Bexhill and Hastings Sludge Treatment Centre Environmental Permit Application

Main Supporting Document
790101_MSD_Main_HAS August 2024

August 2024

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Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	8/07/21	Natalia Cunningham	Shannon Stone	Anita Manns	Draft Issue
B	20/08/21	Natalia Cunningham	Shannon Stone	Anita Manns	Second draft issue
C	20/09/21	Natalia Cunningham	Shannon Stone	Anita Manns	Final
D	19/01/24	Isobel Moss Shannon Stone	Anita Manns	Anita Manns	Revision for client comment
E	01/02/24	Isobel Moss	Shannon Stone	Anita Manns	Resubmission
F	23/08/2024	Amelia Luk	Shannon Stone	Anita Manns	Updated as requested in Not Duly Made letter

Document reference: 790101_MSD_Main_HAS August 2024

Information class: Standard

Contents

Tables

1 Non-technical summary

1.1 Overview of the site and activities

Bexhill and Hastings is a Sludge Treatment Centre (STC) (also known as the “Site”) and associated Wastewater Treatment Works (WTW, and excluded from the permit and this application). The address for the Site is Bexhill Road, Hastings, East Sussex TN38 8AY. (National Grid Reference: TQ 76590 09381).

The WTW is operated under the Urban Wastewater Treatment (England and Wales) Regulations 1994 and has a standalone Water Discharge Activity Environmental Permit, this will remain an independent permitted activity. The STC operation is a non-hazardous waste activity which is currently carried out under registered T21, S2 and U6 exemptions.

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 currently has one Environmental Permit in operation – EPR/KP3630KV. Three directly associated activities (DAAs) are also permitted and include back up flare burning of excess biogas from gas holders, storage of biogas and discharge to foul sewer. As advised by the Environment Agency through consultation at WaterUK Waste and 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 permit into a Bespoke Installation Permit for the STC waste activity, following a joint decision made by Environment Agency and DEFRA that anaerobic digestion (AD) treatment facilities at WTW STCs are covered by the Industrial Emissions Directive and can no longer operate under standard environmental permits or exemptions.

The application is to surrender the activities in EPR/KP3630KV associated with the sludge dryer, and vary this permit to add the primary permitted installation activity to 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.

1.2 Overview of the STC process

Currently Bexhill and Hastings STC accepts indigenous primary sludge and imported sludge cake.

Raw sludge cake is imported to the Site from Hailsham WTW and Eastbourne WTW, as well as from other sites under emergency conditions. A maximum of eight tankers of sludge cake are imported daily into the STC in sealed containers. The cake is discharged into 1 No. feed hopper/blending tank where it is blended with Surplus Activated Sludge (SAS), and then stored in 2 No. thickened sludge tanks.

Indigenous primary sludge is pumped via 2 No. sludge screens to 2 No. combined sludge storage tanks which are operated in fill and draw mode.

The sludge is fed by duty, standby feed pumps to 3 No. gravity belt thickeners (GBT's), operating as duty/duty/standby units (automatically operated 24 hours a day, 7 days a week).

Thickened sludge is then stored in 2 No. thickened sludge storage tanks prior to be being fed to the anaerobic digesters.

There are 3 No. primary anaerobic digesters operating between 33 to 38^{o}C. The biogas produced from the digestion process is stored in a double skinned gas bag. Biogas is fed to the CHP engine plant (1.84 MWth) where it used to generate heat and electricity for the Site's operations e.g. to maintain temperature of digesters. The specifications of the combustion plant are presented in Table 1.1.

Digested sludge is stored in 2 No. post digestions sludge tanks (552m^3 each) prior to being dewatered by 2 No. centrifuges (one standby, one duty).

Lime solution is dosed into the feed line of the centrifuges by 1 No. lime dosing rig consisting of 1 No. lime storage tank and 2 No. peristaltic dosing pumps (duty and standby). Limed cake drops into 1 No. 100 m^3 sludge silo before being transported offsite for recycling to agriculture.

Table 1.1: Combustion Plant Details

	CHP1	Boiler 1
Make/Model Number	MTU 8V4000L62FB	
Date that MCP became operational/was commissioned	2013	2001 (upgraded in 2010)
Thermal Input (MWth)	1.84	1.48
Stack height (m)	10	15
Fuel used (biogas, diesel etc)	Biogas	Biogas or natural gas
Estimated total hours of operation per year	8760	8760
MCPD and SG Regs status	Existing MCP	Existing MCP

The IED permit will include:

- Feed hopper / blending tank 1 No. (20m^3)
- Sludge screens 2 No.
- Combined sludge storage tanks 2 No. (552m^3)
- Gravity belt thickeners 3 No.
- Thickened sludge storage tanks 2 No. (512m^3)
- Digesters 3 No. (2513m^3 each)
- Digested sludge storage tanks 2 No. (552m^3)
- Dewatering plant 1 No.
  - 2 No. Centrifuges
- Lime stabilisation 1 No.

  - 1 No. Lime dosing rig
  - 1 No. Lime storage tank (25,000litres)
  - 2 No. peristaltic dosing pumps (one duty and one standby)
- CHP unit 1 No. (1.84 MWth thermal rated input)
- Boiler (dual fuel) (1.48 MWth thermal rated input)
- Gas bag holder 1 No. (900m^3)
- Biogas burner (flare) 1 No.
- One odour control unit (OCU)
  - wet chemical scrubber system
- Cake storage silo (100m^3)
  - Two ro-ro's for emergency cake storage (i.e if the silo is out of action).

The following are the outputs from the process:

- Screenings and grit – deposited into skips before being removed off-site.
- Bio-gas – stored in an existing gas holder, then either
  - Burnt in the CHP or back-up boilers to generate electricity for use on-site
  - Flared in the waste biogas burner
- Lime treated cake – stored in 1 No 100m^3 sludge silo prior to being shipped off site for recycling to agriculture (soil conditioner).

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	Bexhill and Hastings 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	• Biological waste treatment: appropriate measures for permitted facilities • Non-hazardous and inert waste: appropriate measures for permitted facilities	• 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	• Monitoring stack emissions: technical guidance for selecting a monitoring approach • M1 sampling requirements for stack emission monitoring • Environment Agency environmental permitting guidance, including: - Risk assessments for your environmental permit	• 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

Installation name	Bexhill and Hastings STC	
	- 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	• https://www.gov.uk/guidance/energy-efficiency-standards-for-industrial-plants-to-get-environmental-permits • 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

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_HAS August 2024	Resubmitted – updated to include wider feedback from the Environment Agency.
Environmental Risk Assessment	790101_ERA_HAS August 2024	Resubmitted – updated to include complaints recorded since 2020 and completion of air quality risk assessment.
Environmental Constraints Maps	790101_ERA_Maps_HAS January 2024	Resubmitted. Human receptor map screening distance increased to 2km
Bio-aerosol Risk Assessment	790101_ERA_BioaRA_HAS January 2024	Resubmitted – updated to include bio-aerosol monitoring proposals and new windrose.
Odour Management Plan	790101_ERA_OdourMP_HAS August 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_HAS	No change. To be included as part of the management system for the site.
Site Condition Report	790101_MSD_SCR_HAS August 2024	Site scope defined and screening distances clarified in relation to STC permit boundary.
BAT analysis	790101_MSD_BAT_HAS January 2024	Resubmitted – updated to include changes by Southern Water and wider feedback from the Environment Agency.
Site Layout and Location Plan	790101_MSD_SiteLayoutPlan_HAS August 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_HAS	No change
Schematics	790101_MSD_Schematics_HAS August 2024 August 2024	Updated, as per Not Duly Made August 2024 request
Environmental Management System Certificate	790101_MSD_EMS December 2023	Resubmitted. Certificate has been renewed.
Relevant Offences	790101_MSD_RelevantOffences December 2023	Updated to 2023
Details of Directors	790101_MSD_Directors_HAS December 2023	Updated to time of resubmission
Competency assessment certificates	790101_MSD_CompetencyAssessmentCertificates_HAS	Retracted, and replaced with Competency Management System.
Competency Management System	790101_MSD_CMS December 2023	Substitutes CoTC assessment certificates
Material Safety Data Sheets	790101_MSD_MSDS_HAS	No change
Leak Detection and Repair Plan	790101_MSD_LDAR_HAS January 2024	Additional document.
Duty of Care	790101_MSD_DutyofCare_HAS January 2024	Superseded
Waste acceptance procedure	790101_WasteAcceptance_HAS August 2024	Supersedes 790101_MSD_DutyofCare_HAS January 2024

Table 1.3: Summary of revisions

Document name	Latest document reference	Summary of amendments
CIRIA assessment	790101-MMD-IED-BAH-CA-C-001 - IED ADBA Tool P03 IED Risk Register Hastings August 2024	Additional document. (supersedes document provided previously as: 790101-MMD-IED-HAS-CA-C-001 – IED Risk Register-Bexhill_and_Hastings • 790101-MMD-IED-HAS -SIM-M-101 DoNothing(Rainfall Included) • 790101-MMD-IED-HAS -SIM-M-102 DoNothing(Tank Failure Only) • 790101-MMD-IED-HAS -SIM-M-103 Option1(Rainfall Included) • 790101-MMD-IED-HAS-SIM-M-104 Option1(Tank Failure Only) • 790101-MMD-IED-HAS-SIM-M-105 Option1A(Rainfall Included) • 790101-MMD-IED-HAS-SIM-M-106 Option1A(Tank Failure Only) • 790101-MMD-IED-HAS-SIM-M-107 Option2(Rainfall Included) • 790101-MMD-IED-HAS-SIM-M-108 Option2(Tank Failure Only) • 790101-MMD-IED-HAS-SIM-M-109 Option3(Rainfall Included) • 790101-MMD-IED-HAS-SIM-M-110 Option3(Tank Failure Only)
Residue Management Plan	790101_MSD_ResidueMP_HAS January 2024	Additional document.
H1 assessment	790101_H1 Tool v8_HAS January 2024	Additional document.
Air Quality Risk Assessment	790101_AQRA_HAS August 2024	Additional document. The AQRA is accompanied by the models included in the folder, Hastings Models.
Accident Management Plan	790101_MSD_AMP_HAS August 2024	Additional document.
Form Part A	790101_App_PartA_HAS	No change
Form Part B2	790101_App_PartB2_HAS	No change
Form Part B3	790101_App_PartB3_HAS	No change
Form Part B6	790101_App_PartB6_HAS	Additional document (not previously required)
Form Part E2	790101_App_PartE2_HAS	Additional document
Form Part F1	790101_App_PartF1_HAS	No change

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'), EPR/KP3630KV for the Bexhill and Hastings Wastewater Treatment Works (WTW) and Sludge Treatment Centre (STC) ('the Site') on behalf of Southern Water Services Ltd ('Southern Water' or 'the Operator').

Following the joint Environment Agency and Department for Environment, Food and Rural Affairs (DEFRA) decisions 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, E2 and F1 of the application documentation (plus supporting information where required). Completed forms Part A, C2, C3, B6, E2 and F1 are included as separate documents.

2.2 Document content and structure

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

- Part A: About You (Document reference 790101_App_PartA_HAS)
- Part C2: Varying a bespoke permit (Document reference 790101_App_PartC2_HAS)
- Part C3: Variation to bespoke installation permit (Document reference 790101_App_PartC3_HAS)
- 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_HAS January 2024)
- Part E2: Surrender application (installations, waste operations, mining waste operations, medium combustion plant/specified generator and mobile plant only) (Document reference 790101_App_PartE2_HAS)
- Part F1: Charges and declarations (Document reference 790101_App_PartF1_HAS)

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 (and E2) relating to the variation of 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

Bexhill and Hastings catchment serves the towns of Bexhill, Hastings, St Leonards on Sea and nearby villages with a population equivalent of 143, 001. The sewage network comprises mainly of combined gravity sewers, some separate gravity sewers and rising mains, there are 37 wastewater pumping stations (WPS) in the catchment, and three terminal pumping stations; Galley Hill Bexhill WPS, Cinque Ports Way Hastings WPS and Coombs Hastings WPS. Most of the wastewater pumping stations are followed by short rising mains.

All sewage is pumped to the works inlet from these terminal pumping stations. Septicity dosing and odour control equipment are installed at two of the terminal pumping stations. All flow enters the inlet chamber through 2 No. (600mm diameter, and 800mm diameter) rising mains.

All flows pass through 4 No. 6mm 2D screens, each rated 684 l/s, with three operating as duty and as standby. There is also a manually ranked bypass screen rated at 1751 l/ available. Grit and grease is removed in 2 No. combined grit and grease channels, flows are directed via one of the two channels and settled grit is removed from the bottom of the channel continuously. Grease is suspended by aeration and skimmed of as scum where it is then pumped to the sludge treatment centre. Screenings and grit waste is washed, compacted and deposited into skips prior to off-site disposal.

Following the screening process flows in excess of 922 l/s (design maximum flow to full treatment is 1050 l/s) bypass the treatment process and are discharged via the long sea outfall. There is no storm storage on-site, storm storage for Hastings is provided in the catchment (via three terminal water pumping stations (WPS) that have storm tanks which store all flows over/above the WPS sites pass forward rate. These then pump to the STC when flows subside).

Flows up to 922 l/s pass through the distribution chamber into 5 No. lamella primary settlement tanks (PSTs). The primary settlement process is controlled automatically, each PST is auto-desludged by 2 No. PC pumps.

Settled sewage passes through to the anoxic mixing zones of the activated sludge plant and is combined with return activated sludge (RAS). The mixed liquor is then aerated in 5 No. aeration lanes with fine bubble aeration, air is supplied by 4 No. blowers and controlled by dissolved oxygen (DO) probes in each lane, the mixed liquor then combines in the effluent channels of the aeration lanes and is distributed to 12 No. rectangular final settlement tanks (FSTs). RAS is continuously withdrawn from the FSTs and returned to the selector zone of the activated sludge process by 3 No. variable speed RAS pumps operating as duty, assist and standby units. Surplus activated sludge (SAS) is removed from the RAS/SAS pumping station by 3 No. SAS pumps to the sludge buffer tank. Clarified effluent is then discharged to the English Channel via twin long sea outfalls.

The Site also serves as a sludge treatment centre (STC), treating indigenous sludge and imported sludge cake.

Indigenous sludge from the primary settlement tanks and the RAS/SAS pumping station is pumped to 2 No. sludge screens to 2 No. combined sludge storage tanks.

Sludge cake is imported into the Site from Hailsham WTW and Eastbourne WTW as well as from other sites under emergency conditions. A maximum of eight tankers of sludge cake are imported daily into the Site in sealed containers. The sludge cake is discharged into 1 No. feed hopper / blending tank where it is blended with SAS. It is then fed into the 2 No. thickened sludge storage tanks.

The indigenous sludge is fed by duty, standby feed pumps to 3 No. gravity belt thickeners (GBT) two operating as duty, duty, standby. Thickened sludge is then stored in the 2 No. thickened sludge storage tanks.

Thickened sludge is then fed into 3 No. anaerobic digesters. Digested sludge is stored in 2 No. post digestion storage tanks prior to being fed to the anaerobic digesters.

Biogas produced from the digestion process is stored in a double membrane inflatable bag type holder, constructed of a Type IV fabric which is resistant to UV and microbial degradation. Some of the biogas is used to maintain the temperature of the anaerobic digestion process, the remainder is fed to the CHP plant where it is used to generate heat and electricity for the Site. Excess biogas is burned off the in the flare stack.

The digested sludge is then dewatered by 2 No. centrifuges (one standby, one duty), lime solution is dosed into the feed line of the centrifuges by 1 No. lime dosing rig consisting of 1 No. lime storage tank and 2 No. peristaltic dosing pumps, one standby and one duty. The limed cake is stored in 1 No. sludge silo prior to being transported off site for recycling for agriculture. There are also ro-ro skips available on the Site for emergency cake storage i.e. if the silo was out of action. Skips would be taken off-site as soon as they are filled.

The main odour control package at the Site comprises a two-staged chemical scrubbing plant, the plant treats foul air via chemical dosing prior to it being dispersed to the atmosphere by two 18m stacks. The Central OCU treats extracted odorous air from the main control and process building, the screens, grit and grease removal process, sludge reception area, sludge thickeners, sludge holding tanks and centrifuges. There is also an activated carbon odour control unit which treats odorous exhaust from the primary settlement tanks and contact zones.

The site includes a CHP unit, installed in 2013, powered by biogas with a thermal rated input of 1.84 MWth. Therefore, the Site falls within the scope of the Medium Combustion Plant Directive (MCPD) since the thermal rated inputs are both greater than 1MWth. The CHP unit will not be required to meet MCPD requirements until 2030 because they are each existing medium combustion plants (MCP).

4 Part A – About you

4.1 Question 5c: details of directors

The details of directors at Southern Water Services Limited (Company number: 02366670) are provided in stand-alone document 790101_MSD_Directors_HAS.

4.2 Question 7: Contact details

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

Name: Shannon Stone

Address: Mott Macdonald, Mountbatten House, Grosvenor Square, Southampton, S015 2JU

Phone number: 023 8062 8538

Email: Shannon.stone@mottmac.com

5 Part C2 – General – Varying a new bespoke permit

5.1 Questions 2 – Table 1: Changes to existing activities

The variation application is to surrender the existing activities of the existing dryer (registered as an A29 activity), as authorised under the permit reference EPR/KP3630KV, where required, and to add the scheduled activity for Anaerobic Digestion and incorporate T21 exemption to the same permit.

5.2 Questions 3a: Relevant offences

Details of the relevant convictions are provided in the document reference 790101_MSD_RelevantOffences December 2023 (produced by Southern Water).

5.3 Question 3b: Technical ability

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.

Future 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
- 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 Skills[1]. The Competence Management System (CMS) will enable 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.

An e-learning course is being developed and certification is due to be undertaken by LRQA (see document 790101_MSD_CMS December 2023). The CMS is to be certified within the first 12 months from issue of a permit for the STC.

[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/

5.4 Questions 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 28 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 places every 12 months. During this annual programme operational sites are selected as a subsample and audited. Suppliers and business areas area 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.

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_HAS 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 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_HAS August 2024
- Drainage Plan – Document reference 790101_MSD_DrainagePlan_HAS
- Schematics – Document reference 790101_MSD_Schematics_HAS August 2024

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 included the following details (section 1 to 4 of the Environment Agency template[3]).

- 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_HAS August 2024.

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, 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;

[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 (2023) Risk assessments for your environmental permit. Available online at: https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

- 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_HAS August 2024. Constraints maps have been updated to demonstrate human receptors to a radius of 2km, as shown in document reference 790101_ERA_Maps_HAS January 2024.

6 Part C3 – Variation to a bespoke installation permit

6.1 Question 1: Table 1a: Activities applied for

Table 6.1: Question 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
Bexhill and Hastings STC	S5.4, Part A (1), (b) and (i)	Anaerobic digestion	Annual: 1,227,082 wet tonnes Daily: 2,381 wet tonnes	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 is anaerobic digestions. 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: 1,227,082 wet tonnes Daily: 2,381 wet tonnes
Directly associated activities						
	Physical treatment of waste	Recycling/reclamation of organic substances which are not used as solvents		R3		
	Waste reception	Import of liquid sludge and cake		R3 D9		
	Use of biogas	Use principally as a fuel or other means to generate energy		R1		
	Use of auxiliary	Incineration on land		D10		

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
	standby flares					
	Standby boiler	Used for emergency only		R1		
	Use of pressure release values	Used for emergency only, do not export electricity to the grid.				
	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		
	Liming	Used to stabilise sludge		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 WTW.				
For installations that take waste	Total storage capacity	4232m^3				
	Annual throughput	Total site capacity: 1,227,082 wet tonnes 423,493 wet tonnes for indigenous sludge 428,280 wet tonnes for imported liquid sludge 17,329 wet tonnes for imported cake (Total into the site: 869,102 wet tonnes)				

The variation application is to surrender the existing activities of the existing dryer under the permit reference EPR/KP3630KV (registered as an A29 activity), and to add the scheduled activity for Anaerobic Digestions and the DAAs to the same permit.

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

Southern Water requires the permit for the Bexhill and Hastings STC to be authorised to accept sludge waste to undergo anaerobic digestion to comply with the Industrial Emissions Directive. It is requested the annual quantity of indigenous sludge and cake imports to be accepted is

1,227,082 wet tonnes (site design capacity). A breakdown of the inputs to the Site are presented in document reference 790101_AnnualThroughput_HAS June 2024. None of the requested wastes are hazardous. The types of waste accepted are shown in Appendix A.

6.2 Question 2: Point of 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 to air

Installation name	Bexhill and Hastings STC			
Point source emissions to air				
Emission point reference and location	**Source**	**Parameter**	**Quantity**	**Unit**
Pressure relief valves Digester 1 TQ 76567 09412 (A01)	Biogas release and operational events	Biogas release and operational events	No limit set	
Pressure relief valves Digester 2 TQ 76591 09416 (A02)	Biogas release and operational events	Biogas release and operational events	No limit set	
Pressure relief valves Digester 3 TQ 76609 09420 (A03)	Biogas release and operational events	Biogas release and operational events	No limit set	
Pressure relief valves Post digestion storage Tank 1 TQ 76543 09402 (A04)	Biogas release and operational events	Biogas release and operational events	No limit set	
Pressure relief valves Post digestion storage Tank 2 TQ 76532 09400 (A05)	Biogas release and operational events	Biogas release and operational events	No limit set	
Gas holder TQ 76505 09376 (A06)	2 No. gasholder pressure relief valves	Biogas release and operational events	No limit set	
CHP TQ 76615 09398 (A07)	CHP engine exhaust stack burning biogas	Oxides of Nitrogen (as NO_2)	500	Mg/m^3
		Carbon Monoxide	1400	Mg/m^3
		Sulphur Dioxide	350	Mg/m^3
		Total VOCs	1000	Mg/m^3
Central odour Control unit TQ 76610 09364 (A08)	Channelled emissions to are as identified on Site plan including tank vents, granular activated carbon filters and or/scrubbing system	Ammonia	20	Mg/m^3
		H2S	No limit specified	
		Odour concentration	1000	Oue/Nm^3

Installation name	Bexhill and Hastings STC			
Standby boiler TQ 76590 09390 (A09)	Standby boiler exhaust stack – operating on Biogas or Natural	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250	Mg/m^3
Flare TQ 76641 09401 (A10)	Waste gas burner (flare stack)	Operational hours	No limit set	

The emission points are shown in drawing reference 790101_MSD_SiteLayoutPlan_HAS August 2024.

6.2.2 Emissions to water (other than sewer)

The drainage network sends water to the head of the works for treatment.

There will be no point source emissions from the Site and no direct discharge of wastewater to controlled waters from 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 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.

The release of liquors from the sludge treatment process is considered to be a point source emissions or direct discharges to controlled waters or public sewers, as part of the permit operation. The site layout plan, drawing reference 790101_MSD_SiteLayoutPlan_HAS August 2024, identifies the point at which liquors leave the site permit boundary to enter the WTW at the inlet. A sampling location has also been identified on the site layout plan, although sampling will be undertaken as part of a wider implementation plan under BAT and IED. An implementation plan is shown in document reference 790101_MSD_ImplementationPlan December 2023. It is therefore, considered that this will be added as Improvement Conditions to the permit.

Any liquid waste will either be reused or discharged to the drainage system of the adjacent Bexhill and Hastings WTW and will undergo treatment through the works before being discharged under the existing water discharge permit.

The water used at the Site will be contained in a closed circuit; all wastewater streams will either be recycled within the process of captured and rerouted to the adjacent WTW.

A drainage plan of the Site is presented in document reference 790101_MSD_DrainagePlan_HAS.

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
Centrifuge liquors (S1) TQ 76599 09350	Process liquors from the STC (dewatering liquors, cess liquors)	Variable, from processes	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M1 on site layout plan (TQ 76600 09348)
Washwater (S2) TQ 76557 09319	From the washing down of mechanical equipment during maintenance activities.	Variable	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)
Rainwater (S2) TQ 76557 09319	Uncontaminated roof water from buildings.	Clean rainwater from building roofs only.	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)
Rainwater (S2) TQ 76557 09319	Run off from impervious surfaces.	Clean rainwater from runoff	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)
Northern bund drainage (S3) TQ 76543 09394	Bund water	Variable	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M3 on site layout plan (TQ 76541 09394)
Southern bund drainage (S4) TQ 76560 09319	Bund water	Variable	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M4 on site layout plan (TQ 76561 09319)
Return to inlet of waste water treatment works (W1) TQ 76544 09378	General site drainage, condensate knock out pots and cooling water system	As per EPR/KP3630KV	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)
Discharged to Bexhill and Hastings WTW (W1) TQ 76544 09378	Condensate from the gas pipelines and gas storage bag	Condensate with slightly elevated levels of H_2S dissolved from the biogas, resulting in a low level of acidity	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)
Boiler Maintenance (W1) TQ 76544 09378	Boiler blow down to minimise damage from high mineral content water.	High purity water with traces of chemicals (used for boiler dosing).	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)
Drain down of plant (W1) TQ 76544 09378	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).	Discharged to adjacent WTW via inlet works. Monitoring point for sampling as M2 on site layout plan (TQ 76556 09318)

Please refer to the ERA (document reference 790101_ERA_HAS August 2024) on the environmental risk the water emissions pose and how these are mitigated, where relevant.

6.2.4 Emissions to land

There will be no point source emissions to land as part of the activities carried out on site.

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

Grit and screenings generated from the tankered waste reception points and collected in separate skips and removed off-site by road vehicle and transported to a suitably permitted facility.

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.

Please refer to the ERA (doc ref 790101_ERA_HAS August 2024) 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; and
- Measures implemented to control emissions to air, water, sewer and land.

Table 6.4 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 Bexhill and Hastings 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 6.4: Part C3, Question 3a, Table 3a: Technical standards

Installation name	Bexhill and Hastings 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	• Biological waste treatment: appropriate measures for permitted facilities	• https://www.gov.uk/guidance/biological-waste-treatment-appropriate-measures-for-permitted-facilities/1-when-appropriate-measures-apply

Installation name	Bexhill and Hastings STC	
Directive, utilisation biogas for energy	• Non-hazardous and inert waste: appropriate measures for permitted facilities	• https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities
General	• Monitoring stack emissions: technical guidance for selecting a monitoring approach • M1 sampling requirements for stack emission monitoring • Environment Agency environmental permitting guidance, including: - 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	• 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-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

A copy of the schematics describing the operation and process can be found in document reference 790101_MSD_Schematics_HAS August 2024.

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 all the 16 sites, as a whole, and the outcome of these conclusions can be found in document reference 790101_MSD_BAT_HAS January 2024. 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. An implementation plan has shown in document reference 790101_MSD_ImplementationPlan December 2023.

Included in the Implementation Plan is for the wastewater inventory monitoring to be undertaken as per BAT 2, and further information is addressed in section 6.2.3. On-going monitoring is proposed to be in line with BAT AELs and monitoring frequencies are applicable to treatment of water-based liquid waste and biological treatment of waste, these are outlined in Table 6.1 and Table 6.2 of the BAT assessment.

The Odour Management Plan (document reference 790101_ERA_OdourMP_HAS August 2024) has also been prepared in accordance with the following BAT conclusions, in additional to the H4 guidance:

- BAT 1: Environmental Management System to include the Odour Management Plan
- BAT 10: periodically monitor odour emissions
- BAT 12: Implement and regularly review an odour management plan, as part of the environmental management system, including protocols for:
  - Actions and timelines
  - Conducting monitoring
  - Response to identified odour incidents
  - Odour prevention and reduction
- BAT 13: Reducing odour emissions through the use of techniques
- BAT 14: reducing diffuse emissions to air
- BAT 33: control of odour emissions through pre-acceptance, acceptance and sorting the waste
- BAT 34: reduce channelled emissions

Supplementary documents for the BAT assessment are provided:

- BAT 2 Description of the Duty of Care procedures provided in 790101_WasteAcceptance_HAS August 2024
- BAT 14 Leak Detection and Repair Plan (LDAR) is provided in 790101_MSD_LDAR_HAS January 2024.
- BAT 1 Accident Management Plan (AMP) is provided in 790101_MSD_AMP_HAS August 2024. Catastrophic failures, of tanks for example, will be included in the AMP once final designs are agreed based on the findings in CIRA/ABDA assessment.
- BAT 1 Residues Management Plan (RMP) is provided in 790101_MSD_ResidueMP_HAS January 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_HAS August 2024). 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 operations.

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

An updated H1 assessment has been completed and can be found in 790101_H1 Tool v8_HAS January 2024.

An Air Quality Risk Assessment has been undertaken to assess the impacts from point sources emissions at the site, and the results are presented in 790101_AQRA_HAS.

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 Emission Management Plan is not considered be required.

6.4.2.1 Odour

The Site is located south of Worsham Ridge, east of the Pebsham area of Bexhill. The Site was built between 1999 and 2001. The Site is surrounded by wooded areas to the west and the north. To the north agricultural areas are present by beyond 75m north of the Site.

The closest receptor to a potential source of odour is an Industrial facility (catering supplies – place of work) which is 220m south of the PSTs, and a residential property which is 220m south west of the sludge storage tanks.

15 odour complaints have been received between 2018 to 2023.

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.

The Site's Odour Management Plan (OMP), reviewed and updated in January 2024, 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 EMS 341 air quality and odour management also sets out the process for responding to odour complaints arising from customer contact.

The OMP was written in accordance with the Environment Agency's H4 Odour Management guidance (2011).

The majority of the Site operations are fully enclosed, with the exception of the aeration lanes and final settlement tanks. all sludge treatment processes are covered or enclosed. Odour is controlled by two Odour Control Units (OCUs).

There is a central odour control unit (OCU) on the Site which treats extracted odorous air from the main control and process building, the screens, grit and grease removal process, sludge reception area, sludge thickeners, sludge holding tanks and centrifuges.

The OCU is a single stage, dual tower wet chemical scrubber system, and has the capacity to treat 90,000 m^3/hour of foul air when both towers are in operation. Foul air enters the towers and passes through a column of plastic media to enable mass transfer of odorous compounds to the liquid phase. A liquid containing chemicals (sodium hypochlorite) is circulated through the column to destroy odorous compounds and turns them into odourless and soluble salts, which are then returned to the wastewater treatment system. Chemical dosing is controlled by a redox and pH system, in order to maintain optimum conditions for the chemical reaction caustic is added to the towers and controlled by pH probes. Treated air is dispersed via two 18m stacks to the atmosphere, process parameters including pH, chlorine concentration, redox value and chemical tank levels are continuously monitored and trended on the SCADA system.

Chemical dosing for each odour control tower is set by a set of duty standby dosing pumps, in the case of a duty pump failure an alarm is raised on SCADA and the standby pump automatically takes over.

The second OCU is an activated carbon unit that treats odorous exhaust from the primary settlement tanks and the contact zones. The odorous air passes through a layer of chemically

impregnated granular activated carbon which absorbs odour prior to the air being discharged via a stack.

Treated air is dispersed via stacks to the atmosphere, process parameters including pH, chlorine concentration, redox value and chemical tank levels are continuously monitored and trended on the SCADA system.

There are three Honeywell Chemkey systems installed on Site which monitor the concentration of H_2S in the stacks every 15 minutes, all monitors are equipped with sample conditioning systems fitted with flow fail alarms and are located close to sampling points to allow the shortest possible sample lines. A fourth system is installed in the aeration lane to monitor H_2S in ambient air, this system automatically generates an alarm if the concentration exceeds a preset value.

Portable odour suppression spray systems are used to control odours during maintenance.

The Odour Management Plan can be found in document reference 790101_ERA_OdourMP_HAS August 2024.

The level of odour risk from the Site is considered to be low, as shown in Appendix B of the ERA (document reference 790101_ERA_HAS August 2024),and the OMP provides sufficient mitigation.

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 by the ERA.

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.

There have not been any noise complaints recorded at the Site in the past five years.

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_HAS August 2024.

6.4.2.4 Bio-aerosols

A bioaerosols risk assessment has been undertaken for the Site and considers there not to be any significant risks. The Bio-aerosol Risk Assessment can be found in 790101_ERA_BioRA_HAS January 2024.

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_HAS January 2024.

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 tank is dewatered by two centrifuges to reduce its volume. Lime solution is dosed into the feed line of the centrifuges, the limed cake is stored in one 100m^3 sludge silo, before being transported off-site for storage prior to being recycled to agricultural land as a soil conditioner.
- Sewage sludge is de-watered from the works to be treated at the Site. Treated sludge is then 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. Surplus power is exported to the grid.
- Polymer intermediate bulk containers (IBCs) are sent back to the supplier for re-use.
- Grit is collected for composting and used as a soil conditioner. This process is licenced and controlled via the Environment Agency.
- WEEE, batteries, waste oils and oil contaminated items such as oily rags are treated as waste hazardous waste in accordance with legislation, these are removed from Site by an approved suppler, using approved waste carriers.

Main storage of waste on the Site is located to the south of the main building. 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 palisade fencing approximately 2.4m high, the entrance to the site secured by an automatic gate. The Site is manned 24 hours a day, 7 days a week. For visitors and unauthorised personnel and intercom system at the Site entrance is used. The Site also benefits from a CCTV 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_HAS August 2024.

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 SWS 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 will be sought from the Site Manager, if relevant.

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.

In the event that 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

In the event of any complaint, this section deals with the complaint assessment procedures. The primary role of this 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 SWS 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 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 possible, 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_HAS January 2024.

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 6.5: 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 (dual fuel)	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 emissions to air (granular activated carbon filters and scrubbing system)	Ammonia	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
	H_2S			
	Odour concentration		Once every 6 months, or more frequent if stated in the permit	BS EN 13725
Auxiliary flare	Operational hours	Recorded duration and frequency.	Continuous	Operational record including date, time and duration of use shall be recorded
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

Emission point type	Parameter	Reference period	Monitoring frequency	Monitoring standard or method
				release

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

6.8.1.1 Assessment of the sampling locations

Southern Water will bring in 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. Where suitable and available, any monitoring, sampling and analysis of emissions to air or water is undertaken according to MCERTS, or equivalent standards, by MCERTs accredited contractors.

6.8.2 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.

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

The release of liquors from the sludge treatment process is considered to be a point source emissions or direct discharges to sewers, as part of the permit operation. The site layout plan, drawing reference 790101_MSD_SiteLayoutPlan_HAS August 2024, identifies the point at which liquors leave the site to enter the WTW at the inlet. A sampling location has also been identified on the site layout plan, although sampling will be undertaken as part of a wider implementation plan under BAT and IED.

Southern Water confirm that they will undertake a chemical analysis of their wastewater, from the STC entering the adjacent WTW, which tests all pollutants they expect to find in the discharge to fully characterise the emissions to water. They propose a minimum of 12 sampling runs over a 12-month period (1 full sampling spec per month) initially to establish a baseline, in accordance with the surface water pollution risk assessment guidance or other applicable guidance such as MCERTS or ISO standards, where appropriate. Southern Water will then take an informed viewpoint of the determinants the samples contain demonstrating those that are not in the sample. An H1 assessment to screen out any that are not applicable or relevant will be completed. Sampling and analysis will be undertaken using a UKAS accredited, or equivalent, laboratory. This commitment falls within the Implementation Plan for meeting BAT and IED compliance. An implementation plan is shown in document reference 790101_MSD_ImplementationPlan December 2023. It is therefore, considered that this will be added as Improvement Conditions to the permit.

Condensate from the CHP exhaust discharges to a container, which is discharged from the STC boundary directly to the drainage system of the adjacent Bexhill and Hastings WTW and will undergo treatment through the works before being discharged under an existing environmental permit for discharge to water. 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 sewer or other transfers off-site of emissions arising from the STC.

6.8.4 Emissions to land

There are no direct releases to land of emissions arising from the STC. As required by the SWS 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 SWS 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 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

SWS 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.

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.

SWS is dealing with the measurement and reporting of operational carbon emissions in existing installations through:

- Monitoring of energy use from electricity meters;
- Quarterly estimation and reporting of operational carbon emissions for internal reporting purposes; and
- Annual estimation and reporting of operational carbon emissions for regulatory reporting (Ofwat and CRC).

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 maintained relatively constant for reduced Nox emissions and increased efficiency;
- The engines are equipped with turbochargers, further increasing energy efficiency;
- Ongoing monitoring of plant operating parameters is carried out to ensure process is operating optimally and to enable constant optimisation to increase the plant's efficiency;
- Good housekeeping measures are employed, and regular preventative maintenance will ensure the operations, and therefore energy efficiency is optimised;
- Low cost measures in place to avoid inefficiencies of excessive heating or cooling include:
  - Insulation of main hot water pipes;
  - Insulation of heating equipment such as hot water heat exchanger, boiler feed water tank and boiler feed water pumps and pipework;
- Utilising low energy equipment for lighting such as:
  - High frequency fluorescent lighting, high pressure sodium or LED;
  - Allowing for local or modular switching, where appropriate;
- Consideration of energy recovery and the deployment of renewable energy systems, including:
  - Micro-hydro applications;
  - Advanced sludge digestion;
  - CHP; and
  - Use of solar panels and wind generation.

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.

The development of an energy efficiency plan will be considered once the Site is permitted; this will determine areas of improvement and will be developed under SWS Environmental Policy and EMS.

SWS carry 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, SWS 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, SWS implements optimisation measures across all its sites in a proactive approach to ensuring efficiency measures across all its site operations meet 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

SWS 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_HAS January 2024.

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 produced by the digestion process is stored in a membrane inflatable bag type holder, constructed of a Type IV fabric which is resistant to UV and microbial degradation (900m^3).

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

Chemicals used for the odour control unit, and water treatment are stored on impermeable surfaces in a contained area within the main process building. Polymer is stored in sealed IBC/bags located on bunded areas.

The SWS 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 including internal hoses.
- Office mess facilities - kitchen, washing and welfare facilities etc
- Odour control odorisers - dilution of chemicals to correct concentration.
- Odour control scrubber system

To ensure appropriate use of raw materials to prevent releases of substances to the environment and limit environmental impact SWS 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 SWS 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; and
- Implement further appropriate measures identified from a review.

6.10.6 Question 6e: Reducing production of waste

SWS 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 includes 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.

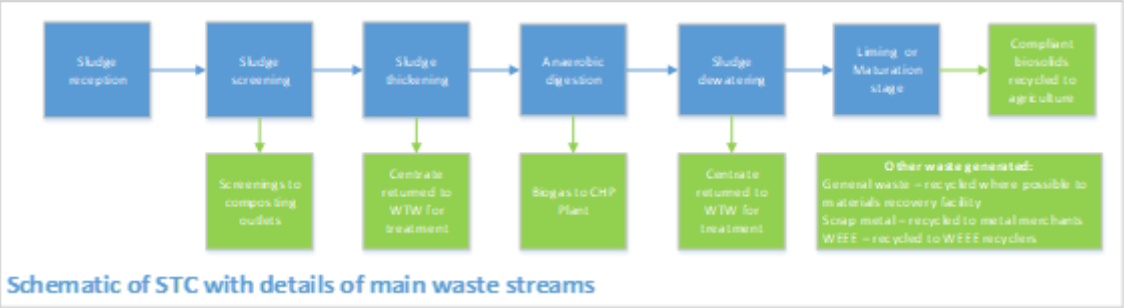
Further consultation with waste contractors will ensure that all waste streams have been considered. The sampling and characterisation of wastes will be covered under the requirements of Duty of Care. The wastes are handled to a minimum and are stored in suitably designed containers prior to being removed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



Schematic of STC with details of main waste streams

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 permit application charge	☑	a, b, d	c	b, c, d, f	--	a, b2	a, b, c	b, c, d, e, f, g	b, d, e, f	a, b, d, e, f, h, i	a, b, c

* Check the relevant question and our guidance notes on part B6 to see if you need to give an answer.

Note Question 6c is not within the application, 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. It will take place all year and continuously (e.g. for more than six days 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 (document reference 790101_MSD_ImplementationPlan December 2023) 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_HAS August 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 work 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 Bexhill and Hastings 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 Bexhill and Hastings 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 as set out in Southern Water's commitment in section 6.8.3.

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 Bexhill and Hastings 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 as set out in Southern Water's commitment in section 6.8.3.

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 characterise the liquors returning to the head of the adjacent Bexhill and Hastings 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 as set out in Southern Water's commitment in section 6.8.3.

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

The discharge of final effluent from the WTW is permitted under the permit reference A857/S/P/98 from twin long sea outfalls within the English Channel.

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

SWS do 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 F, Question 6, Table 4: Application checklist

Question reference	Document title	Documents reference
Part A – Q5c Part A – Appendix 1 Part C2 – Appendix 2	Details of Directors	790101_MSD_Directors_December 2023
Part C2 – Q3a Part C2 – Appendix 2	List of Relevant Offences	790101_MSD_RelevantOffences_December 2023
Part C2 – Q3b	Competency Management System Agreement	790101_MSD_CMS December 2023
Part C2 – Q3d	Environmental Management System Certificate	790101_MSD_EMS December 2023
Part C2 – Q5a Part E2 – Q3	Site Location Plan	790101_MSDS_SiteLayoutPlan_HAS August 2024
	Site Layout Plan	
	Drainage Plan	790101_MSD_DrainagePlan_HAS
Part C2 – Q5b Part E2 – Q4	Site Condition Report	790101_SCR_HAS August 2024
Part C2 – Q6	Environmental Risk Assessment	790101_MSD_ERA_HAS August 2024 790101_MSD_Maps_HAS January 2024
	Climate Change Risk Assessment	790101_ERA_CCRA_HAS
	Air Quality Risk Assessment and model files (within folder)	790101_AQRA_HAS August 2024 Model files folder: 'Hastings Models'
	H1 assessment tool	790101_H1 Tool v8_HAS January 2024
Part C3 – Q1b Part C4 – Q1b	Waste Codes	Appendix A of 790101_MSD_HAS August 2024
Part C3 – Q1b Part C4 – Q1b	Annual throughput	790101_AnnualThroughput_HAS August 2024.

Question reference	Document title	Documents reference
Part C3 – Q3a Part C3 – Q3c Part C4 – Q3a	Schematics	790101_MSD_Schematics_HAS August 2024
	BAT Analysis	790101_MSD_BAT_HAS January 2024
	Containment assessment	790101-MMD-IED-BAH-CA-C-001 - IED ADBA Tool P03 IED Risk Register Hastings August 2024
	Implementation Plan	790101_MSD_Implementation Plan December 2023
	Leak detection and repair Plan	790101_MSD_LDAR_HAS January 2024
	Residues Management Plan	790101_MSD_ResidueMP_HAS
	Accident Management Plan	790101_MSD_AMP_HAS August 2024
	Duty of care (waste acceptance)	790101_WasteAcceptance_HAS August 2024
Part C3 – Q3b Part C4 – Q3b	Odour Management Plan	790101_ERA_OdourMP_HAS August 2024
	Bioaerosol Risk Assessment	790101_ERA_BioRA_HAS January 2024
Part C3 – Q3c, Table 5	Materials Safety Data Sheets	790101_MSD_MSDS_HAS January 2024
Part B6	Discharges	Section 7 – 790101_MSD_Main_HAS August 2024
Part A – Q7 Part C2 – Q2,3,5,6 Part C3 – Q1,2,3,4,6 Part C4 – Q1,2,3,4 Part F1 – Q1,2,6	Main Supporting Document	790101_MSD_Main_HAS August 2024

A. Waste Codes

A.1 Wastes imported for Anaerobic Digestion

It is requested that the annual quantity of indigenous sludge and liquid sludge imports to be accepted is 1,227,082 wet tonnes (site design capacity).

EWC Code	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)	Pre-digestion AD	Raw – imported	
19 08	**wastes from waste water treatment plants not otherwise specified**			
19 08 05	sludges from treating urban wastewater	AD	Indigenous/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	

*Southern Water acknowledge these waste codes will not be included in a permit

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