prior to discharge to the effluent DAF system.
			2.g Sort incoming solid waste	-	Yes		A stainless-steel wedge wire rotary separates gross solids from liquid effluent. The screenings are collected and further drained prior to removal for disposal under Animal By-Products Regulations
3	reduction of emissions to water and air		(i) information about the characteristics of the waste to be treated and the waste treatment processes, including: (a) simplified process flow sheets that show the origin of the emissions; (b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;	-	Yes		The design specification of the DAF plant identified the typical characteristics and volume of the effluent generated by the site from historical data and analysis. O&M documentation for the treatment plant was an integral part of the hand over and commissioning plan from the designers and installers.
			(ii) information about the characteristics of the waste water streams, such as: (a) average values and variability of flow, pH, temperature, and conductivity; (b) average concentration and load values of relevant substances and their variability (c) data on bioeliminability (see BAT 52);		Yes		The characteristics of the influent wastewater stream is understood in addition to the variability of the volume and concentration by shift (production/hygiene operations).
			(iii) 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 substances and their variability (e.g. organic compounds, POPs such as PCBs); (c) flammability, lower and higher explosive limits, reactivity; (d) presence of other substances that may affect the waste gas treatment system or plant safety (e.g. oxygen, nitrogen, water vapour, dust).	-			There are no waste gas streams produced by the treatment process.
4	Storage of waste		4.a Optimised storage location	-	Yes		The DAF cell is fully enclosed and its location is as far as technically and economically possible from sensitive receptors as the existing site infrastructure allows. The majority of conveying of the effluent automated. There is no unnecessary handling of the waste streams as a result of the location of the plant.
			4.b Adequate storage capacity	-	Yes		The balance tank provides sufficient contingency to allow retention of out of specification wastewater (at least 3 hours of peak waste water flow). The level in the balance and sludge tanks is controlled by level probes, alarmed and maintained to ensure the treatment process is optimised. Out of spec effluent is automatically recirculated back through the treatment process.
			4.c Safe storage operation	-	Yes		All equipment used for loading, unloading and storing waste is fit for purpose, clearly documented and labelled. All materials are securely stored internally within dedicated facilities.
			4.d Separate area for storage and handling of packaged hazardous waste	-			Not Applicable – there is no handling or packing of hazardous waste within the treatment facility.

5	Handling & Transfer		Handling and transfer procedures aim to ensure that wastes are safely handled and transferred to the respective storage or treatment. They include the following elements: •handling and transfer of waste are carried out by competent staff; •handling and transfer of waste are duly documented, validated prior to execution and verified after execution; •measures are taken to prevent, detect and mitigate spills; •operation and design precautions are taken when mixing or blending wastes (e.g. vacuuming dusty/powdery wastes).	-	Yes		The waste handled by the treatment facility is from a single source (factory effluent). The pumped conveying of all waste streams is automated. All effluent plant operatives are trained and competent. Other than the reception and balance tank there is no blending or mixing of waste. Effluent drainage systems and flooring are installed around the DAF plant to allow the washdown of equipment and ensure that any spillage is captured and directed back through the treatment process. The site has formal spillage control standard operating procedures covering the handling and spill response requirements for materials with the potential to pollute. The SOPs are trained out to operators and require response measures (including the deployment of spill control materials) to prevent the loading of spills to site drains.
6	Wastewater monitoring		For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pretreatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	-	Yes		Spot samples are taken from an agreed sampling point (as per South West Water consent after the DAF). These samples are used by the sewage undertaker for monitoring purposes. An inline turbidity monitor is used for checking the clarity of the effluent. This monitor has alarm set points and is used to alert operators to issues before discharge to sewer. Effluent flow and pH is measured prior to discharge. The system can log flow volumes for ease of fault diagnosis and monitoring.
7	Wastewater monitoring		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.		Yes		Discharge to sewer is monitored (see above) in line with the discharge consent from South West Water South West Water. Compliance monitoring is undertaken by South West Water using the relevant test methodology and accredited laboratories.
8	Emissions to air		BAT is to monitor channelled emissions to air 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.	-			There are no emissions to atmosphere from the effluent plant.
9	Solvents		BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given below.	-			Not applicable. See BAT 10
10	Odour		Odour emissions can be monitored using: EN standards (e.g. dynamic olfactometry according to EN 13725 in order to determine the odour concentration or EN 16841-1 or -2 in order to determine the odour exposure); when applying alternative methods for which no EN standards are available (e.g. estimation of odour impact), ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. The monitoring frequency is determined in the odour management plan (see BAT 12).	-	Other (please explain)		There is no history of odour nuisance complaint at the site and odour has not previously been monitored quantitatively.
11	Monitoring		BAT is to periodically monitor water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.	-	Yes		The operator directly measures utility use across its installation at Redruth. Area flow and energy meters monitor usage is recorded and reported daily. Utilities are tightly controlled and monitored. Chemical dosing utilisation is recorded.
12	Odour Management Plan		a protocol containing actions and timelines; a protocol for conducting odour monitoring as set out in BAT 10; a protocol for response to identified odour incidents, e.g. complaints; an odour prevention and reduction programme designed to identify the source(s); to characterise the contributions of the sources; and to implement prevention and/or reduction measures	-	Other (please explain)		As part of the EMS the operator has in place all the components of an odour management plan which includes a protocol for actions and timelines in the event of an incident, monitoring and responding to odour incidents, inventory of odour sources, risk assessment and operational controls aimed at preventative maintenance, management, monitoring and inspection of all potential sources.
13	Emissions to air		13.a Minimising residence times	-	Yes		For materials with the potential to give rise to malodour residence times are minimised in line with technical and ABP requirements e.g. ABP materials storage, sludge collection frequencies.
14	Diffuse Emissions		13.b Using chemical treatment	-	Yes		Chemical treatment of odour compounds or use of masking agents is not employed by the site.
			13.c Optimising aerobic treatment	-			Not applicable
			14.a Minimising the number of potential diffuse emission sources	-	Yes		Good design principles are employed in the specification of the new treatment works including: -optimising the use of welded fittings and pipes -use of gravity transfer -limiting the height of drop (rotary screen and sludge conveying -control of vehicle movements -Sealed and closed-door operation of treatment building

			14.b Selection and use of high-integrity equipment	-	Yes		Good design principles are used in the specification of the new treatment works including: -valves with double packing seals; -high-integrity gaskets for critical applications; -pumps/compressors/agitators fitted with mechanical seals -magnetically driven pumps/ compressors/agitators
			14.c Corrosion prevention	-	Yes		Good design principles are used in the specification of the new treatment works including: -appropriate selection of construction materials; -lining or coating of equipment and painting of pipes with corrosion inhibitors
			14.d Containment, collection and treatment of diffuse emissions	-	Yes		The DAF cell plant is contained within a fully enclosed building. The site operates a closed door policy. The screen and sludge tank are located externally.
			14.e Dampening	-	Yes		The site uses primary physical screening and secondary Dissolved Air Floatation (DAF) technology which are recognised as BAT within Food, Drink and Milk Industries BREF, 2018. The treated effluent is discharged under consent from South West Water to the local treatment works. There is no discharge to surface water of process effluent.