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Aylesford Sludge Treatment Centre Environmental Permit Application

Main Supporting Document
790101_MSD_Main_AYL

June 2024

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Issue and Revision Record

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1 Non-technical Summary

1.1 Overview of the site and activities

Aylesford is a Sludge Treatment Centre (STC) (also known as the “Site”) and an associated Wastewater Treatment Works (WTW). The address for the Site is Bull Lane, Aylesford, Kent, ME20 7DA (National Grid Reference: TQ 7210 5950).

The WTW is operated under the Urban Wastewater Treatment Regulations and has a standalone Water Discharge Activity Environmental Permit which will remain an independent permitted activity.

The STC operation is a non-hazardous waste activity which is currently carried out under a registered T21 exemption. The waste activity comprises imports, physio-chemical and anaerobic digestion treatment and the storage of waste, all for recovery purposes. The STC handles waste derived from the wastewater treatment process, either indigenously produced on-site or imported from other Southern Water owned assets.

The site is also separately permitted under permit number EPR/DP3998HH for the non-hazardous imported tankered trade effluent waste activity of the disposal of waste via biological treatment at the WTW.

As advised by the Environment Agency through consultation at the WaterUK Waste & Recycling Network and a letter sent to all Water and Sewage Companies at director level in July 2019, Southern Water is applying to vary the above mentioned existing bespoke waste activity permit EPR/DP33998HH into a Bespoke Installation Permit for the STC waste activity. This is because a joint EA and DEFRA decision has been made that Anaerobic Digestion (AD) treatment facilities at WWTW STCs are covered by the Industrial Emissions Directive and can no longer operate under standard waste activity permits.

The primary permitted installation activity will be the AD treatment facility. The AD facility will treat indigenously produced and imported sludges. Permitted Directly Associated Activities will be the import of waste from other WTW assets; the physio-chemical treatment of imported and indigenously produced sludges; the storage of indigenously produced sludges, imported sludges and the sludge cake from the AD facility; the storage of biogas derived from the AD treatment of waste and the combustion of biogas in an on-site Combined Heat and Power plant (CHP). In the event the CHP cannot run in an emergency or due to operational issues, biogas will be combusted via an on-site flare stack and/or back-up boiler system.

It is intended that non-hazardous imported trade effluent waste disposal activity and AD Installation waste recovery activity will be two separate listed activities on a single consolidated Installation permit.

Please note that the permit variation application that was submitted in June 2020 to update this permit (EPR/DP3998HH) to modern EPR format is currently still being determined by the Environment Agency. An increase in tankered trade effluent waste imports to 59,000 tonnes has been requested via the permit application submitted in June 2020.

1.2 Overview of the process

Aylesford accepts indigenous sludge, imported liquid sludge, cess and septic, and commercial tankered wastes.

Imported sludge is received in 1 No. sludge reception tank (135m³). Indigenous sludge and imported liquid sludge are screened via 2 No. strain presses and are then stored in 2 No. screened sludge storage tanks (480m³ total). The sludge is then thickened by 2 No. drum thickeners and stored in 2 No. thickened sludge storage tanks (480m³ total) which feed 2 No. conventional mesophilic anaerobic digesters (1,772m³ each). Digested sludge is stored in 2 No. post-digestion sludge storage tanks (2,300m³ total) prior to being dewatered by 2 No. centrifuges. Dewatered digested cake is then stored in 7 No. cake storage bays (one of which is not routinely used) before being transported off-site approximately twice per year for agricultural use.

Biogas produced from the two digesters will be transported to one gas holder. The biogas produced gas will then be burnt in the existing CHP engine and 2 No. duty/standby boilers to produce electricity and heat for use on site. The current waste biogas burner (or flare) will be retained and available to burn excess gas.

Table 1.1: Combustion Plant Details

	CHP	Boiler 1	Boiler 2
Make/Model Number	MAN E2842 LE312 V12 SERIAL NUM: 4922116814222	Beeston Broxley Xtra BX780 serial no: 77711	Viessman Vitorond 200 serial no: 717459601004109BD2
Date that MCP became operational/was commissioned	2010	2004	2009
Thermal Input (MWth)	0.878 (407kwth output)	780kW (output)	780kW (output)
Stack height (m)	7.6 (estimated)	1	1
Fuel used (biogas, diesel etc)	Biogas	Biogas/gas oil	Biogas/gas oil
Estimated total hours of operation per year	8147	311	497
MCPD and SG Regs status	Existing	Existing	Existing

The IED permit will include:

- 1 No. Sludge reception tank (135m³)
- 2 No. Strain presses
- 2 No. Screened sludge storage tanks (480m³ total)
- 2 No. Drum thickeners (duty/standby)
- 2 No. Thickened sludge storage tanks (480m³ total)
- 2 No. Digesters (1,772m³ each)
- 2 No. Commercial waste balance tanks (68m³ each)
- 2 No. Post digestion storage tanks (1,400m³ each)
- 2 No. Centrifuges (duty/standby)
- 2 No. Centrifuge feed tanks (134m³ each)
- 1 No. Gas bag holder (490m³)
- 2 No. Auxiliary boilers powered by biogas and gas oil and running duty/standby
 - Boiler 1: 780 kW which heats the digesters

- Boiler 2: 780 kW for other site heating
- 1 No. CHP engine (291kWh)
- 1 No. Biogas burner (flare stack)
- 6 No. Cake storage bays (4,327m³ in total), in addition to one other bay which is not routinely used
- 2 No. Odour control units (OCU)– seashell biofilter and carbon polisher serving the sludge holding tanks and tankered trade waste balance tanks.

The following are outputs from the process:

- Cake (dewatered post digestion sludge) - stored in cake bays before being transported for use as a fertiliser;
- Biogas - stored in an existing 490m³ gas holder, then either:
 - Burnt in the CHP or back-up boilers to generate electricity;
 - Flared in the waste biogas burner.
- Grit and screenings (small amount) - deposited in skips before being taken off Site.

1.3 Summary of key technical standards

Table 1.2 lists the technical guidance notes (TGNs) used to inform the techniques and measures proposed to prevent and reduce waste arising and emissions of substances, including during periods of start-up and shut down, momentary stoppage and malfunction, and leaks.

Table 1.2: Part C3, Question 3a, Table 3a: Technical standards

Installation name	Aylesford STC	
Description of the schedule 1 activity or directly associated activity	Best available technique (BATC, BREF or TGN reference)	Document reference
Section 5.4 non-hazardous waste installation - anaerobic digestion installation regulated under the Industrial Emissions Directive, utilisation biogas for energy	<ul style="list-style-type: none"> • Biological waste treatment: appropriate measures for permitted facilities • Non-hazardous and inert waste: appropriate measures for permitted facilities 	<ul style="list-style-type: none"> • https://www.gov.uk/guidance/biological-waste-treatment-appropriate-measures-for-permitted-facilities/1-when-appropriate-measures-apply • https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities
General	<ul style="list-style-type: none"> • Monitoring stack emissions: technical guidance for selecting a monitoring approach • M1 sampling requirements for stack emission monitoring • Environment Agency environmental permitting guidance, including: <ul style="list-style-type: none"> – Risk assessments for your environmental permit – Energy efficiency (Energy efficiency for combustion and energy from waste power plants) – Noise assessment and control – H4 Odour management – H5 Site condition report – Control and monitor emissions for your environmental permit 	<ul style="list-style-type: none"> • https://www.gov.uk/guidance/monitoring-stack-emissions-technical-guidance-for-selecting-a-monitoring-approach • https://www.gov.uk/government/publications/m1-sampling-requirements-for-stack-emission-monitoring • https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit • https://www.gov.uk/guidance/energy-efficiency-standards-for-industrial-plants-to-get-environmental-permits • https://www.gov.uk/government/publications/noise-and-vibration-

Installation name	Aylesford STC
management-environmental-permits	
• https://www.gov.uk/government/publications/environmental-permitting-h4-odour-management	
• https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report	
• https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit	

Source: Mott MacDonald

1.4 Revisions since 2021 application submission

The application was first submitted in 2021. This Main Supporting Document includes details that have been updated following feedback received over the past three years in relation to IED permit applications for the anaerobic digestion of sewage sludge Table 1.3 provides a summary of the stand-alone documents included as part of this application, and the amendments where applicable. Where a document has not been amended due to it remaining applicable, the original reference number remains unchanged. Where a document has been updated this document will supersede any previous versions.

Table 1.3: Summary of revisions

Document name	Latest document reference	Summary of amendments
Main supporting document	790101_MSD_Main_AYL June 2024	Resubmitted – updated to include wider feedback from the Environment Agency.
Environmental Risk Assessment	790101_ERA_AYL	Resubmitted – updated to include complaints recorded since 2020 and completion of air quality risk assessment.
Environmental Constraints Maps	790101_ERA_Maps_AYL December 2023	Resubmitted. Human receptor map screening distance increased to 2km
Bio-aerosol Risk Assessment	790101_ERA_BioaRA_AYL December 2023	Resubmitted – updated to include bio-aerosol monitoring proposals and new windrose.
Odour Management Plan	790101_ERA_OdourMP_AYL June 2024	Resubmitted – updated to include new windrose, updated complaints recorded since 2020 and feedback from the Environment Agency.
Climate Change Risk Assessment	790101_ERA_CCRA_AYL	No change. To be included as part of the management system for the site.
Site Condition Report	790101_MSD_SCR_AYL	No change from initial application submission
BAT analysis	790101_MSD_BAT_AYL December 2023	Resubmitted – updated to include changes by Southern Water and wider feedback from the Environment Agency.
Site Layout and Location Plan	790101_MSD_SiteLayoutPlan_AYL June 2024	Resubmitted – updated to reflect proposed secondary containment, liquor transfer point, liquor sampling point and changes to point source emissions.
Drainage Plan	790101_MSD_DrainagePlan_AYL	No change
Schematics	790101_MSD_Schematics_AYL	No change
Environmental Management System Certificate	790101_MSD_EMS_AYL December 2023	Resubmitted. Certificate has been renewed.
Relevant Offences	790101_MSD_RelevantOffences_AYL	Resubmitted – updated to reflect new offences since original submission.
Details of Directors	790101_MSD_Directors_AYL	Resubmitted – updated to reflect director changes since original submission
Competency assessment certificates	790101_MSD_CompetencyAssessmentCertificates_AYL December 2023	Retracted, and replaced with Competency Management System.
Competency Management System	790101_MSD_CMS_AYL December 2023	Substitutes CoTC WAMTAB assessment certificates
Material Safety Data Sheets	790101_MSD_MSDS_AYL	No change
Leak Detection and Repair Plan	790101_MSD_LDAR_AYL December 2023	Additional document for T2 sites.
Duty of Care	790101_MSD_DutyofCare_AYL December 2023 790101_WasteAcceptance_AYL June 2024	Additional document for T2 sites. Added for sludge imports as per NDM Rfl June 2024
Permeability of surfaces at the Site	790101_MSD_PermeablePlan_AYL December 2023	Additional document for T2 sites.
Existing containment features map	790101_MSD_ContainmentPlan_AYL December 2023	Additional document for T2 sites

CIRIA assessment and modelling	790101-MMD-IED-AYL-CA-C-001 - P03 IED Risk Register Aylesford June 2024 790101-MMD-IED-AYL-SIM-M-101 DoNothing(Rainfall Included) 790101-MMD-IED-AYL-SIM-M-102 DoNothing(Tank Failure Only) 790101-MMD-IED-AYL-SIM-M-103 Option1(Rainfall Included) 790101-MMD-IED-AYL-SIM-M-104 Option1(Tank Failure Only) 790101-MMD-IED-AYL-SIM-M-105 Option1A(Rainfall Included) 790101-MMD-IED-AYL-SIM-M-106 Option1A(Tank Failure Only) 790101-MMD-IED-AYL-SIM-M-107 Option2(Rainfall Included) 790101-MMD-IED-AYL-SIM-M-108 Option2(Tank Failure Only) 790101-MMD-IED-AYL-SIM-M-109 Option3(Rainfall Included) 790101-MMD-IED-AYL-SIM-M-110 Option3(Tank Failure Only)	Simulations: No change, valid at the time of initial submission. Refinement of proposed solution provided in the IED Risk Register
Residue Management Plan	790101_MSD_RMP_AYL June 2024	Additional document for T2 sites.
H1 assessment	790101_H1 Tool v8_AYL December 2023	Resubmitted – reviewed with updated information
Air Quality Risk Assessment	790101_AQRA_AYL June 2024	Updated document, addressed wider feedback from the Environment Agency.
Accident Management Plan	790101_MSD_AMP_AYL December 2023	Additional document for T2 sites.
Form Part A	790101_App_PartA_AYL	No change
Form Part C2	790101_App_PartC2_AYL	No change
Form Part C3	790101_App_PartC3_AYL	No change
Form Part B6	790101_App_PartB6_AYL	Additional document for T2 sites (not previously required)
Form Part F1	790101_App_PartF1_AYL	No change
Implementation Plan	790101_MSD_ImplementationPlan December 2023	Additional document for T2 sites
Annual throughput schematic	790101_AnnualThroughput_AYL June 2024	Additional document, addressed wider feedback from the Environment Agency.
Waste Transfer Notes	790101_WasteTransferNotes_AYL June 2024	Additional document, addressed wider feedback from the Environment Agency.

2 Introduction

2.1 Overview

This document has been prepared to support the application to vary the existing bespoke waste activity permit into a bespoke installation Environmental Permit (hereafter referred to as 'the Permit'), reference EPR/DP3998HH, for the Aylesford Sludge Treatment Centre (STC) ('the Site') on behalf of Southern Water Services Limited ('Southern Water' or 'the Operator').

Following the joint Environment Agency and Department for Environment, Food and Rural Affairs (DEFRA) decision that AD treatment facilities at WTWs and STCs are covered by the Industrial Emissions Directive (IED) the intent of the application is to ensure the Site is permitted in line with the IED and the EPR 2016, as amended.

This document contains a description of the Site, the proposed permitted activities and Directly Associated Activities (DAAs), an assessment of the possible effects of these activities and responses to questions in Parts A, C2, C3, B6 and F1 of the application documentation (plus supporting information where required). Completed forms Part A, C2, C3, B6 and F1 are included as separate documents.

2.2 Document content and structure

The following application forms have been completed to support the application and have been submitted as stand-alone documents:

- Part A: About You (Document reference 790101_App_PartA_AYL)
- Part C2: Varying a bespoke permit (Document reference 790101_App_PartC2_AYL)
- Part C3: Variation to a bespoke installation permit (Document reference 790101_App_PartC3_AYL)
- Part B6: New bespoke water discharge activity or groundwater activity (point source discharge) or point source emission to water from an installation (Document reference 790101_App_PartB6_AYL December 2023).
- Part F1: Charges and declarations (Document reference 790101_App_PartF1_AYL)

The main body of the Permit application document ('the Main Supporting Document') includes all the supplementary information required in response to relevant questions within the Part A, Part C2, Part C3, Part B6 and Part F1 application forms for which there was insufficient space on the forms to answer the questions in full.

The Environmental Permit variation application document ('the Main Supporting Document') consists of two main parts:

- Chapter 5 provides the general information required to inform Part C2 relating to the variation of a bespoke permit; and
- Chapter 6 provides the more detailed information required to inform Part C3 relating to the variation of a bespoke installation permit.
- Chapter 7 provides the more detailed information required to inform Part B6.

Part F1 covers the required financial information required for payment of the application fee.

Additional information included as part of this submission and not as stand-alone documents, are found in the following appendix:

- Appendix A - European Waste Catalogue (EWC) Codes

3 Process Description

The tankered trade waste is discharged into 2 No. tankered trade waste balance tanks and is then pumped by 2 No. trade waste feed pumps to the inlet channel upstream of the inlet screens.

All incoming flows receive 6mm 2D screening and then pass through the detritors (2 No.) prior to storm separation. Flows in excess of 840 l/s overflow at the storm weir into 3 No. blind storm tanks. Storm tank contents are returned for treatment via the primary settlement tank (PST) distribution chamber once storm conditions subside. The storm tanks do not discharge to the environment and are essentially flow balance tanks.

Flows up to 840 l/s pass to the PST distribution chamber which distributes equally to 4 No. circular PSTs constructed from glass-lined steel. Settled sewage gravitates to the trickling filter distribution chamber where flow is distributed to 12 No. rectangular percolating filters and 12 No. circular percolating filters. The effluent from the percolating filters is settled in 8 No. radial humus tanks of different sizes.

Secondary treated sewage effluent is discharged to the Medway Estuary in line with the water discharge activity permit.

The STC comprises liquid sludge reception in 1 No. sludge reception tank. Sludge is imported ad hoc from other sites as operationally required. Both indigenous and imported liquid sludge are screened in 2 No. strain presses. Screened sludge is stored in 2 No. screened sludge storage tanks after which it is thickened by 2 No. drum thickeners. Thickened sludge is stored in a thickened sludge storage tank before being fed to 2 No. mesophilic anaerobic digesters. Digested sludge is then stored in 2 No. post-digestion storage tanks before being dewatered by 2 No. centrifuges. It is then stored in 7 No. cake storage bays (one of which is not routinely used) before being removed for use on agricultural land.

The site also includes a CHP unit, installed in 2010, powered by biogas and with a thermal rated input of 0.88MWth. Therefore, the Site does not fall within the scope of specified generator controls and currently the Medium Combustion Plant Directive (MCPD) since the thermal rated input of the CHP unit does not exceed 1MWth.

4 Part A - About you

4.1 Question 5c: details of directors

Details of directors are provided in stand-alone document reference 790101_MSD_Directors_AYL.

4.2 Question 7: Contact details

Where the contact disclosed in 7a (Anita Manns, Mott MacDonald) is not available the Environment Agency should contact the secondary contacts:

Name: Shannon Stone

Address: Mott MacDonald, Mountbatten House, Grosvenor Square, Southampton, SO15 2JU

Phone number: 023 8062 8538

Email: shannon.stone@mottmac.com

5 Part C2 – General – varying a bespoke permit

5.1 Question 2 - Table 1: Changes to existing activities

The variation application is to modernise the conditions of the existing physical treatment activity (A16) as authorised under the permit reference EPR/DP3998HH where required and to add the scheduled activity for Anaerobic Digestion to the same permit.

5.2 Question 3a: Relevant offences

Details of the relevant convictions are provided in the document reference 790101_MSD_RelevantOffences_AYL (produced by Southern Water).

5.3 Question 3b: Technical ability

The Site has one Certificate of Technical Competence (CoTC) holders, Neil Semple is assigned as Field Performance Manager (FPM) and the primary CoTC holder for the Aylesford STC. As this is a permit variation, the CoTC holder will provide adequate cover for the STC activities whilst the CMS arrangements, identified below, are being confirmed. Neil Semple's primary and continuing competency assessment certificates, where applicable, can be found in document reference 790101_MSD_CompetyAssessmentCertificates_AYL.

Environmental permit numbers and site addresses for all other waste activities that Neil Semple provides technical competence for:

Permit No: EPR/DP3498HP; Site Address: Ham Hill WWTW & STC, Brook Lane, Ham Hill, Kent; Post Code: ME6 5JX.

Operational management is provided by qualified individuals and considered to be technically competent. All staff on-site are trained to manage and operate activities without causing pollution.

Competency in terms of the requirements of the environmental permit will be ensured through the appropriate training of all staff, covering:

- Awareness of the regulatory implications of the Permit for the permitted activity and their own work activities;
- Awareness of all potential environmental effects from operation under normal and abnormal circumstances;
- Awareness of the need to report any deviation from the Permit; and
- Prevention of accidental emissions, and action to be taken when accidental emissions occur.

All staff are aware of the implications of activities undertaken including the operation of the Site. Skills and competencies necessary to work on-site are documented and records of training needs and training received for these posts are maintained.

Southern Water is currently working on an accredited Competency Management System under the Competent Operator Scheme, based on the Anglian Water Services-developed technical competency course to demonstrate that personnel have the appropriate technical skills and knowledge to manage the activities undertaken. This will be independently certificated and audited, through a third-party certification body (yet to be determined) to ensure it meets the requirements of the Competence Management System Standard, developed by Energy & Utility

Skills¹. The Competence Management System (CMS) enables Operators to demonstrate technically competent management on the basis of corporate competence and employees' individual competence. Individual competence remains a key component with each employee having the relevant technical competences required to carry out their role.

A signed licence agreement between Southern Water and Anglian Water in 2021 relating to Anglian Water Training Manuals, for the purpose of the CMS, is provided in document reference 790101_MSD_CMS_AYL December 2023. An e-learning course is being developed and certification is due to be undertaken by LRQA. The CMS is to be certified within the first 12 months from issue of a permit for the STC.

5.4 Question 3c: Finances

No relevant persons within Southern Water have current or past bankruptcy or insolvency proceedings against them.

5.5 Question 3d: Management System

The Site operates under the company-wide Environmental Management System (EMS 684981), which is certified to ISO 14001:2015 and is applicable to water supply and wastewater treatment assets at operational sites (wastewater treatment works, water supply works and water booster stations). The EMS is effective for three years from July 2023 and is accredited by the British Standards Institution (BSI).

Demonstrable procedures are outlined in the Site Process Activity Manual (SPAM) and Operating Plan. Where suitable and available, any monitoring of emissions to air, land and water is undertaken according to Monitoring Certification Scheme (MCERTS) Standards where the permit requires it.

As a part of the EMS the Operator has an internal audit programme that takes place every 12 months. During this annual programme operational sites are selected as a subsample and audited. Suppliers and business areas are also audited. An annual report is produced as part of the management review, and this is signed off by Senior Management. In addition, the EMS is subject to audit by the inspection and certification company BSI (for accreditation purposes) each year, and a full certification audit is conducted every three years.

The EMS addresses the following to ensure staff understand their roles and responsibilities to comply with environmental legislation and protect the environment and human health:

- Resources, roles, responsibility and authority
- Legal and other requirements in protecting the environment and human health
- Competence, training and awareness requirements
- Explanation of the Non-Conformance, Corrective and Preventative Action procedures
- Details of the significance of Environmental Aspects and Impacts
- EMS Review and auditing procedure and requirements
- Monitoring and measurement requirements
- Record keeping procedures

To accompany the Permit the Site will have its own Management System in line with the Environment Agency guidance. This identifies all the applicable procedures under the accredited EMS but includes additional site-specific information and procedures.

¹ Energy and Utility Skills (2021) Competence Management System. Available online at:
<https://www.euskills.co.uk/about/our-industries/waste-management/competence-management-system/>

One of the key tasks for Southern Water during the permit determination process is the development of the management system arrangements to cover additional requirements in relation to the permitted operations. This may include the Climate Change Risk Assessment (CCRA) document reference 790101_ERA_CCRA_AYL to address measures to adapt to predicted additional pressure from changes in external operational conditions (such as weather and flooding), if required. Climate change and climate resilience will be included in the ongoing future updates to the EMS.

In addition to the environmental elements of the management system, Southern Water also has a health and safety management system which includes relevant procedures to follow with regards to accidents and the reporting of incidents and near misses. The health and safety manual is designed to comply with the Health and Safety Executive's (HSE) Managing for health and safety guide (HSG65)².

The EMS certification can be found in Document reference 790101_MSD_EMS_AYL December 2023.

5.6 Question 5a: Site layout plan and process diagram

Plans provided, to satisfy question 5a, can be found in the following stand-alone documents:

- Site Layout and Location Plan - Document reference 790101_MSD_SiteLayoutPlan_AYL June 2024
- Drainage Plan - Document reference 790101_MSD_DrainagePlan_AYL
- Schematics - Document reference 790101_MSD_Schematics_AYL

5.7 Question 5b: Site condition report

In accordance with Environment Agency requirements, a Site Condition Report (SCR) has been produced to demonstrate the condition of the land and groundwater at the Site on issue of the proposed permit. The SCR includes the following details (section 1 to 4 of the Environment Agency template³):

- Site details;
- Condition of the land at permit issue;
- Permitted activities; and
- Changes to the activity.

A copy of the SCR can be found as document reference 790101_MSD_SCR_AYL.

5.8 Question 6: Environmental risk assessment

As part of the application for an environmental permit, operators must assess the risk to the environment and human health from the activities that they propose to undertake, using the methodology outlined in the Environment Agency's 'Risk assessments for your environmental permit'⁴.

The Environmental Risk Assessment (ERA) sets the requirements for the management of the permitted area, emission control measures etc. It assesses the risks to the environment,

² Health and Safety Executive (2013), Managing for health and safety (HSG65). Available online at: <https://www.hse.gov.uk/pubns/books/hsg65.htm>.

³ Environment Agency (2013). Environmental permitting: H5 Site condition report. Available online at: <https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report>

⁴ Environment Agency (2020) Risk assessments for your environmental permit. Available online at: <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>

amenity and human health. All control measures within the rules must be adhered to in order to obtain the permit.

The ERA assesses the impacts from the following environmental concerns:

- Point source and fugitive emissions to air;
- Point source and fugitive emissions to water and land;
- Noise and vibration;
- Odour;
- Litter, mud and debris;
- Vermin and insects (pests);
- Human health and environment safety (i.e. visual impacts, site security, flood risk); and
- Natural habitats and ecology.

Where emissions result in insignificant effects these have been screened out and where further detailed assessments of potential environmental impacts are required this is noted.

A copy of the ERA can be found as document reference 790101_ERA_AYL December 2023. Constraints maps December 2023 have been updated to demonstrate human receptors to a radius of 2km, as shown in document reference 790101_ERA_Maps_AYL December 2023.

6 Part C3 – Variation to a bespoke installation permit

6.1 Question 1: Table 1a: Activities applied for

Table 6.1: Table 1a: Activities applied for

Installation name	Schedule 1 or other references	Description of the Activity	Activity capacity	Annex I (D codes) and Annex II (R codes) and descriptions	Hazardous waste treatment capacity	Non - hazardous waste treatment capacity
Aylesford STC	S5.4, Part A (1), (b) and (i)	Anaerobic digestion	Annual: 92,397m ³ Daily: 250m ³	Recovery or a mix of recovery and disposal of non-hazardous waste with a biological treatment capacity exceeding 100 tonnes per day if the only waste treatment activity is anaerobic digestion. R3 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) R13 - Storage of waste pending any of the operations numbered R 1 to R 12.	0	Annual: 92,397m ³ Daily: 250m ³

Installation name	Schedule 1 or other references	Description of the Activity	Activity capacity	Annex I (D codes) and Annex II (R codes) and descriptions	Hazardous waste treatment capacity	Non - hazardous waste treatment capacity
Directly associated activities						
	Waste reception area	Import of sludge from satellite sites and commercial waste (future)		R3 D9		
	Gas combustion to produce heat and power.	Use principally as a fuel or other means to generate energy		R1		
	Use of biogas	Use principally as a fuel or other means to generate energy.		R1		
	Use of auxiliary standby flares	Incineration on land		D10		
	Standby boilers	Used for emergency only, do not export electricity to the grid		D10		
	Use of pressure release valves	Release of pressure from digesters				
	Storage	Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).		R13		
	Raw material storage	Storage of raw materials including chemicals, lubrication oil, antifreeze, diesel, activated carbon.		R05		
	Discharge of condensate	Condensate from the CHP exhaust, flare gas pipelines, gas storage bag From collection to the point of discharge at the adjacent adjacent WTW.				

Installation name	Schedule 1 or other references	Description of the Activity	Activity capacity	Annex I (D codes) and Annex II (R codes) and descriptions	Hazardous waste treatment capacity	Non - hazardous waste treatment capacity
Existing permitted activities						
	Physical treatment of waste (as per current permit)	Recycling/ reclamation of organic substances which are not used as solvents.	59,000 tonnes	R3		59,000 tonnes per annum
For installations that take waste	Total storage capacity	9,586m ³				
	Annual throughput	291,150 tonnes (wet) 59,000 tonnes for tankered trade waste				

The variation application is to modernise the conditions of the existing physical treatment activity (A16) as authorised under the permit reference EPR/DP3998HH, where required, and to add the scheduled activity for Anaerobic Digestion and the DAAs to the same permit.

The breakdown of the annual throughputs calculations are demonstrated document reference 790101_AnnualThroughput_AYL June 2024.

6.1.1 Question 1: Table 1b: Types of waste accepted

Southern Water requires a permit for the Site to be authorised to accept sludge waste to undergo anaerobic digestion to comply with the Industrial Emissions Directive. This will be achieved by varying existing permit EPR/DP3998HH which currently allows tankered trade waste imports.

It is requested that the annual quantity of indigenous sludge and liquid sludge imports to be accepted is 291,150 tonnes (wet), in addition to 59,000 tonnes of tankered waste imports.

In the June 2020 permit variation application (V006) currently being determined by the Environment Agency it has been requested that the tankered trade waste imports already allowed under EPR/DP3998HH are increased to 59,000 tonnes.

The codes for the types of waste accepted are shown in Appendix A. Document reference 790101_WasteTransferNotes_AYL June 2024 demonstrates the codes listed for 'Tankered trade waste imports under a waste activity' are currently accepted at the Site.

6.2 Question 2: Point source emissions to air, water and land

6.2.1 Emissions to air

Table 6.2: Part C3, Question 2, Table 2: Point source emissions

Installation name		Aylesford STC				
Point source emissions to air						
Emission point reference and location	Source	Parameter	Quantity	Unit		
CHP exhaust stack	CHP engine exhaust stack burning biogas	Oxides of Nitrogen (as NO ₂)	500	Mg/m ³		

Installation name Aylesford STC

Point source emissions to air

Emission point reference and location	Source	Parameter	Quantity	Unit
TQ 72209 59552		Carbon Monoxide	1400	Mg/m ³
		Sulphur Dioxide	350	Mg/m ³
		Total VOCs	1000	Mg/m ³
Flare stack TQ 72180 59469	Waste gas burner (flare stack)	Operational hours	No limits set	Mg/m ³
Duty/standby boiler 1 TQ 72187 59516	Dual fuel stand by boiler exhaust stack – operating on Biogas or gas oil	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	250	Mg/m ³
		Sulphur Dioxide (if burning biogas)	200	Mg/m ³
Duty/standby boiler 2 TQ 72191 59508	Dual fuel stand by boiler exhaust stack – operating on Biogas or gas oil	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	250	Mg/m ³
		Sulphur Dioxide (if burning biogas)	200	Mg/m ³
Gas holder TQ 72199 59492	Gas holder pressure relief valve	Biogas release and operational events	No limits set	
Odour control unit TQ 72232 59547	Channelled emissions to air as identified on Site plan Including tank vents biofilter and/or scrubbing system	Ammonia	20	Mg/m ³
		H ₂ S	No limit specified	
		Odour concentration	1000	Oue/Nm ³
Pressure relief valves on Digester 1 TQ 72204 59529	Biogas release and operational events	Operational hours Recorded duration and frequency.	No limit set	
Pressure relief valves on Digester 2 TQ 72217 59515	Biogas release and operational events	Operational hours Recorded duration and frequency.	No limit set	

The emission points are shown in drawing reference 790101_MSD_SiteLayoutPlan_AYL June 2024.

6.2.2 Emissions to water (other than sewers)

Not considered applicable as the drainage network sends water to the head of the works for treatment. There will be no point sources emissions from the STC.

There are no direct potentially contaminated discharges to controlled surface waters.

There will be no direct discharge of wastewater to controlled waters from the STC.

There are no direct potentially contaminated discharges to groundwaters.

Accidental releases of materials to the environment are controlled through adequate containment measures and working procedures in accordance with the EMS. Spill procedures are in place under EMS363 and 364 as well as a pollution prevention procedure EMS360. All spillages are recorded in the site diary including actions taken.

6.2.3 Emissions to sewers, effluent treatment plants or other transfers off-site

There will be no point source emissions or direct discharges to controlled waters or public sewers as part of the permit operation. Any liquid waste will either be reused or discharged to

the drainage system of the adjacent Aylesford WTW and will undergo treatment through the works before being discharged under an existing water discharge permit. On-site WTW effluent will meet the requirements of the existing water discharge activity permit. The water used at the Site will be contained in a closed circuit; all wastewater streams will either be recycled within the process or captured and rerouted to the adjacent WTW via the inlet works.

Condensate from the CHP exhaust, biogas system and flare stacks are contained within the sealed drainage system on the Site and pumped to the head of the adjacent Aylesford WTW.

Discharges will be minimal, typically arising from periodic maintenance/cleaning operations. As such, there are no direct potentially contaminated discharges to controlled surface waters and no significant impacts. All drainage (surface water or foul water) will be captured by the on-site drainage system and returned to the head of the WTW. A drainage plan of the Site is presented in document reference 790101_MSD_DrainagePlan_AYL.

The stormwater drainage of potentially contaminated areas from within the Site boundary will be routed into the sewage treatment process with no discharge outside of the Site. There will therefore be no risk of polluted runoff affecting off-site features.

Due to the anticipated very low levels of contamination of the water and the volumes involved, no monitoring of its composition is proposed prior to discharge to the WTW.

Any areas of the Site, where there is a risk of contamination of surface water, groundwater or discharge of process waters are located on impermeable concrete surface. All surface water from these areas drain to the WTW internal drainage system and are returned to the head of the works for treatment prior to discharge as final effluent.

A list of the point source emissions to sewers, effluent treatment plants and other transfers off-site is included as Table 6.3.

Table 6.3: Part C3, Question 2, Table 2: Point source emissions to sewers, effluent treatment plants or other transfers off-site

Emission point reference, and location	Source	Characteristics		Monitoring / mitigation measures prior to final discharge and emission point discharge.
Discharged to Aylesford WTW TQ 72185 59443 as W1 on site layout plan	Condensate from the gas pipelines and gas storage bag	Condensate with slightly elevated levels of H ₂ S dissolved from the biogas, resulting in a low level of acidity	Negligible	Rerouted to adjacent WWTW.
Boiler Maintenance TQ 72185 59443	Boiler blow down to minimise damage from high mineral content water.	High purity water with traces of chemicals (used for boiler dosing).	Infrequent and negligible	Rerouted to adjacent WWTW.
Drain down of plant TQ 72185 59443	Occurs during maintenance when it is necessary to drain down the feed water, hot well or boiler shell.	High purity water with traces of chemicals (used for boiler dosing).	Infrequent	Rerouted to adjacent WWTW.
Rainwater TQ 72185 59443	Uncontaminated roof water from buildings.	Clean rainwater from building roofs only.		Routed to head of works via site drainage system.
Rainwater TQ 72185 59443	Run off from impervious surfaces	Clean rainwater from runoff		Rerouted to adjacent WWTW
Sanitary water TQ 72185 59443	Domestic facilities.	Foul waste.	Negligible	Rerouted to adjacent WWTW.

Emission point reference, and location	Source	Characteristics		Monitoring / mitigation measures prior to final discharge and emission point discharge.
Washwater TQ 72185 59443	From the washing down of mechanical equipment during maintenance activities	Variable.	Negligible	Rerouted to adjacent WWTW.
D-well liquor tank (STC liquors) TQ 72181 59526 S1 on site layout plan	Process liquors from STC	Liquors from centrifuge, thickening etc processes		Rerouted to adjacent WWTW.

Please refer to the ERA (doc ref 790101_ERA_AYL December 2023) on the environmental risk the water emissions pose and how these are mitigated, where relevant.

6.2.4 Emissions to land

There is currently one point source emission to land as part of the activities carried out on-site. The condensate from the flare stack discharges to ground. The condensate is clean, uncontaminated water and is small in quantities. Drainage modifications are proposed for the Site to meet BAT. An implementation plan is shown in document reference 790101_MSD_ImplementationPlan December 2023. It is, therefore, considered that this will be added as an Improvement Condition to the permit.

Indigenous sewer grit and screenings are collected in separate skips and removed offsite by road vehicle and transported to a suitably permitted facility.

Discharges will be minimal, typically arising from periodic maintenance/cleaning operations, and is captured in spill trays.

Releases of raw materials to land are considered to be negligible due to adequate containment of the materials within suitable storage vessels, the provision of bunding and the presence of a contained drainage system.

A list of the point source emissions to land is included as Table 6.4.

Table 6.4: Part C3, Question 2, Table 2: Point source emissions to land

Emission point reference, and location	Source	Characteristics		Monitoring / mitigation measures prior to final discharge and emission point discharge.
Discharged to Aylesford WTW TQ 72181 59472 as W1 on site layout plan	Condensate from the flare stack	Condensate with slightly elevated levels of H ₂ S dissolved from the biogas, resulting in a low level of acidity	Negligible	None

Please refer to the ERA (doc ref 790101_ERA_AYL December 2023) on the environmental risk the water emissions pose and how these are mitigated, where relevant.

6.3 Question 3a: Operating techniques

This section provides a technical overview of the components, the proposed techniques and measures to prevent and reduce waste arising and emissions of substances and heat, including

during periods of start-up or shut-down, momentary stoppage and malfunction, and leaks. Specifically, consideration is made of:

- The technology to be used
- The process, in terms of how it will be operated and controlled
- In-process controls and Best Available Techniques (BAT) Assessment
- Measures implemented to control emissions to air, water, sewer and land

Table 6.5 lists the technical guidance notes (TGNs) used to inform the techniques and measures proposed to prevent and reduce waste arising and emissions of substances, including during periods of start-up and shut down, momentary stoppage and malfunction, and leaks.

The technical guidance and BAT requirements will also be addressed within Southern Water's Aylesford Site Working Plan, as part of the EMS, to be made available to staff to ensure compliance with a permit, which covers the following:

- Management of activities, including security and staffing
- Emissions and monitoring, including:
 - point sources to air, water and land
 - fugitive emissions
 - site drainage
 - storage of waste
 - odour, noise and vibration
- Site record keeping

Table 6.5: Part C3, Question 3a, Table 3a: Technical standards

Installation name	Aylesford STC	
Description of the schedule 1 activity or directly associated activity	Best available technique (BATC, BREF or TGN reference)	Document reference
Section 5.4 non-hazardous waste installation - anaerobic digestion installation regulated under the Industrial Emissions Directive, utilisation biogas for energy	<ul style="list-style-type: none"> ● Biological waste treatment: appropriate measures for permitted facilities ● Non-hazardous and inert waste: appropriate measures for permitted facilities 	<ul style="list-style-type: none"> ● https://www.gov.uk/guidance/biological-waste-treatment-appropriate-measures-for-permitted-facilities/1-when-appropriate-measures-apply ● https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities
General	<ul style="list-style-type: none"> ● Monitoring stack emissions: technical guidance for selecting a monitoring approach ● M1 sampling requirements for stack emission monitoring ● Environment Agency environmental permitting guidance, including: <ul style="list-style-type: none"> – Risk assessments for your environmental permit – Energy efficiency (Energy efficiency for combustion and energy from waste power plants) – Noise assessment and control 	<ul style="list-style-type: none"> ● https://www.gov.uk/guidance/monitoring-stack-emissions-technical-guidance-for-selecting-a-monitoring-approach ● https://www.gov.uk/government/publications/m1-sampling-requirements-for-stack-emission-monitoring ● https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit ● https://www.gov.uk/guidance/energy-efficiency-standards-for-industrial-plants-to-get-environmental-permits

<ul style="list-style-type: none"> – H4 Odour management – H5 Site condition report – Control and monitor emissions for your environmental permit 	<ul style="list-style-type: none"> ● https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits ● https://www.gov.uk/government/publications/environmental-permitting-h4-odour-management ● https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report ● https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit
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Source: Mott MacDonald

A copy of the schematics describing the operation and process can be found in document reference 790101_MSD_Schematics_AYL.

6.3.1 BAT Assessment

An assessment against the BAT Conclusions set out in the 2014/738/EU: Commission Implementing Decision of 9 October 2014 establishing best available techniques (BAT) conclusions, under the Industrial Emissions Directive 2010/75/EU has been undertaken for the Aylesford STC and the outcome of these conclusions can be found in document reference 790101_MSD_BAT_AYL December 2023. This document reflects the existing arrangement at site and any commitments Southern Water has already made during the ongoing application process. It is acknowledged that it does not fully meet BAT in some instances. Changes to site will be undertaken and completed to meet BAT, where applicable. The changes required will be submitted to the Environment Agency, in plans to be submitted as part of Improvement Conditions within the permit, for their agreement and Southern Water's subsequent implementation.

Supplementary documents for the BAT assessment are provided:

- BAT 2 Description of the Duty of Care procedures provided in 790101_MSD_DutyofCare_AYL December 2023 (for trade waste) and 790101_WasteAcceptance_AYL June 2024 (for imported and indigenous sludge)
- BAT 3 Sampling commitment provided in document reference 790101_Sampling proposal_AYL June 2024
- BAT 14 Leak Detection and Repair Plan (LDAR) is provided in 790101_MSD_LDAR_AYL December 2023.
- BAT 1 Accident Management Plan (AMP) is provided in 790101_MSD_AMP_AYL December 2023. Catastrophic failures, of tanks for example, will be included in the AMP once final designs are agreed based on the findings in document reference 790101_MSD_ContainmentPlan_AYL December 2023.
- BAT 1 Residues Management Plan (RMP) is provided in 790101_MSD_RMP_AYL June 2024.

6.4 Question 3b: General requirements

6.4.1 Overview

This section provides an overview of the measures in place at the Site for controlling fugitive emissions, noise and odour. An ERA has been completed and is provided with the application (Document reference: 790101_ERA_AYL December 2023). The response to this question relates to Table 4 in the Part C3 form.

6.4.2 Control of fugitive emissions to air

There are no significant fugitive emissions to air of gases, vapours, or particulates as part of normal Site operation.

Details of the procedures Southern Water follow with regards to the control of mud and debris and potentially polluting leaks and spillages are addressed in EMS 360 and EMS 381.

Overall impacts of all air pollutants are considered to be low from the activities undertaken on the Site based on the results of the high-level initial air quality review. The existing approaches and relevant procedures presented in the EMS and operational procedures are considered to adequately address the emissions that may present a risk, and, therefore, an Emissions Management Plan (EMP) is not considered to be required.

An updated H1 assessment has been completed and can be found in 790101_H1 Tool v8_AYL December 2023.

An Air Quality Risk Assessment has been undertaken to assess the impacts from point sources emissions at the site, and the results can be found in 790101_AQRA_AYL December 2023.

6.4.2.1 Odour

The site is located to the north east of the town of Aylesford. The first evidence of sewage treatment works on site is shown in 1909 historic mapping, with a significant expansion from 1973. The River Medway is found adjacent to the west of the Site, with Aylesford Solar Park located adjacent to the north east. To the east, there is a large surface water body which follows the Site boundary, with agricultural fields immediately to the south. Several heritage assets are found to the south of these fields, including The Friars Aylesford and Aylesford Carmelite Priory. Just south of the Medway, an area of industrial and residential land use surrounds Aylesford Train Station, with the M20 immediately south.

No sensitive receptors are found within 250m of a potential odour source downwind of the prevailing wind direction; the receptors closest to a potential odour source are four residential properties, which are located approximately 20m east of the humus tanks.

One odour complaint has been received from 2018 to 2023. No further information is available on the description of complaints, actions taken or the timescale for rectification. The complaint has not been confirmed as substantiated or relating to the STC.

There are no proposed works to be undertaken on the Site in respect of this permit application, therefore, the activities on-site are not anticipated to increase the off-site impact or result in adverse impact upon nearby sensitive receptors or the amenity of the area surrounding the Site.

All sludge treatment processes and sludge storage tanks are covered or enclosed except for the cake bays and centrifuge feed tanks. There are odour control units for the sludge thickener tanks and for the tankered trade waste balance tanks. The control system extracts odorous air from these covered processes using fans, a seashell media bio-scrubber then treats the air within the odour control unit to remove odours.

The Site's Odour Management Plan (OMP), reviewed and updated in December 2023, identifies potential odour emissions from site operations and procedures to manage, control and minimise odour impacts. It sets out the procedures for engaging with neighbours and how the Operator will manage complaints, and the actions to be taken in the case of pollution events. The OMP also describes the monitoring and maintenance procedures to maintain the control measures.

The OMP was written in accordance with the Environment Agency's H4 Odour Management guidance (2011). The level of odour risk from the Site is considered to be low, as shown in Appendix B of the ERA and the Site's OMP provides sufficient mitigation.

The OMP can be found in document reference 790101_ERA_OdourMP_AYL June 2024.

The level of odour risk from the Site is considered to be low, as shown in Appendix B of the ERA, and the Site's Odour Management Plan provides sufficient mitigation. The Plan incorporates any additional mitigation, information and procedures to support the permit application.

6.4.2.2 Noise

Initial screening has been carried out for the Site. Since the Site is not undergoing changes to equipment and vehicle movements prior to application submission, a Noise Impact Assessment (NIA) is not considered to be required. Appropriate mitigation for noise and vibration impacts are provided in the ERA. The ERA can be found in document reference 790101_ERA_AYL December 2023.

A Noise and Vibration Management Plan would be required whereby the NIA concludes that noise and vibration requires management, such as monitoring and maintaining abatement measures. Since noise and vibration impacts are considered to be appropriately mitigated in the ERA, a Noise and Vibration Management Plan is also not considered to be required.

No noise mitigation is in place at the Site. No noise complaints have been received to date.

6.4.2.3 Dust and particulates

There are not considered to be any significant dust or particulate sources from the Site as identified in the ERA document reference 790101_ERA_AYL December 2023.

6.4.2.4 Bio-aerosols

A bio-aerosols risk assessment has been undertaken for the Site and considers there to not to be any significant risks. The Bio-aerosol Risk Assessment can be found in document reference 790101_ERA_BioARA_AYL December 2023.

6.4.3 Control of fugitive emissions to surface water, sewer and groundwater

There are not considered to be any fugitive emissions to surface water, sewers or groundwater. There is appropriate containment for the control of liquid wastes put in place to minimise any potential releases, as identified in the EMS.

6.4.4 Control of fugitive emissions to land

Details of waste generated at the site is demonstrated in document reference 790101_MSD_ResidueMP_AYL December 2023.

To reduce volumes of waste:

- All materials and consumables delivered to Site are inspected to ensure that they are fit-for-purpose. Damaged items are refused and returned to the supplier.
- The sludge from the post digestion sludge storage tanks is dewatered by two centrifuges to reduce its volume. Dewatered digested cake is stored in the cake storage bays, before being transported off-site for storage prior to being recycled to agricultural land as a soil fertiliser. The treated sludge meets the Biosolids Assurance Scheme Quality Standards. The volume of sludge recycled to agricultural land is monitored by the waste services team.
- The biogas from the AD process is burned in a CHP engine and is used to provide power for the Site processes.
- Polymer intermediate bulk containers (IBCs) are sent back to the supplier for re-use.

- Grit is collected by MTS and taken to Composting Facilities Services for composting and used as a soil conditioner. This process is licensed and controlled via the Environment Agency.
- WEEE, batteries, waste oils and oil contaminated items such as oily rags are treated as hazardous waste in accordance with legislation, these are removed from Site by an approved supplier, using approved waste carriers.

All skips and containers are located on a hardstanding to prevent leaching into the ground. Skips and containers are clearly labelled. All waste from the Site is sorted into this waste area.

If a complaint is made with respect to litter the complaints procedure will be followed. The Site Manager will arrange for litter pickers to clear up as appropriate and will assess whether further control measures will be required to ensure that the risk of recurrence is minimised. The details of the complaint and actions taken to resolve the issue will be recorded in the Site Diary and the complaints register.

6.5 Site security

Activities are managed and operated in accordance with the management system. Access to Site and waste is restricted by a 2.5m high chain link security fence. Manually operated gates secure the main access and are closed at all times when not in use and locked out of hours. The Site is manned staffed between 07:00 – 18:00 on Mondays to Fridays and between 07:00-15:00 on Saturdays and Sundays. Visitors are directed to the Admin Building to sign in. The Site is monitored via a remote control console (RCC) out of hours with an STC operator on standby. The Site also benefits from a CCTV system, consisting of over 20 cameras positioned in key locations around the Site, with two Automatic Number Plate Recognition (ANPR) cameras on each gate. The Admin Building is equipped with an alarm system. Regular inspections of the boundary fencing and buildings are undertaken to ensure that these have not been compromised and continue to prevent easy access to site. Repairs are undertaken in accordance with the EMS requirements.

Other risks relating to human health and the environment are presented in the ERA in document reference 790101_ERA_AYL.

6.6 Complaints procedure

All complaints received relating to any aspect of the Site and its activities will be recorded and acted upon. Complaints, and actions taken, will be either recorded in the Site Diary or on a complaints record form. If a Site receives a complaint, this form should be completed and shown to the Environment Agency when they next inspect the Site. The forms will be used as evidence that any complaints received have been taken seriously and that actions have been taken to rectify any problems identified.

Complaints will be investigated promptly and any appropriate remedial action taken. The complainant and anyone else likely to have been affected, should be informed about what has been found and actions taken in a timely manner. The details of the complaint and the actions taken will be recorded in the Site Diary or log.

The aim will be to undertake measures to prevent complaints from being raised. However, where this is not possible, proactive measures will be taken to prevent further complaints from being made. For example, if a complaint is made with respect to dust, the Site Manager will arrange for dust suppression equipment to be used. The Site Manager will assess whether further control measures will be required to ensure that the risk of recurrence is minimised. The details of the complaint will be recorded in the Site Diary and the complaints register. If a complaint is received Southern Water will be informed as soon as is practicable and the complaints procedure will be followed. Confirmation will be recorded in the Site Diary or

inspection log. The Site Manager will inform the Environment Agency of the complaint, if appropriate.

Any drivers who regularly cause a dust or mud and debris nuisance, as a result of mismanagement of their vehicles, will be discussed and advice given.

If a complaint is made with respect to insects the Site Manager will investigate whether any of the activities at the Site could be the source of the nuisance.

If a complaint is made with respect to litter the Site Manager will arrange for litter pickers to clear up as appropriate and will assess whether further control measures will be required to ensure that the risk of recurrence is minimised. The details of the complaint will be recorded in the Site Diary and the complaints register.

Any complaints relating to fugitive emissions and the actions taken will also be recorded in the Site Diary and copies of the incident reports (including those provided to the Environment Agency) retained on-Site.

If a complaint is made with respect to vermin or an infestation is suspected, where normal treatment activities appear to be unsuccessful, the Site Manager will discuss and agree any further measures required with the pest control firm. The complaint reporting procedure will be followed as described below.

If a complaint is made with respect to noise or vibration the Site Manager will assess the cause of the complaint and will report the findings. If the noise or vibration leading to the complaint has been caused by a continuing operation, additional noise or vibration surveys may be required to confirm the degree of impact upon the receptor. The Site Manager will make any recommendations for further noise or vibration control to the Management Team and shall inform the Environment Agency of the complaint as soon as it is practicable to do so.

If a complaint is made with respect to odour, the Site Manager will investigate the source of the odour and take steps to reduce its impact. If the source appears to come from the Site, then appropriate actions to reduce the odour will be taken.

6.6.1 Complaints investigation procedure

This section deals with the complaint assessment procedures in the event of any complaint. The primary role of the assessment will be to ascertain whether the complaint is associated with any Site operations and what action should be taken to prevent or minimise the probability of a recurrence.

It is important that any person acting on behalf of Southern Water is appropriately trained and that all steps and decisions are documented.

Step 1 – Complaint received

The Site operator or Environment Agency receives a complaint regarding the STC. Details are logged within the Customer Services Management System (CSMS).

Step 2 – How to respond

Complainant is contacted to inform them the complaint has been received and request further information, where required.

The primary reasons for investigation of complaints are to identify the likely cause and source for the complaint and it is important to gather as much information about the complaint as possible. At the outset of any investigation, the Site Manager is to determine the priority for responding to the complaint.

If required, someone from the Environment Agency will attend after a complaint has been made so that they can carry out an effective and subjective appraisal of the complaints and note any results into the CSMS.

Step 3 – Determine what to record and how

The complaint details and the investigation outcomes and actions taken are to be recorded in the CSMS. This information must be filled in on Site at the time of notification of the complaint.

Step 4 – Follow-up investigation

In order to resolve any problems successfully, it is essential to understand fully the source, reason and the operational conditions that led to the complaint. The first step in the investigation will be to select the most appropriate methodology for assessment. All the information collected should be filled in on the internal complaints form and a note made referencing this in the CSMS.

Step 5 – Communication with the complainant

The Site Manager or contractor tasked with addressing the complaint is responsible for collecting all the information and providing feedback to the complainant, or the Customer Contact Centre will contact the complainant. Wherever possible an explanation of the actions taken and the reasons for the decision should be made to the complainant.

If it is decided that there was no ground for the complaint this should be clearly explained to the complainant, along with information about what they should do if they are unhappy with the response.

Step 6 – Monthly complaints records

A full report of the complaints logged within the CSMS is produced to present to the relevant Technician to allow a review of potential trends.

6.7 Question 3c: Types and amounts of raw materials

Details of raw materials is demonstrated in document reference 790101_MSD_ResidueMP_AYL December 2023.

6.8 Question 4: Monitoring

This section provides a summary of the proposed monitoring at the Site.

6.8.1 Emissions to air

Stack emissions monitoring will be undertaken for each stack in accordance with M5 monitoring guidance, MCERTS BS EN 14792 and the requirements of the environmental permit issued for the Site, where suitable and available.

Periodic monitoring will be undertaken on an annual basis as part of the routine maintenance programme. No abatement technology is required, and continuous monitoring is not considered necessary. Sample monitoring will be carried out after each maintenance period on the CHP and boilers, in order to ensure compliance with ELVs as required in the Environmental Permit.

Once permitted monitoring will be undertaken in accordance with the relevant standards. It is anticipated the monitoring standards required are as follows:

Table 6.6: Monitoring of air emissions

Emission point type	Parameter	Reference period	Monitoring frequency	Monitoring standard or method
Stacks on engines Burning biogas	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	periodic over minimum 1-hour period	Annual	In accordance with TGN M5 – Monitoring of stack emissions to air
	Carbon monoxide			
	Sulphur dioxide			
	Total volatile organic compounds including methane			
Boilers (gas oil)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	periodic over minimum 1-hour period	Annual	In accordance with TGN M5 – Monitoring of stack emissions to air
Channelled missions to air (biofilter and scrubbing system)	Ammonia H ₂ S	periodic over minimum 1-hour period	Once every 6 months, or more frequent if stated in the permit	Emissions of pollutants into the environment through any kind of duct, pipe, stack, etc
	Odour concentration			
Flare	Operational hours	Recorded duration and frequency.	Continuous	Operational record including date, time and duration of use shall be recorded. (Environment Agency Guidance LFTGN 05)
Pressure relief valves	Biogas release and operational events	Recorded duration and frequency.	Daily inspection	Operational record including date, time duration of pressure relief events and calculated annual mass release

Southern Water acknowledges that the flare is appropriate for emergency use (such as breakdown and maintenance).

6.8.2 Assessment of the sampling locations

Southern Water will employ sub-contractors accredited to MCERTS to monitor the emissions points in accordance with the permit requirements, where suitable and available. An assessment of sampling locations is therefore not appropriate as this will be the responsibility of the sub-contractors.

6.8.3 Emissions to water (other than sewers)

There are no direct releases to controlled waters of emissions arising from the STC. As such, no monitoring or reporting is required.

6.8.4 Emissions to sewers, effluent treatment plants or other transfers off-Site

All condensate discharge directly to the Site drainage system which diverts water to the head of the works of the adjacent Aylesford WWTW, except for the flare stack condensate which discharges to ground. This condensate is clean, uncontaminated water and occurs in small volumes. As such, no monitoring or reporting is required.

There are no direct releases to public sewers, effluent treatment plants or other transfer off-site of emissions arising from the STC.

6.8.5 Emissions to land

The condensate from the flare stack discharges to ground. The condensate is clean, uncontaminated water and is small in quantities. Drainage modifications are proposed for the Site to meet BAT. An implementation plan is shown in document reference 790101_MSD_ImplementationPlan December 2023. It is, therefore, considered that this will be added as an Improvement Condition to the permit.

As required by the Southern Water EMS various housekeeping and waste management practices are in place to monitor waste emissions. These include segregation of wastes according to their classification and nature, labelling waste and using designated storage containers.

In accordance with the Southern Water EMS Policy solid waste is disposed of in accordance with 'Duty of Care' Regulations. The composition of the waste, its hazard characteristics and any relevant precautions are clearly stated on the transfer notes provided to licensed waste contractors removing waste from Site for recycling and/or disposal. Records are maintained on-site and reported to the regulator as required by the Permit.

6.9 Question 5: Environmental impact assessment

The proposal is not subject to an environmental impact assessment under Council Directive 85/337/EEC of 27 June 1985 [Environmental Impact Assessment] (EIA).

6.10 Question 6: Resource efficiency and climate change

6.10.1 Basic energy requirements

Southern Water aims to maximise the efficiency of the energy flows from its processes ensuring that, where possible, heat is recovered, and energy is not wasted.

There are a number of pieces of infrastructure and equipment that use electrical energy supply including:

- Fans, coolers and heating;
- Motors and motor drivers and drive systems;
- Aeration;
- Pumps / boosters/conveyors;
- Facilities - heating and lighting;
- Sludge handling and management e.g. AD, dewatering and polymer dosing equipment; and
- Ventilation and odour control/abatement systems.

Biogas is used to provide energy, produced by burning in a CHP engine, for the Site's processes. Gas oil is used for heating the buildings or running the boilers.

6.10.2 Question 6a: Basic measures for improving energy efficiency

Biogas is a renewable gas, produced from organic waste and is reused on-site to power its energy requirements. A key objective of the Southern Water EMS is to reduce energy consumption from the grid. Southern Water have a specific Energy and Carbon Manual which contains objectives for the energy consumption. Southern Water recognise that target setting for, and measurement of, energy and carbon reduction is pivotal to reducing energy use and carbon emissions in new and existing installations. Southern Water is currently in the process of better understanding economic levels of energy efficiency, renewable energy generation and carbon reduction (embodied and operational), which will help the company develop and set company and project level reduction targets.

Southern Water deals with the measurement and reporting of operational carbon emissions for existing installations through:

- Monitoring of energy use from electricity meters
- Annual estimation and reporting of operational carbon emissions for regulatory reporting (Southern Water Annual Report, Ofwat and SECR (Streamlined Energy & Carbon Reporting))
- ESOS audit reporting - the Energy Savings Opportunity Scheme (ESOS) is a regulatory requirement to undertake a company-wide audit of energy efficiency opportunities. This is approved by a Lead Assessor and completion is subsequently registered with the Environment Agency. Reporting is every four years. The last report was December 2019. The next one is due December 2023.

Energy efficiency measures implemented at the site include (but not limited to) the following:

- The combustion temperature is optimised for reduced NOx emissions and increased efficiency.
- CHP engine is equipped with turbocharger, further increasing energy efficiency.
- Consideration of energy recovery and the deployment of renewable energy systems - opportunities relating to CHP, wind and solar power generation opportunities for the site are currently being reviewed.
- The Field Performance Manager can request advice from the Optimisation Team to improve efficiency of plant if required.

Biogas is a renewable gas, produced from organic waste. Heat generated from the CHP is used in the AD process. The energy created by burning of biogas in the CHP engine is used to supply the Site to reduce the need to import electricity from the grid.

Southern Water carries out planned maintenance as a means to ensure operations are energy efficient. Overall, the energy use is relatively low and the purpose of the installation is to produce energy by supplying biogas, no further measures are identified at this stage to improve upon energy efficiency. Nevertheless, Southern Water will regularly review energy use and disclose potential opportunities to reduce energy consumption from the four-yearly (or more frequent) energy reviews as required by a varied permit.

In addition, Southern Water implements optimisation measures across all its sites in a proactive approach to ensuring efficiency measures across all its Site operations meets optimal and efficient operating requirements.

6.10.3 Question 6b: Changes to the energy the permitted activities use up and create

There will not be any changes to the energy that the permitted activities use or create.

6.10.4 Question 6c: Climate change levy agreement

Southern Water is not a participant to the Climate Change Levy (CCL) agreement.

6.10.5 Question 6d: Raw and other materials, other substances and water use

Details of raw materials is demonstrated in document reference 790101_MSD_ResidueMP_AYL December 2023.

All materials will be handled and stored in such a way as to ensure containment. Fugitive emissions to the environment are therefore negligible.

Biogas is the primary raw material. Its consumption will be monitored. The use of biogas as the fuel source offers the best environmental option and there is therefore no environmental incentive to reduce biogas consumption and consider an alternative source of fuel.

Biogas is stored within 1 No. double membrane inflatable bag type holder constructed of a Type IV fabric which is resistant to UV and microbial degradation. The base of the holders are constructed from reinforced concrete treated to withstand the potentially acidic conditions within the holder. The gas bag is completely enclosed so the gas is not in contact with the concrete.

Secondary raw materials include chemicals used in processes such as water treatment, polymer and gas oil and diesel for the boilers respectively. Their consumption will be monitored, based on purchase records.

Water treatment chemicals are stored on impermeable surfaces in a contained area. Polymer is stored in sealed IBC/bags located on bunded areas.

The Southern Water purchasing procedures are included in EMS. The procedures ensure purchased items conform to specified requirements, including quality parameters, and review suitability for use, including efficiency and minimisation of use of raw materials.

All substances are assessed for COSHH (Control of Substances Hazardous to Health) compliance, where relevant. Material safety data sheets for all materials used and kept on-site will be maintained on the Site.

All raw materials are handled and stored within the confines of the buildings on-site, or in IBCs in bunded areas, with the exception of biogas which is contained within the gas handling system.

Releases of raw materials to land are considered to be negligible due to adequate containment of the materials within suitable storage vessels and presence of a contained drainage system.

Potable water usage on-site include:

- Polymer make up - concerns over the impact of using final effluent for this purpose
- Heat exchanger system water - concerns over the impact of using final effluent for this purpose
- Eye baths and safety showers - potable water essential
- Limited wash-down points where it would be uneconomic to extend the final effluent wash-water system
- Office mess facilities - kitchen, washing and welfare facilities etc

To ensure appropriate use of raw materials to prevent releases of substances to the environment and limit environmental impact Southern Water will follow quality assurance procedures for the purchasing of materials. The raw materials will be selected from specialist suppliers determined by pre-established material specifications, and will include environmental

considerations. Priority choice of purchased raw material will be given to those with the least environmentally harmful chemicals compared to their alternatives, wherever practicable.

Resource efficiency will be achieved through the minimum use of raw materials and water (where possible), and Southern Water will undertake the following:

- Maintain records of raw materials and water used
- Routine resource efficiency audits
- Review the feasibility of alternative materials that could reduce environmental impact or provide further opportunities to improve resources efficiency at least once every four years
- Implement further appropriate measures identified from a review.

6.10.6 Question 6e: Reducing production of waste

Southern Water manages its waste in accordance with the Council Directive 2008/98/EC on waste (the Waste Framework Directive), legal requirements and the EMS (ISO 14001:2015), by maximising materials re-use, prevent waste, minimise waste generation and maximise recycling and recovery of waste generated from the operation of the Site.

There are procedures in the EMS which include details of the types of waste produced on Site, how wastes are segregated, stored and removed from Site. Only minimal volumes of waste shall be generated at the STC, with waste streams segregated and recovered for recycling where possible. All waste streams shall be managed in accordance with existing EMS, with any final off-site disposal to be carried out by licensed waste contractors in accordance with Duty of Care requirements, and the application of the waste hierarchy is central to any decision making process.

Implementation of EMS procedures and the current Environmental Policy ensures optimum disposal of the wastes produced. Submission of a detailed assessment is not considered necessary due to the minimal quantity of waste produced.

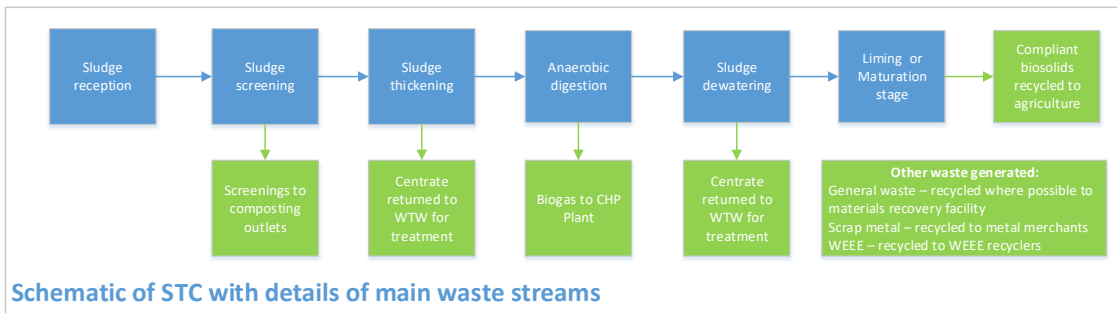
Further consultation with waste contractors will ensure that all waste streams have been considered. The sampling and characterisation of wastes will be covered under the requirements of Duty of Care. The wastes are handled to a minimum and are stored in suitably designed containers prior to being removed from Site, to minimise releases of pollutants to the environment.

The main wastes produced by the installation are waste oils and filters associated with the operation and maintenance of the engines. Other wastes include from Site office (paper, packaging etc), waste collected from general housekeeping across the Site (debris, litter), scrap metals and waste electronic and electrical equipment (WEEE), such as computer equipment, printers etc.

Waste generation from the operation of the plant is minimal and limited only to essential maintenance fluids and materials. Waste streams are segregated and recovered for recycling where possible, as shown in Table 6.5 for different Site activities. General waste is sent for recycling, where possible, scrap metal is sent to metal merchants for recycling and WEEE sent to specialist WEEE recycling facilities. Southern Water apply a Duty of Care by ensuring waste is removed by a suitable licenced waster carrier.

The sampling and characterisation of wastes and the final off-site transport of waste is carried out by licensed waste contractors in accordance with Duty of Care requirements. The implementation of EMS procedures and the current Environmental Policy ensures optimum disposal of the wastes produced.

A schematic of the main waste streams from the STC is shown below.



7 Part B6 – New bespoke water discharge activity or groundwater activity (point source discharge) or point source emission to water from an installation

The form responds to question listed in Table 1 of the B6 application form for the last listed option 'Effluent and/or contaminated surface water run-off arising from the operation of an installation.

Therefore, only the following questions have been responded to:

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Effluent and/or contaminated surface water run-off arising from the operation of an installation	No additional charge, as already included as part of the installation variation application charge	✓	a, b, d	c	b, c, d, f		a, b2	a, b, c	b, c, d, e, f, g	d*, e*, f	a, b, d, e, f, h, i	a, b, c

* Check the relevant question and our guidance notes on part C6 to see if you need to give an answer.

Note Question 6c is not within the application form, despite being listed as being required by Table 1 of the application form.

7.1 Question 1 About the effluent

Effluent description: Return liquors from the STC process and condensate from the gas pipelines and gas storage bag.

Effluent name: STC return liquors.

7.2 Question 2 How long will you need to discharge for?

Start date: from date of IED permit issuance.

The discharge will not be time limited, will take place all year and continuously (e.g. for more than six day in any year)

7.3 Question 3 How much do you want to discharge?

Southern Water is not aware of the quantity of water sent to the inlet works from the STC because it is not currently monitored, therefore no details have been provided for Question 3. An implementation plan has been developed as part of the accompanying IED permit application.

7.4 Question 4 Intermittent sewage discharges

It is not possible to answer Q4a-o. These do not seem applicable to the process.

7.5 Question 5 Should your discharge be made to the foul sewer?

The discharge point (inlet works (emission point W1)) (document reference 790101_MSD_SiteLayoutPlan_AYL June 2024) is located within the operator's own wastewater treatment works, therefore, the distance to the nearest foul sewer is 0m and response to Question 5b2 is not applicable.

7.6 Question 6 How will the effluent be treated?

Effluent is not treated before reaching the inlet works because once leaving the inlet works the effluent will be treated through the Wastewater Treatment Works. The process description is provided in Section 3. An implementation plan has been developed as part of the accompanying IED permit application. It is expected that Improvement Conditions in the IED permit will be provided and Southern Water will identify how it will monitor and characterise the liquors returning to the head of the adjacent Aylesford WTW.

7.7 Question 7 What will be in the effluent?

Southern Water is not aware of the composition of the effluent discharged to the inlet works from the STC because it is not currently monitored, therefore, no details have been provided for Question 7.

The temperature of effluent is not known, but since the water is not direct from processes, it is expected to be ambient.

An implementation plan has been developed as part of the accompanying IED permit application. It is expected that Improvement Conditions in the IED permit will be provided and Southern Water will identify how it will monitor and characterise the liquors returning to the head of the adjacent Aylesford WTW.

Where suitable and available, any monitoring, sampling and analysis of emissions to water is undertaken according to MCERTS, or equivalent standards, by MCERTS accredited contractors.

7.8 Question 8 Environmental risk assessments and modelling

Discharges to lakes, estuaries, coastal waters or bathing waters.

Southern Water is not aware of the composition of the effluent discharged to the inlet works from the Site because it is not currently monitored, therefore, screening cannot be undertaken at this time.

An implementation plan has been developed as part of the accompanying IED permit application. It is expected that Improvement Conditions in the IED permit will be provided and Southern Water will identify how it will monitor and characterise the liquors returning to the head of the adjacent Aylesford WTW.

Where suitable and available, any monitoring, sampling and analysis of emissions to water is undertaken according to MCERTS, or equivalent standards, by MCERTS accredited contractors.

7.9 Question 9 Monitoring arrangements

Effluent monitoring will be in line with permit conditions. An implementation plan has been developed as part of the accompanying IED permit application. It is expected that Improvement Conditions in the IED permit will be provided and Southern Water will identify how, and the final locations of where, it will monitor and how it characterise the liquors returning to the head of the adjacent Aylesford WwTW.

Where suitable and available, any monitoring, sampling and analysis of emissions to water is undertaken according to MCERTS, or equivalent standards, by MCERTS accredited contractors.

7.10 Appendix 4 Discharges to tidal river, tidal stream, estuary or coastal waters

The discharge from the WTW is permitted under the permit reference RP26/73, from 'Final effluent sampling point' within River Medway Estuary at TR 71677 59340. The permit authorises the discharge of secondary treated sewage effluent only.

8 Part F1 – Charges and declarations

8.1 Question 1: Working out charges

Table 1, Table 2 and Table 3 are completed on the Part F1 form.

8.2 Question 2: Payment

Payment will be made by BACS.

8.3 Question 4: Confidentiality and National security

Southern Water does not wish to claim confidentiality with this application.

8.4 Question 6: Application checklist

Table 8.1 provides a list of section/document references included in the application.

Table 8.1: Part F1, Question 6, Table 4: Application checklist

Question reference	Document title	Document reference
Part A – Q5c	Details of Directors	790101_MSD_Directors_AYL December 2023
Part C2 – Q3a	List of Relevant Offences	790101_MSD_RelevantOffences_AYL December 2023
	BAT analysis	790101_MSD_BAT_AYL December 2023
	Implementation Plan	790101_MSD_ImplementationPlan December 2023
Part C2 – Q3b	Competency Management System	790101_MSD_CompetencyAssessmentCertificates_AYL
Part C2 – Q3d	Environmental Management System Certificate	790101_MSD_EMS_AYL December 2023
Part C2 – Q5a	Site Location Pan	790101_MSD_SiteLayoutPlan_AYL June 2024
	Site Layout Plan	
	Drainage Plan	
Part C2 – Q5f	Site Condition Report	790101_MSD_SCR_AYL
Part C2 – Q6	Environmental Risk Assessment	790101_MSD_ERA_AYL December 2023
	Bioaerosol Risk Assessment	790101_MSD_Maps_AYL December 2023
	Bioaerosol Risk Assessment	790101_ERA_BioaRA_AYL December 2023
Part C2 – Q6b	Climate Change Risk Assessment	790101_ERA_CCRA_AYL
Part C3 – Q1	Main Supporting Document	Section 6.1 of 790101_MSD_Main_AYL June 2024
Part C3 – Q1b		Waste Codes - Appendix A of 790101_MSD_AYL December 2023
Part C3 – Q2 Table 2		Section 6.2.2, 6.2.3, 6.2.4, 790101_MSD_Main_AYL June 2024
Part C3 – Q3, Table 3		Section 6.3 of 790101_MSD_Main_AYL June 2024
Part C3 – Q3c, Table 5		Section 6.7 of 790101_MSD_Main_AYL June 2024
Part C3 – Q4a		Section 6.8 of 790101_MSD_Main_AYL June 2024
Part C3 – Q 4b		Section 6.8.1 of 790101_MSD_Main_AYL June 2024
Part C3 – Q6		Section 6.10.2 - 6.10.6 of 790101_MSD_Main_AYL June 2024
Part C3 – Q1a	Annual throughput schematic	790101_AnnualThroughput_AYL June 2024
Part C3 – Q1b	Waste Codes	Appendix A of 790101_MSD_AYL December 2023

Question reference	Document title	Document reference
	Waste Transfer Notes	790101_WasteTransferNotes_AYL June 2024
Part C3 – Q3a	Schematics	790101_MSD_Schematics_AYL
Part C3 – Q3b, Table 4	Odour Management Plan	790101_ERA_OdourMP_AYL June 2024
Part C3 – Q3c	Material Safety Data Sheets	790101_MSD_MSDS_AYL
Part B6 – Q1- 10	Discharges	Section 7 – 790101_MSD_Main_AYL June 2024
Part F1 – Q6	Main Supporting Document	790101_MSD_Main_AYL June 2024

A. Waste Codes

It is requested that the annual quantity of indigenous sludge and liquid sludge imports to be accepted is 291,150m³.

A.1 Wastes to be included in a varied permit

A.1.1 Wastes imported for Anaerobic Digestion

EWC Code	Waste Description	Where accepted	Indigenous or imported	Justification for use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)			
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05 (sewage sludge only)	AD pre-digestion	Raw cake-imported	
19 08	wastes from waste water treatment plants not otherwise specified			
19 08 05	sludges from treating urban waste water	AD pre-digestion	Indigenous/Imported	

A.1.2 Tankered trade waste imports under a waste activity permit

Increase in permitted tonnage to 59,000 tonnes per year.

EWC Code	Waste Description	Where accepted	Imported
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing		
02 01 01	sludges from washing and cleaning	Head of works	Imported
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site	Head of works	Imported
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin		
02 02 01	sludges from washing and cleaning	Head of works	Imported
02 02 04	sludges from on-site effluent treatment	Head of works	Imported
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation		
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation	Head of works	Imported
02 03 04	materials unsuitable for consumption or processing	Head of works	Imported
02 03 05	sludges from on-site effluent treatment	Head of works	Imported
02 05	wastes from the dairy products industry		
02 05 01	materials unsuitable for consumption or processing	Head of works	Imported
02 05 02	sludges from on-site effluent treatment	Head of works	Imported
02 06	wastes from the baking and confectionery industry		

EWC Code	Waste Description	Where accepted	Imported
02 06 01	materials unsuitable for consumption or processing	Head of works	Imported
02 06 03	sludges from on-site effluent treatment	Head of works	Imported
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)		
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials	Head of works	Imported
02 07 04	materials unsuitable for consumption or processing	Head of works	Imported
02 07 05	sludges from on-site effluent treatment	Head of works	Imported
04 01	wastes from the leather and fur industry		
04 01 07	sludges, in particular from on-site effluent treatment free of chromium	Head of works	Imported
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres		
07 02 15	wastes from additives other than those mentioned in 07 02 14	Head of works	Imported
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics		
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11	Head of works	Imported
08 04	wastes from the MFSU of adhesives and sealants (including waterproof products)		
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15	Head of works	Imported
16 10	aqueous liquid wastes destined for off-site treatment		
16 10 02 ⁵	aqueous liquid wastes other than those mentioned in 16 10 01; Cess pool waste and chemical toilet waste	Head of works	Imported

⁵ The waste for this code will be cesspool waste and chemical toilet waste only. However, imports to head of works are on an emergency basis, for example if a pumping station goes down or there is a burst rising main, the waste would be transferred via tanker to the Site and only from assets that would already discharge to the Site (indigenous). This liquid waste is by-passing the pumping station, whilst it is being brought back online. This waste stream is accepted under the Urban Wastewater Treatment Directive under normal operations. Wastes accepted under 16 10 02:

- sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only, not containing substances at levels that will inhibit biological treatment
- waste effluents from the baking and confectionery industry, sludges from cleaning, flushing of equipment. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
- aqueous process waters and washwaters from the leather, fur and textile industries; not containing substances at levels that will inhibit biological treatment
- wastes effluents/liquors from the MFSU of fertilisers including lagoon leachate, effluent and run -off; not containing substances at levels that will inhibit biological treatment
- waste biodegradable liquors/effluents from MFSU of basic organic chemicals. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
- biodegradable effluent/liquors from the MFSU of pharmaceuticals. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
- biodegradable effluent/liquors from the MFSU of detergents, disinfectants and cosmetics. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
- waste effluents, liquors, sludges from the MFSU of fine chemicals and chemical products not otherwise specified. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

EWC Code	Waste Description	Where accepted	Imported
19 07	landfill leachate		
19 07 03	landfill leachate other than those mentioned in 19 07 02	Head of works	Imported
19 08	wastes from waste water treatment plants not otherwise specified		
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11	Head of works	Imported
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13	Head of works	Imported
19 09	wastes from the preparation of water intended for human consumption or water for industrial use		
19 09 02	sludges from water clarification	Head of works	Imported
19 09 06	Solutions and sludge from regeneration of ion exchangers	Head of works	Imported
20 03	other municipal wastes		
20 03 03	Street-cleaning residues - gully sucking liquid	Head of works	Imported

A.2 Other wastes accepted to the site

A.2.1 Wastes received under the Controlled Waste Regulations 2012

EWC Code	Description	Where accepted	Indigenous or imported	Justification for use
20 03	Other municipal wastes			
20 03 04	septic tank sludge	Head of works	Imported	
20 03 06	waste from sewage cleaning	Head of works	Imported	

- waste effluents, liquors arising from the washing, rinsing of material from the steel and iron industry. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
- waste waters/effluents from the cleaning and pressure testing of storage tanks and barrels. Washwaters not containing substances at levels that will inhibit biological treatment
- liquor/leachate from an aerobic composting process that accepts municipal, animal and vegetable wastes
- run-off liquors, leachates that arise from the aerobic treatment of municipal, vegetable waste types.
- liquor/leachates from an anaerobic composting process that accepts municipal, animal and vegetable wastes
- centrate liquor from waste water treatment only. Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
- chemical toilet waste
- cess pool waste

