



Southern Water Goddard's Green Sludge Treatment Work Permit Application – Response to Environment Agency

Environment Agency reference:	EPR/WP3695HW/V006	Date:	26 November 2024
Prepared by:	Anita Manns	Checked by:	Claire Cowdrey
Approved by:	Anita Manns	Document reference:	790101_NDM Response_GOD November 2024

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

Mott MacDonald Limited (Registered in England and Wales no. 1243967. Registered office: Mott MacDonald House, 8-10 Sydenham Road, Croydon CR0 2EE, United Kingdom) accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Table 1: Response to Environment Agency

Topic of relevancy	Question no.	Question	Response
Payment details	N/A	<p>The correct application charge may be as follows, but will be subject to confirmation of the activities being applied for. Currently the correct application charge is £22,801.4. Following confirmation of the waste activities we will confirm the final charge.</p> <p>Application fee</p> <ul style="list-style-type: none"> £12,586 Substantial variation application fee for - S5.4 (1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment. £1,398.4 – 10% application fee for the liquor treatment plant activity. 	<p>An email received from Sarah Raymond (20/11/2024 at 09.07) confirms the fee as either £17,250.40 or £17,163.3 depending on the LTP process. Based on the payments the Environment Agency have received so far for this application, no further payment is required and any refund will be arranged at the point of duly making.</p> <p>Just to confirm:</p> <ul style="list-style-type: none"> The removal of combustion assets from permit XX will be FOC. If you intend to permit the generator with the application you will need to provide all information with your response, if you do not you will need to undertake a variation at a later date.



Question no. Question

Response

- Application fee for the for the acceptance of waste to the head of works – 1.16.12 -£3,965 at 50%
 - Application fee for the dewatering activity – 1.16.12 - £793
 - Application fee for the temporary storage of cake and other wastes (Grit screenings) – 1.16.12 - £793
- Additional Assessments (see below for further details)
- Odour management plan – a fixed charge of £1,246
 - Habitats assessment – a fixed charge of £779
 - Emission Management Plan – a fixed charge of £1,241

Charge code	Overview	Charge band	Cost	Required
1.16.2.1	S. 5.4 A1 (b)(i) non-hazardous waste installation - Biological Treatment (AD)	Substantial Variation to installation activity	£12,586	Yes – Substantial variation only
1.16.2.2 or 1.16.2.1	10% application fee for – S5.4 A(1) (a) (i) or S. 5.4 A1 (b)(i) non-hazardous waste installation relating to the liquor treatment plant.	New permit application or addition of a new S5.4 activity	£1,398.40 or £1,344.3	Yes – to include LTP plant. Note you will need to confirm the treatment process to confirm the fee. * S5.4 A(1) (a) (i) – Physico chemical - £1,344.3 * S. 5.4 A1 (b)(i) – Biological - £1,398.40
1.16.12	Application fee for the physical treatment of non-hazardous waste relating to the waste import to the head of the works	Already permitted	£0	Already permitted under EPR/WP3695 HW. – permit will be modernised to include only 20 03 99 will be updated to 16 10 02
1.16.12	Application fee for the physical treatment of non-hazardous waste relating	Not required	£0	Confirmed not required



Topic of
relevance

Question
no. Question

Response

					to temporary storage of grit and screenings
					Application fee for the physical treatment of non-hazardous waste relating to the dewatering of digested cake
	1.16.12		Not required	£0	Confirmed not required
	1.19.6	Odour Management Plan	New	£1,246	Yes
	1.19.2	Habitats Assessment	New	£779	Yes
	1.19.5	Emission Management plan	New	£1,241	Yes
Permit EPR/JP3137 QB/A001	1	<p>It is unclear of the 1.73MWth and 0.43MWth generators are DAA's to the section 5.4 activity you have applied for. To ensure that the site is permitted correctly we need to understand:</p> <ul style="list-style-type: none"> a) Are the 1.73MWth and 0.43MWth generators DAAs to the section 5.4 AD activity? b) If they are, we will consolidate this permit with EPR/WP3695HW/V006, however if they are not please: <ul style="list-style-type: none"> a. apply to surrender the CHP and boilers from EPR/JP3137QB/A001 and we will permit the CHP and boilers as part of EPR/WP3695HW/V006. b. Remove all reference of the 1.73MWth and 0.43MWth generators from application EPR/WP3695HW/V006 <p>Permit EPR/JP3137QB/A001 identifies Boiler 1 and Boiler 2 as 1.76 MWth, however Table 1.1 of your main application document identifies them as 0.88 MWth.</p> <ul style="list-style-type: none"> c) Confirm the MWth input of boiler 1 and 2 d) Confirm all relevant documents and assessments have the correct MWth rating for the boiler 1 and 2 			<p>The generators previously included have been reviewed and asset changes have been completed since the initial submission.</p> <p>The 1.73MWth generator serves the WtW so is not DAA to STC.</p> <p>The 0.43MWth generator is due to be replaced, in the by end February 2025, with a 0.64MWth (800KVA) generator for emergency back-up use for the STC (sourced from Horsham WtW), this generator will, therefore, be a DAA to the section 5.4 AD activity.</p> <p>We have applied to surrender (790101_App_PartE2_GOD) the CHP from permit EPR/JP3137QB/A001, along with the 0.43MWth generator.</p> <p>All references to the 1.73MWth and 0.43MWth generators have been removed from the application for EPR/WP3695HW/V006. The text has been replaced with information relating to the replacement 0.64MWth generator as a DAA.</p> <p>The two boilers on site are confirmed to be 0.88MWth each (totalling 1.76MWth). However, Sothern Water has informed us that the two boilers on the Site are also no longer operational and are unlikely to be brought back into operation. Southern Water has assessed the need to replace the boilers, which concluded that the CHP and steam boiler are all that is required for continuous site operation.</p> <p>We have applied to surrender (790101_App_PartE2_GOD) the two boilers from permit EPR/JP3137QB/A001, have removed all references to them from</p>



Topic of
relevance

Question
no. Question

Response

		e)	If they are 1.76 MWth each include these in an updated C2.5 form.	the application for EPR/WP3695HW/V006. The text has been replaced with information relating to the use of the steam boiler, which is included as a DAA to the section 5.4 AD activity as part of the THP.
Site Layout Plan	2		Update '790101_MSD_SiteLayoutPlan_GOD March 2024' to include your existing permitted boundary.	<p>The site layout plan 790101_MSD_SiteLayoutPlan_GOD November 2024, has been updated to include the existing permitted boundary as per permit EPR/WP3695HW.</p> <p>Southern Water will look to surrender part of this permit boundary at a later date.</p>
Thermal Hydrolysis Plant	3		Update your application document to explain how your new THP meets the requirements of BAT from the point of operation or remove this from your application	<p>THP system installation has been completed and is in operation utilising third party support as SW gains familiarity with the new system.</p> <p>The THP process consists of a 130m³ silo feeding, a 130m³ pulper vessel, which feeds into four reactors on a batch basis (totalling 8m³). The reactor vessels discharge to a 4m³ flash tank which feeds the digester.</p> <p>Silos/Tanks/vessels volumes have been added to ADBA Tool (790101-MMD-IED-GOD-CA-C-001 ADBA Tool P03) and the process updated in the MSD (790101_MSD_Main_GOD November 2024).</p> <p>The BAT document (ref 790101_BAT_GOD November 2024) has been updated to include how the THP meets the requirements of BAT.</p>
Liquor Treatment Plant	4	a)	Update your main supporting document to include a non-technical summary of how the LTP is operated, what it includes, expected throughput, will be an installation.	The main supporting document (ref 790101_MSD_Main_GOD November 2024) has been updated to include a non-technical summary and details of the LTP as set out below:
		b)	Provide a BAT assessment if it meets the requirements of an installation activity, and ensure that it is included in all relevant plans and documents.	<p>The liquor treatment plant (LTP) is a biological process in the form of Cyclic Activated Sludge System (CASS). This treats liquors received from the STC.</p> <p>The CASS Liquor Treatment Plant (LTP) has a maximum throughput of 1200m³/day (≈1,200 wet tonnes/day) and consists of three storage volumes.</p> <p>Liquor treatment plant is a tank with capacity of 2500m³. This consists of four aeration blowers (operating on duty/assist/assist/standby) connected to diffusers in the bottom of the tank. This tank is uncovered and is being reviewed for the technical feasibility of covering it.</p> <p>Liquor storage tank is formed of two concentric tanks operating independently. The centre tank being a raw liquor buffer tank of capacity 1342m³ is covered and connected to an OCU 3. The outside tank being an uncovered treated liquor buffer storage of capacity 1284m³. The total tank volume is 2626m³ as listed elsewhere in the permit (and used for containment calculations).</p>



Topic of
relevance

Question no. Question

Response

			<p>Combined liquors (from drum thickeners, strain-presses and sludge cake bays) are received into the raw liquor buffer tank, transferred to, and through, the liquor treatment plant, and back to the treated liquor buffer storage area.</p> <p>The treated liquor is discharged into the main inlet flume (oxidation ditch distribution chamber) in the WtW and continues through the treatment process.</p> <p>Note this discharge point into the main inlet flume is located downstream of storm separation. This emission will require sampling as part of IC plans to meet BAT and has been amended on the site layout and included in the Proposed Sampling Plan (790101_Sampling proposal_GOD November 2024). The sampling of the incoming liquors are to be taken prior to flows combining.</p> <p>The LTP operates on a cycle of six hours of air blowing, 1 hour for settling and 1 hour for transfer. The SAS from LTP is pumped to the post screened storage tank, thus remaining within the STC boundary.</p> <p>The plant is currently operating, but is being reviewed for supplementary equipment or replacement as part of our ongoing asset strategy. A shut down and inspection is being completed in December 2024, which will help inform the strategy.</p> <p>The BAT document (790101_MSD_BAT_GOD November 2024) has been updated to include how the LTP will meet the requirements of BAT.</p> <p>The Environmental Risk Assessment (790101_ERA_GOD November 2024) has also been updated to include the information on the LTP.</p>
Open tanks	5	<p>a) Provide a list of all tanks used within the process that you are applying to permit. Confirm the tank volume and whether they are enclosed or open.</p> <p>b) For all open tanks, confirm that you will undertake the following:</p> <p>i. If digestate is still biologically active and you are producing combustible biogas you will take steps to collect the biogas and direct this to your gas collection system in line with BAT 14.</p> <p>ii. For open tanks that do not produce an explosive environment (i.e. less biologically active) you will enclose, collect and direct the waste gas emissions to an appropriate abatement system in line with BAT 14 and 34.</p>	<p>Two tanks are currently uncovered and may require improvements to meet BAT.</p> <p>The LTP is of volume 2500m³ and has an open roof area of 498m².</p> <p>The treated liquor portion of the liquor storage tank is of volume 1284m³ and open roof area of 243m². Noting the liquor storage tank consists of a central raw liquor buffer tank (covered and connected to an OCU 3). The outside 'ring' being the uncovered treated liquor tank.</p> <p>Southern Water confirm that they will undertake an assessment of the digestate stability (identified in the Implementation Plan), the outcome of that assessment will be provided within 6 months of permit issue. This is all part of wider ongoing discussions and is considered to require outcomes from testing to be able to determine appropriate solutions.</p> <p>Southern Water confirm that if digestate is still biologically active and combustible biogas is produced they will take steps to collect the biogas and direct this to their gas collection system in line with BAT 14. Also, for open tanks that do not produce an explosive environment but have been determined to require abatement for other purposes they will enclose, collect and direct the</p>




Question no. Question


Response

			<p>waste gas emissions to an appropriate abatement system in line with BAT 14 and 34.</p> <p>For context:</p> <p>The LTP operates on an aeration blower basis, as such further technical review is required to determine the detail of feasible options to cover the tank. Specifically in relation to high air displacement volumes and technical feasibility for retrofitting to the existing tank.</p> <p>The nature of the emissions from this tank needs to be better understood prior to determination of appropriate abatement.</p> <p>This will be completed through various surveys and monitoring.</p> <p>The outcome will inform if abatement is required for the emissions identified and what systems are required. It is initially thought that OCU or gas systems are not likely to be appropriate.</p> <p>The LTP is required to meet BAT, this is under review and solutions may include replacement or revision of the treatment processes.</p> <p>The treated liquor storage tank provides its own technical challenges for covering due to the uncommon arrangement.</p> <p>In line with the above strategy, it is understood that the emissions are to be determined and abatement selected. This will be completed but the treated liquor is thought to be significantly less likely to produce methane or odour which would require abatement.</p> <p>The waste sampling required for characterisation of the treated liquor returns may also help inform the above evolution for this tank</p>
Import of grit and screenings from sewer cleaning	6	<p>a) Payment as identified above</p> <p>b) Non-technical summary, and process flow including how you will keep this activity separate from your installations activity (https://www.gov.uk/guidance/waste-environmental-permits)</p> <p>c) Assessment against 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</p> <p>d) Completion of relevant forms – B4 new bespoke waste operation - https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b4-new-bespoke-waste-operation</p>	<p>Southern Water confirm that Goddard's Green does not accept the import of grit and screenings into the Site.</p> <p>Therefore, no further response is required for this query.</p>

M Topic of relevance MOTT MACDONALD	Question no.	Question	Response
		e) Updating and inclusion of this activity in all relevant management plans such as the Odour management plan, accident management plan, residue management plan etc.	
Dewatering activity	7	<p>a) Payment as identified above</p> <p>b) Non-technical summary, and process flow including how you will keep this activity separate from your installations activity (https://www.gov.uk/guidance/waste-environmental-permits)</p> <p>c) Assessment against 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</p> <p>d) Completion of relevant forms – B4 new bespoke waste operation https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b4-new-bespoke-waste-operation</p> <p>e) Updating and inclusion of this activity in all relevant management plans such as the Odour management plan, accident management plan, residue management plan etc.</p>	<p>Southern Water confirm that Goddard's Green does not accept the import of digestate for dewatering into the Site.</p> <p>Therefore, no further response is required for this query.</p>
Acceptance of waste to the head of works (HoW)	8	<p>a. Payment as identified above</p> <p>b. Non-technical summary, and process flow including how you will keep this activity separate from your installations activity (https://www.gov.uk/guidance/waste-environmental-permits)</p> <p>c. Assessment against 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</p> <p>d. Completion of relevant forms – B4 new bespoke waste operation - https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b4-new-bespoke-waste-operation</p> <p>e. Updating and inclusion of this activity in all relevant management plans such as the Odour management plan,</p>	<p>a) See response to Q1</p> <p>Southern Water have confirmed they are accepting wastes to head of works, currently permitted under EPR/WP3695HW.</p> <p>However, permit EPR/WP3695HW will be modernised. Further clarification for those EWCs are, and WTN provision.</p> <p>The current waste codes identified in permit EPR/WP3695HW are</p> <ul style="list-style-type: none"> - 20 03 99 - 19 08 01 - 19 08 05 - 19 09 02 - 20 03 04 - 20 03 06 <p>The current waste codes identified in permit EPR/WP3695HW are as below will be varied accordingly:</p>

	Question no.	Question	Response
		accident management plan, residue management plan, site layout plan etc.	- 20 03 99 will be updated to 16 10 02 a waste transfer note is provided
	f.	Evidence that you are currently accepting the waste codes identified for acceptance to the HoW. (Note: This can be a single waste transfer note demonstrating that this waste stream has been accepted at site.)	- 19 08 01 – will be removed as screenings are not accepted at the site and would not go to HoW anyway. - 19 08 05 – will be included in the list of EWC codes accepted pre-AD for anaerobic digestion as part of the IED permit activities. - 19 09 02 – Sludges from water clarification. WTN cannot be provided, therefore, it is to be removed.
	g.	If you are not currently accepting the EWC code identified, provide an assessment of the fate and impact on the receiving waters in line with the Environment Agency's risk assessment guidance.	- 20 03 04 – removed. It is accepted under the Controlled Waste Regulations 2012 and does not need to be permitted. - 20 03 06 – removed, It is accepted under the Controlled Waste Regulations 2012 and does not need to be permitted.
	h.	Provide a summary of the sampling and analysis methodology of the effluent discharged and specify the likely pollutants in the effluent (guidance here Monitoring discharges to water: guidance on selecting a monitoring approach - GOV.UK (www.gov.uk) and Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk)).	b) A non-technical summary is provided in the MSD (790101_MSD_Main_GOD November 2024) c) An assessment against the Non-hazardous and inert waste: appropriate measures for permitted facilities has been completed (790101_Appropriate Measures_GOD November 2024) d) Form B4 has been completed and provided as 790101_App_PartB4_GOD
	i.	Provide a written statement with a commitment to undertake the sampling and analysis in line with the 'Non-hazardous and inert waste: appropriate measures for permitted facilities'	e) All relevant management plans have been updated as applicable, f) Evidence of waste transfer notes for waste received under these codes are presented in 790101_WasteTransferNotes_GOD November 2024
	j.	Provide a written statement with a commitment that those undertaking the sampling and analysis will be by accredited to MCERTs or provide evidence of equivalent standards.	g) Where evidence cannot be provided for the existing acceptance of a waste stream this will be removed from the application and the permit varied later such as 19 09 02.
	k.	Provide a revised site plan which identifies the effluent sampling point and emission point for the effluent discharge from the head of works activity.	h) A proposed sampling plan has been provided as 790101_Sampling proposal_GOD November 2024 i) The proposed sampling plan includes Southern Water's committed to undertake the sampling and analysis in line with the 'Non-hazardous and inert waste: appropriate measures for permitted facilities' j) The proposed sampling plan includes Southern Water's committed that those undertaking the sampling and analysis will be by accredited to MCERTs or provide evidence of equivalent standards. k) The site layout plan (790101_MSD_SiteLayoutPlan_GOD November 2024) has been updated to include emission and sampling point for the effluent discharge from the HoW activity.

M Topic of relevance MOTT MACDONALD	Question no.	Question	Response
Air Quality Modelling files	9	Please re-send your air quality modelling files	<p>The requested air quality modelling files are provided as a zip folder 790101 AQ Model files GOD November 2024.</p> <p>An addendum (790101_AQRA Addendum_GOD November 2024) to the Goddard's Green Air Quality Assessment updated in August 2022 (790101_MSD_AirQualityDispersionReport_GOD) has been provided as a justification for not updating the previous assessment despite the changes to combustion plant since August 2022.</p>
Documents that cannot be located	10	<ul style="list-style-type: none"> • 790101-MMD-IED-GOD-SIM-M-101 Do-nothing(Tank Failure Only) • 790101-MMD-IED-GOD-SIM-M-102 Do-nothing(With Rainfall) • 790101-MMD-IED-GOD-SIM-M-103 Option 1 (Tank Failure Only) • 790101-MMD-IED-GOD-SIM-M-104 Option 1 (With Rainfall) • 790101-MMD-IED-GOD-SIM-M-105 Option 1a (Tank Failure Only) • 790101-MMD-IED-GOD-SIM-M-106 Option 1a (With Rainfall) • 790101-MMD-IED-GOD-SIM-M-107 Do-nothing(Tank Failure Only) • 790101-MMD-IED-GOD-SIM-M-108 Option 2 (Rainfall Included) • 790101-MMD-IED-GOD-SIM-M-109 Option 3 (Tank Failure Only) • 790101-MMD-IED-GOD-SIM-M-110 Option 3 (Rainfall Included) 	The updated ADBA Tool (790101-MMD-IED-GOD-CA-C-001 ADBA Tool P03) supersedes the previously submitted model files.
Application scope	11	Update your 'Main Supporting Document 790101_MSD_Main_GOD' to reflect the activities you are applying for and remove reference to WwTW which will not form part of this application	This has been completed to reflect all activities being applied for and to remove references to the WTW, which do not form part of this application. Some references to the WTW have been left in to provide context.
Process flow	12	Update your process flow to clearly show which assets will form part of your permit boundary, and which assets in the process flow are part of the WwTW and not part of this permit application.	Updated process flow diagram, has been provided as doc ref 790101_MSD_Schematic_GOD November 2024
Secondary containment	13	a) Provide an updated secondary containment report and ADBA assessment that clearly identifies the containment	Resubmitted as 790101-MMD-IED-FOR-CA-C-001 – ADBA tool P03.

	Topic of relevance	Question no.	Question	Response
			<p>solution proposed, the containment volumes, an explanation of how your proposals meet BAT and CIRIA C736.</p> <p>b) Ensure your permit boundary (and all relevant documents) include your proposed containment solution.</p> <ul style="list-style-type: none"> You have not considered jetting. Your preferred solution does not clearly show how volumes have been calculated, or confirm that all tanks have been included. We cannot identify how you have considered rainfall. Your solution includes crossed out sections, these should be removed to ensure no confusion Your containment volume does not reflect your areas proposed 	<p>The Environmental Risk Assessment (790101_ERA_GOD November 2024) Appendix B has also been updated to include the management of firewater.</p> <p>Updated site layout plan is submitted as 790101_MSD_SiteLayoutPlan_GOD November 2024</p>
Activity capacity		14	<p>a) Total tonnage of indigenous and imported wet tones to be received at the sludge treatment centre per annum.</p> <p>b) Total tonnage per annum to be accepted at the anaerobic digesters</p> <p>c) Digester hydraulic retention time</p>	<p>This has been added into the 790101_MSD_Main GOD November 2024.</p> <p>a) Total tonnage of indigenous and imported wet tones to be received at the sludge treatment centre per annum. 328,234 wet tonnes</p> <p>b) Total tonnage per annum to be accepted at the anaerobic digesters 100,776 (wet tonnes)</p> <p>c) Digester hydraulic retention time minimum standard is 14 days – actual for the site is 22.5days</p>
Waste codes accepted		15	<p>You have provided table 'A.1 Waste imported for anaerobic digestion'. This table includes EWC code 16 10 02 in which you have listed waste types that you intend to accept under this code. (some would not meet the WM3 requirements for 16 10 02). To accept a varied list under 16 10 02 would cause the digester outputs to fall outside of the sludge use in agriculture regulations meaning that your site would be undertaking co-digestion. As such we require further information on the classification of this waste.</p> <p>a) Provide the source of 16 10 02 that you intend to accept for anaerobic digestion.</p> <p>b) Explain why accepting 16 10 02 would not be co-digestion.</p> <p>c) If you are applying for co-digestion, update and re-submit your application to reflect co-digestion.</p>	<p>'Wastes imported for Anaerobic Digestion': Southern Water confirm that the code 16 10 02 is to be removed from tables referring to 'Wastes imported for Anaerobic Digestion', as the intention is not for co-digestion at this site.</p> <p>'Wastes received under the Controlled Waste Regulations 2012': Southern Water acknowledge these waste codes will not be included in a permit .</p> <p>The Main Supporting Document and Odour Management Plan have been amended and provided separately (doc ref 790101_MSD_Main_GOD November 2024 and 790101_ERA_OdourMP_GOD November 2024 respectively). The latest version removes the applicable 16 10 02, and caveats that controlled waste will not feature on the permit.</p>



Topic of
relevance

Question no. Question

Response

- d) If you do not require 16 10 02 for acceptance to the anaerobic digestion process confirm that this code is to be removed.

Table A.2 – please note that we do not permit controlled waste regulation codes, as such these will not be included on any permit issued.

Waste water emissions during storm overflow conditions at the WwTW. 16

- a) Provide written procedures which describes the site's contingency arrangements to prevent digestate and effluent being discharged off site while the WwTW are in storm conditions.
- b) Provide a description of the buffer storage proposals to control or hold emissions to the event of storm overflow conditions at the WwTW.
- c) Should any contingency arrangements use storage tanks to act as a buffer, provide evidence that demonstrates the waste waters or digestates can be held in this storage during the period of storm overflows.

During storm conditions the returns from the STC and cess reception enter the WtW process downstream of the storm separation point. As such all waste water returns from the installation must go through the WtW treatment process and cannot be directly discharged during storm conditions.

Southern Water will provide a wastewater and digestate buffer storage plan to clarify the arrangement. The Plan's purpose is to propose and describe site contingency arrangements to provide appropriate storage capacity or other appropriate measures to prevent or minimise emissions of wastewater or digestate being discharged off site during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions. It is understood the Plan will be required to include, but not be limited to:

- Proposals for additional storage capacity with secondary containment within the site boundary for wastewater and/or other digestate during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions.
- Procedures to cease discharges during these conditions.
- Calculation of a reasonable contingency capacity of waste water and/or other digestate during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions.
- A description and design specification of the buffer storage infrastructure and secondary containment measures. The design shall be completed by an appropriately qualified engineer and secondary containment shall be designed in line with CIRIA C736.
- A program of works with timescales for the implementation and construction of the buffer storage.
- A preventative maintenance and inspection regime.

790101_MSD_Main_GOD November 2024 section 6.1 updated to reflect this.

790101_MSD_AMP_GOD November 2024 table 3.3 has been updated to reflect this.

MOTT MACDONALD Topic of relevance	Question no.	Question	Response
Site Condition report	17	a) Update your SCR to reflect the permit area and application you are applying for, removing activities that will not be included within your permit. b) Provide 'Appendix B. Landmark Envirocheck Report', and all supporting information identified in section 'supporting information'.	The SCR (doc ref 790101_MSD_SCR_GOD November 2024) has been updated to amend reference to activities in the wider WtW, which do not form part of the permit boundary, and remove any identified exemptions. Reference to the sludge dryer has been amended to reflect this activity is to be surrendered. The Landmark Envirocheck Report and any other supporting document has been provided (doc ref 790101_MSD_SCR_GOD_AppB Envirocheck).
Waste acceptance and pre- acceptance	18	Provide a waste pre-acceptance and acceptance procedure for imported and indigenous sludge. Guidance on what this should include can be located at https://www.gov.uk/guidance/biological-waste-treatment-appropriate-measures-for-permitted-facilities .	The waste acceptance and pre-acceptance procedure is provided as 790101_WasteAcceptance_GOD November 2024.
Emissions to air from odour control units	19	a) Confirm that you will characterise emissions from the odour control units in line with BAT 3 to demonstrate if TVOC and HCl are present in the waste gas stream. b) Confirm that if TVOC and HCl are identified as relevant in the waste gas streams that you will monitor these emission in line with BAT requirements	Southern Water confirm that characterisation of emissions from the odour control units will be undertaken in line with BAT 3 to demonstrate if TVOC and HCl are present in the waste gas stream. If TVOC and HCl are identified as relevant in the waste gas streams Southern Water will monitor these emissions in line with BAT requirements. The Odour Management Plan has been updated Table 8 of the OMP to reflect the above commitments, document reference 790101_ERA_OdourMP_GOD November 2024.
Indirect emissions to water	20	a) Update your emission point plan to ensure all that all indirect emissions to water are included, and clearly explain which emission point includes which waste water stream. b) Include your emission/sampling point for the HoW waste activity and strategic storage facility ensuring that these are representative of the discharge. c) Update table 6.3 of your main permit application to identify all relevant indirect emissions to water, ensuring that it reflects the site plans you have provided. d) Provide a written statement with a commitment to undertake the sampling and analysis in line with BAT3 for	The site layout plan 790101_MSD_SiteLayoutPlan_GOD November 2024 has been updated to include the following:



Topic of
relevance

Question
no.

Question

Response

		<p>the installation activity and appropriate measures for waste activities.</p> <p>e) You have identified emission point “Domestic facilities”, domestic facilities will not be regulated as part of this permit and should be removed from your application.</p> <p>f) You have identified “Condensate from the gas pipelines and gas storage bag”, “Boiler blow down to minimise damage from high mineral content water” and “Runoff from impervious surfaces” however it is not clear where these emissions will be released on site or sampled. Provide separate emission points and sampling point locations for these emissions.</p> <p>g) You have identified “Uncontaminated roof water from new buildings”. To discharge uncontaminated water, such as clean rainwater from roofs (as explained in groundwater protection position statement G12) or from small areas of hardstanding to surface water you will not require emission limits, however the location on your site plan should be clear so that it can be included in any permit issued. Provide the locations and NGRs for all “Uncontaminated roof water from new buildings” and ensure these emission points are clearly marked on any emission point plan.</p> <p>h) You have identified “Washwater from the washing down of mechanical equipment during maintenance activities” and “Drain down of plant” as intermittent releases. Confirm where these will be emitted and sampled prior to discharge.</p>	<p>a) emission points for all indirect emissions to water</p> <p>b) emission/sampling point for the HoW waste activity and strategic storage facility</p> <p>e) removal of emission point “Domestic facilities”.</p> <p>f) emission/sampling point for “Condensate from the gas pipelines and gas storage bag”, “Boiler blow” and “Runoff from impervious surfaces”.</p> <p>g) emission points for “Uncontaminated roof water from new buildings”.</p> <p>h) emission/sampling point for “Washwater” and “Drain down of plant”.</p> <p>c) Table 6.3 of 790101_MSD_Main_GOD November 2024 has been updated to identify all relevant indirect emissions to water, to reflect the site plans provided.</p> <p>d) The proposed sampling plan (790101_Sampling proposal_GOD November 2024) includes Southern Water’s commitment to undertake the sampling and analysis in line with BAT3.</p>
<p>Odour control unit</p>	<p>21 (24 in Rfl)</p>	<p>Update your OMP or section 6.4.2.1 to reflect the OCUs that are in operation.</p>	<p>The OMP (790101_ERA_OdourMP_GOD November 2024), and the MSD (790101_MSD_Main_GOD November 2024) has been updated to reflect that there are three operational OCUs, along with the following detail:</p> <ul style="list-style-type: none"> • OCU 1 – Biofilter with pumice media and activated carbon filter installed 2012. Approx total air flow 1281m³/hr. serves centrifuge (& drum thick/poly) building, thickened sludge tank • OCU 2 Carbon filter only. installed 2012. 5356m³/hr throughput. Mostly WtW, but includes cess reception (relevant to this permit (plus inlet works)



Question no. Question

Response

-
- OCU 3 Biofilter with pumice media and activated carbon filter installed 2020. 14318 m³/hr throughput. Serves THP silo, auxiliary sludge storage tanks, imported raw cake and sludge bay, mixing tank, THP' centrifuges and raw liquor tank.

Southern Water is progressing detailed survey and assessment of the existing OCUs to understand any additional measures that may be required to meet BAT 34 and 53.

The Environmental Risk Assessment (790101_ERA_GOD November 2024) has also been updated to include the information on the OCUs. Appendix B has also been updated to include the management of firewater.
