

**Request for Further Information – Mogden STC, 2nd December 2024**

**Date:** 16 December 2024  
**Project name:** STC IED  
**Project no:** B22849AZ  
**Attention:** Sarah Raymond  
**Company:** Thames Water  
**Prepared by:** Mark McAree  
**Document no:** C.241216

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United Kingdom  
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Dear Sarah,

Thank you for your email “Application RFI and payment request - Mogden - EPR/WP3533LT/V006” on Monday the 2<sup>nd</sup> of December 2024. Please see below for the answers to your questions: -

Unfortunately, the application payment you sent is incorrect. Currently the correct application charge is £17,250. This leaves an outstanding balance of £1,241.

**Application fee**

£13,984 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.

**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**

**Answer**

We have reviewed the application payment and note the balance of £1,241 to be paid. We request the EA can take the balance of £1,241 out of the TW remittance number PSCAPPTHAMES107 received by EA 2-9-22.

**1) Permit EPR/CP3999LE/A001**

*You have requested to consolidate EPR/CP3999LE/A001 as part of this application advising that EPR/CP3999LE/A001 is for the importation of tankered trade waste to the works inlet. It is our understanding that this is not directly associated to the AD activity and as such does not need to be consolidated, however should you still require this to be completed you will need to address the below points.*

*Note: For existing wastes we would consider these wastes as existing operations and would look to implement an improvement condition to assess the fate of impact of the substances emitted to water. The IC would also be in line with the requirements of ‘Non-hazardous and inert waste: appropriate measures for permitted facilities’ section*

6.4 <https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities/6-emissions-control>.

- a) Confirm that you do not require EPR/CP3999LE/A001 to be consolidated as part of this applications and remove this from all your application documents.

If you still do require EPR/CP3999LE/A001 to be consolidated:

- b) Update all site plans and maps to include EPR/CP3999LE/A001 existing boundary.
- c) 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](#) and [Surface water pollution risk assessment for your environmental permit - GOV.UK](#)).
- d) 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) 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.
- f) Provide a revised site plan which identifies the effluent sampling point and emission point for the effluent discharge from the head of works activity.
- g) Update all relevant documents and plans to ensure that this activity is included.

**Answer 1a**

Thames Water requires permit EPR/CP3999LE/A001 to be consolidated as part of this application since the scope of this permit is wider than the importation of tankered trade waste to the works inlet. This is confirmed by ‘Schedule 1 – Site Plan’ of this application/permit from c2008/15/1/2009. This approach will also achieve consistency with equivalent sites, consolidating an equivalent existing variation base, such as Chertsey or Swindon.

**Answer 1b**

Please see attached the following updated documents:

- Installation boundary and air emission points plan: B22849AM-JAC-MGN-DR-0002
- Site areas within installation boundary: B22849AM-JAC-MGN-DR-0003
- Site plan within the Bioaerosol Risk Assessment: TW\_STC\_EPR\_13a\_MGN\_APPF
- Site plan within the Odour Management Plan

**Answer 1c , 1d and 1e.**

Thames Water commits to undertaking the waste sampling and testing, to MCERTS or equivalent standard, where available. Thames Water requests that detail of the sampling and analysis requirements are added to the permit as an improvement condition.

**Answer 1f)**

A revised site plan which identifies the effluent sampling point and emission point for the effluent discharge from the head of works activity is attached as:

- Installation boundary and air emission points plan: B22849AM-JAC-MGN-DR-0002

**Answer 1g)**

The import of waste is included in the application – for example please see :Technical Description: > Waste Activities or Table C3-1b (ii) Waste accepted at the Head of works Import Point.

## 2) Secondary Containment

You have provided 'B22849AZ-JA-MOGDS1ZZ-100-RP-Z-0001' to demonstrate how you will meet BAT 19 in relation to secondary containment. On review of this documents it is not clear which tanks you intend to include within which containment bund, it is unclear which tanks are partially submerged and how this has reduced the containment volumes required, and you containment solution for the 16 primary digester tanks does not follow your stated principle of "For each containment area, the containment volume has been checked against the largest tank + rainfall, the 110% and 25% rule and for each, the largest tank + rainfall applies." With spill modelling being based on 2,347m<sup>3</sup> when the principle you have followed would require 16,500m<sup>3</sup> plus rainfall. We also note that your ADBA assessment is not specific to your site.

You state in your submission "However, in light of the Planning Inspector's Decision in respect of the Permit Appeal for Reading STC, we reserve our right to amend our position to reflect that ruling."

"While the Agency would envisage minor changes to the approach put forward in Containment Options Reports provided. As per point 21 of the Planning Inspectors Appeal Decision "subsequent recognition of practical impacts so large that an alternative approach is required would necessitate a further variation and is not something that can be addressed through appeal, and point 72 specifically stating that "If the appellant wishes to present a different argument regarding credible scenarios for the site then they would need to submit a variation.". The Agency would see a change of approach from the containment proposal submitted as requiring a future variation and not to be addressed through the IC. The Agency will base its decision to issue any permit and the implementation of the secondary containment improvement condition on the site specific risk assessment provided. Should a new approach or different solution be required this should have been provided as part of determination and will not be considered as part of any IC implemented."

### Update and resubmit your secondary containment proposal to:

- a) Provide an ADBA assessment that is specific to the site you are applying to permit.
- b) Clearly identify which tanks are located below ground or partially below ground, and clearly show the volumes that you have used for each tank.
- c) Clearly explain which tanks are included in which containment zone.
- d) Update your containment solution for the primary digesters to include a containment solution that meets your approach identified as ""For each containment area, the containment volume has been checked against the largest tank + rainfall, the 110% and 25% rule and for each, the largest tank + rainfall applies.""
- e) Should your solution not follow the 110% / 25% approach plus rainfall, provide an evidence based site specific risk assessment (as outlined in CIRIA C736) with full and final detailed designs.

#### Answer 2a

Please see the updated ADBA tool v04 'B22849AZ-JA-MOGDS1ZZ-100-CA-P-0001'

#### Answer 2b – 2e

Questions 2b – 2e have been addressed within the revised containment option report, P03: B22849AZ-JA-MOGDS1ZZ-100-RP-Z-0001.docx

The tank inventory now includes two additional columns, to show whether tanks are above or below ground (partly or fully) and therefore, whether they have been included in the spill volumes and to identify which containment area they are in, referencing the figure which identifies all three areas.

All of the solutions follow the 110%/25% approach as these were submitted by the Environment Agency deadline of 20<sup>th</sup> December 2023, however again, in light of the Planning Inspector’s Decision in respect of the Permit Appeal for Reading STC, we reserve our right to amend our position to reflect that ruling.

This table is reproduced below:

**Table 3.1 – Sludge Tanks and Volumes**

Tank Purpose	Containment Area (Fig 3.3)	Number	Operational Volume (m <sup>3</sup> )	Total Operational Volume (m <sup>3</sup> )	Material	Below/Above/Partially in ground
Primary Sludge Buffer Tanks	2	2	1,505	3,010	Steel	Above
Sludge Import Tank	3	1	331	331	Steel	Above
Thickened Sludge Buffer Tank	3	1	320	320	Steel	Above
Pasteurisation Tanks	3	12	200	2,400	Steel	Above
Pasteurised Sludge Buffer Tanks	3	2	150	300	Steel	Above
Primary Digester Tanks	N/A	16	4,125	66,000	Concrete	Below
Digested Sludge Buffer Tank	1	1	520	520	Steel	Above
Contingency Storage Tank	2	1	1957	1,957	Steel	Above
<p><b>Notes:</b>                      The Primary Digester Tanks have no above ground storage; these tanks are not included within containment solution.                      Contingency Storage Tank volume not included as this tank is normally empty and only used for emergencies.</p>						

**3) Operations at Iver South SDC**

*You have identified permit EPR/DP3291SW as accepting emissions from point T5 for dewatering. It is unclear if this permit should be a directly associated activity (DAA) permit, and on assessing the applied for volumes how this permit would meet the current standard rules requirements based on potential volumes to be transferred. Further guidance can be found in RGN 2: Understanding the meaning of regulated facility.*

- a) Explain why permit EPR/DP3291SW would not be considered as a DAA permit to the Mogden site.
- b) If EPR/DP3291SW should be a DAA permit provide all relevant documents required to vary this permit.

**Answer 3a**

The Iver South site (EPR/DP3291SW) would not be considered as a DAA permit to the Mogden installation site because Iver South can also bring in tanker wastes. Iver South therefore isn't 100% dedicated to Mogden and a site can only be a DAA if the second site is 100% dedicated to the installation.

This is as per the conversation with Sarah Raymond on the 3<sup>rd</sup> December.

**Answer 3b**

Not applicable

**4) Emissions to air from odour control units**

*Under BREF guidance BAT conclusion 8, BAT is to monitor channelled emission to air at agreed frequencies and standards. On review of submission you have identified the monitoring of H<sub>2</sub>S and NH<sub>3</sub>, however we can see no mention of parameters for the 'Treatment of water-based liquid waste' (TVOC and HCl), or evidence that TVOC and HCl have not been identified as relevant in the waste gas stream. Your activity includes prior to the AD process (the biological treatment of waste) the thickening and dewatering process which is a directly associated activity of the AD process. The odour control units identified serve this directly associated activity. The BAT AELs are appropriate for the activity defined under the BREF as 'Treatment of water-based liquid waste'. The BREF provides examples of wastes that would be considered as water-based liquid wastes. These include wastes under the category '19 08 wastes from waste water treatment plants not otherwise specified'. The treatment of this waste in the dewatering and thickening stage and the subsequent emissions to air from connected abatement could be subject to the BAT AELs specified within BAT conclusion 8.*

- 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.**

**Answer 4**

Thames Water confirms it will characterise emissions from the OCU on site in line with BAT 3, specifically with regards to HCL and TVOC if these substances are identified as relevant in the waste gas stream and if relevant will monitor these in line with BAT 8. This commitment is subject to confirmation that the provisions applicable to both the 'biological treatment of waste' and the 'treatment of water-based liquid waste' apply.

**5) Appendix M - Mogden STC Liquor Proposal**

*On review of 'Appendix M - Mogden STC Liquor Proposal' this includes emission point S1 and S2, which does not match with your emission point plan as it excludes the emission from point T5.*

**Either update 'Appendix M - Mogden STC Liquor Proposal' to reflect your site plan, or update you site plan to reflect 'Appendix M - Mogden STC Liquor Proposal' ensuring that any changes are reflected across all of your application documents.**

**Answer 5**

Appendix M provides the NGR for the Liquor sample points only. Instead, Emission point T5 represents the location where ‘digested sludge’ leaves the permitted area as it is pumped to the ‘Offsite Dewatering Plant’ at ‘Iver South’. NGRs for the transfer points are included within Table C3-2b of the main Application Support Document and reproduced below

**Table C3-2b – Emissions to Sewer**

Emission point reference and location	Source	Parameter	Limit	Unit
T1 (as per site plan in Appendix A.2) (NGR: TQ 15218 74914)	Primary Sludge Thickening Liquors, OCU Waste Water, Boiler Waste Water, Biogas Condensate, Surface Water Run Off	No parameters set	No limit set	-
T2a (as per site plan in Appendix A.2) (NGR: TQ 15161 74918)	SAS Thickening Liquors, OCU Waste Water, Surface Water Run Off	No parameters set	No limit set	-
T3 (as per site plan in Appendix A.2) (NGR: TQ 15261 75408)	Head of Works Imports 1	No parameters set	No limit set	-
T4 (as per site plan in Appendix A.2) (NGR: TQ 15455 75410)	Head of Works Imports 2	No parameters set	No limit set	-
T5 (as per site plan in Appendix A.2) (NGR: TQ 15140 74901)	Offsite Dewatering Plant	No parameters set	No limit set	-

Note: Existing emissions to sewer are replaced by new transfer points

**6) Flare**

*You have advised “Emergency Flare Stack at A14 is to be replaced by A25 following commissioning”*

**Explain when the commissioning of the flare at emission point A15 will be undertaken.**

**Answer 6**

The commissioning of emission point A15 will take place in the period February to March 2025.

**7) Primary digesters**

*You advise that “Biogas from the Primary Digester Tanks is captured in roof mounted Biogas Storage holders on top of each of the Primary Digester Tanks.” it is unclear if these are sealed tanks, or floating roofs.*

- a) Clearly explain if the primary digester tanks are enclosed or if they will Emitt diffuse emissions.
- b) If tanks are not enclosed explain how you will enclose them to meet the requirements of BAT 14.

**Answer 7a**

Each of the Primary Digester Tanks has a floating roof style roof mounted Biogas Storage holder on top of the tank. Floating roof digesters may emit diffuse emissions to air.

**Answer 7b**

Thames Water is committed to meeting the requirements of BAT14- Thames is not able to commit to covering tanks by the stated deadline of 31st March 2025, delivery timescales will be subject to the outcome of the PR24 and subsequent price review discussions. Thames Water understands that a ‘Primary anaerobic digestion vessel cover plan’ will be included as an Improvement condition as part of the permit conditions.

A programme of retrofitting digestors to a sealed membrane roof design has started.

**8) Biogas upgrade plant**

Your biogas update plant will be a DAA to the section 5.4 activity and not a waste activity as advised in table C3-1a – types of activities. On review of the current

**Update table C3-1a to reflect the above.**

**Answer 8**

Please see the updated Table in Appendix 1 of this document.

**9) Containment storage tank (Post AD)**

*Under BAT conclusion 14 you must ensure that diffuse emissions are contained. This includes techniques such as storing, treating and handling waste and material that may generate diffuse emissions in enclosed buildings and/or equipment, and collecting and directing the emissions to an appropriate abatement system. If digestate is still biologically active, and you are producing combustible biogas you must take steps to collect the biogas. Biogas should not be vented to the environment. If the source does not produce an explosive environment (i.e. less biologically active) you will need to propose plans to enclose, collect and direct the waste gas emissions to an appropriate abatement system.*

**For all open tanks post AD identified as the contingency storage tank, confirm that you will undertake the following:**

- a) **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.**
- b) **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.**
- c) **Provide a list of all tanks and clearly explain is they are open or enclosed.**

**Answer 9a and 9b**

Thames Water is committed to meeting the requirements of BAT14. A full BAT risk assessment is required to determine the potential need to cover open topped tanks including the ‘Contingency storage tank’. Thames is not able to commit to covering tanks by the stated deadline of 31st March 2025, delivery timescales will be subject to the outcome of the PR24 and subsequent price review discussions. Thames Water understands that a ‘Post Digestion vessel cover plan’ will be included as an Improvement condition as part of the permit conditions.

**Answer 9c**

Name	Quantity	Operational Volume (m3)	Total Operational Volume (m3)	Material	Open or Closed
Primary Sludge Buffer Tanks	2	1,505	3,010	Steel	Closed
Sludge Import Tank	1	331	331	Steel	Closed
Thickened Sludge Buffer Tank	1	320	320	Steel	Closed
Pasteurisation Process (Consists of the following:					

12 x Pasteurisation Tanks (Each stream has 1 pre-heat tank, 1 reactor tank)	12	200	2,400	Steel	Closed
Pasteurised Sludge Buffer Tanks	2	150	300	Steel	Closed
Primary Digester Tanks	16	4,125	66,000	Concrete	Closed
Digested Sludge Buffer Tank	1	520	520	Steel	Closed
Contingency Storage Tank	1	1957	1,957	Steel	Open
<b>Overall Volume</b>			<b>74,838</b>		
Raw Sludge Building Poly Silo	2	15 tonnes		Steel	Closed
GBT Press Building Poly Silo	1	30 tonnes		Steel	Closed
Sodium Hypochlorite Silo	1	42,000 litres		Not specified	Closed
Sodium Hydroxide Silo	1	42,000 litres		Not specified	Closed
Boiler House Diesel Tank	1	40,000 litres		Not specified	Closed
Diesel Tank	3	32,000 litres		Not specified	Closed
Standby Generator Diesel Tank	1	11,000 litres		Not specified	Closed

**10) Emission points**

Your current permit includes emission point S1-S8 for indirect emission to water. These have been removed from your updated emission point plan.

**Either**

- a) Update your emission point plan to include previous indirect emission to water points, or**
- b) Clearly explain why these emission points have been removed, and for each point explain which point they are now discharged through.**

**Answer 10a and b**

There are eight 'sewer emission points' within EPR/WP3533LT/V005 (S1-S8). These are

- Four drainage of blowdown emission points,
- Three biogas condensate emission points; and
- One siloxane plant condensate emission point.

All emission points are now located inside of the new installation boundary (as per this V006 variation application) and therefore are superseded by the new 'Transfer points proposed on the site plan'.

The above waste waters already combine, in existing drainage, with other liquors and waste waters arising within the installation boundary. The combined waste waters will be sampled prior to their transfer at location T1 or T2 to the UWWT process.



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Thames Water understand that sampling of combined waste-water flows, in existing drainage is accepted by the Environment Agency. Further details of proposed liquor monitoring at Mogden STC have been included in TW\_STC\_EPR\_13a\_MGN\_APPM, (previously supplied).

**Table C3-1a – Types of activities**

Installation name	Schedule 1 references	Description of the Activity	Activity Capacity	Annex I and II codes and descriptions	Non-hazardous waste treatment capacity
Mogden STW Combustion Plant AR1	Section 1.1 A1 (a) Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	Combustion plant fired on biogas generated on site, including the following equipment: <ul style="list-style-type: none"> <li>3 x Combined Heat and Power (CHP) engines, net rated thermal input of 4.68 MW each, fired on biogas. Existing MCP.</li> <li>4 x pasteurisation boilers, net with net rated thermal input of 1.62 MW each, fired on biogas generated on site or diesel oil. Existing MCP.</li> </ul>		R1 Use principally as a fuel or other means to generate energy	N / A
Mogden STW Combustion Plant AR2		Emergency standby diesel generators (emergency plant), including the following equipment: <ul style="list-style-type: none"> <li>3 x MTU engines, net rated thermal input 5.01 MW each. Existing MCP.</li> <li>4 x MTU engines, net rated thermal input 3.73 MW each. Existing MCP.</li> </ul>			
Mogden STW Combustion Plant AR3		4 x storm pumps mechanical drive engines fired on diesel (standby plant), net rated thermal input 1.2 MW each. Existing MCP.			
Mogden STW Combustion Plant AR4		Combustion equipment with net rated thermal input less than 1 MW each, aggregated net rated thermal input approx. 0.8 MW.			
Mogden Sewage Treatment Centre AR5	S5.4 A1 (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	From receipt of permitted waste through to digestion and recovery of by-products (digestate and biogas).	6,055 wet tonnes per day	R3: Recycling reclamation of organic substances which are not used as solvents. R13 Storage of waste pending any of the	Maximum waste throughput 8,100,000 wet tonnes per annum including indigenous UWWTD derived sludge

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	<p>the only waste treatment activity is anaerobic digestion) involving biological treatment.</p> <p>Anaerobic digestion of permitted waste in 16 Primary Digester Tanks followed by combustion of biogas produced from the process</p>			<p>operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced)</p> <p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>from within the wider Sewage Treatment Works.</p> <p>As per volume calculations in Note 1 below.</p>
<b>Directly Associated Activities [existing listings in bold]</b>					
<b>AR6</b>	<b>Biogas storage and scrubbing</b>	<p>Storage of biogas within sixteen floating roof primary digesters and the pressurisation of the biogas using compressors and gas boosters.</p> <p>The operation of gas scrubbing plant from the receipt of biogas through its scrubbing using activated carbon to its delivery at the gas compressors.</p>		<b>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).</b>	
<b>AR7</b>	<b>Biogas processing for siloxane removal</b>	<p>Siloxane removal system.</p> <p>Operation of a siloxane removal system equipped with a condensing regeneration stage venting through emission point A11e.</p>			
<b>AR8</b>	<b>Emergency Flare</b>	<p>Operations of an emergency flare (emission point A25, used to burn excess biogas when CHP Engines and boilers of activity AR1 are not in operation or operate at reduced capacity.</p> <p>Operations of an emergency flare/waste gas burner (emission point A27) used to burn excess biomethane when the biogas upgrading plant of activity AR20 is not in operation.</p>		<b>D10: Incineration on land.</b>	

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AR9	<b>Oil Storage</b>	<b>Storage of oil from receipt onto site, storage in oil storage tanks and transfer through oil pipelines. From receipt of raw materials to dispatch for use.</b>			
AR10	<b>Surface water drainage</b> and transfer back to the head of the sewage treatment works via site drainage	<b>Operation of systems for the collection and discharge of uncontaminated surface water.</b>			
AR11	<b>Condensate drainage</b> and transfer back to the head of the sewage treatment works via site drainage	<b>Discharge of condensate to a sealed drainage system.</b>			
AR12	Imports of waste, including sludge from other sewage treatment works for treatment;				
AR13	Dewatering liquor drainage and transfer back to the head of the sewage treatment works via site drainage;				
AR14	Blending of indigenous sludges and imported wastes/waste sludge prior to treatment;				
AR15	Pre-treatment of sewage sludge by pasteurisation;				
AR16	Storage of digestate prior to dewatering;				
AR17	Transfer/export of waste digested sewage sludge/digestate for off-site dewatering				
AR18	Storage and handling of wastes, including waste oils				
AR19	Storage of raw materials.				
AR20	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and Volatile organic compounds) for injection into the National Grid.				
<b>Waste Operations</b>					
	<b>Description of the waste operation</b>	<b>Annex I (D codes) and Annex II (R codes) and descriptions</b>	<b>Hazardous waste treatment capacity</b>	<b>Non-hazardous waste treatment capacity</b>	
AR21	Imports of wastes to the works inlet for treatment through the UWWTD route and screening of imports;	D13: Blending or mixing prior to submission to any of the operations numbered D1 to D12	n/a	Maximum waste throughput 40,000 wet tonnes per annum	
For all Waste Operations		<b>Total capacity</b>	<b>74,838 wet tonnes</b>		

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	Total STC treatment capacity (tank volume)	74,838 wet tonnes	
For waste imports to the head of the works	Annual throughput (tonnes each year)	Imports: 40,000 wet tonnes	
<p>Note 1: Treatment Calculation based on:            Co-settled Sludge: 82.40 tds/day: worse case 0.90% dry solids = 9,156 m<sup>3</sup>/day = 3,341,822 m<sup>3</sup>/year            Unthickend SAS: 82.40 tds/day: worse case 0.70% dry solids = 11,772 m<sup>3</sup>/day = 4,296,629 m<sup>3</sup>/year            Imports - Liquids: 41.20 tds/day: worse case 3.50% dry solids = 1,177 m<sup>3</sup>/day = 429,663 m<sup>3</sup>/year            Total combined import calculation: 8,068,114 m<sup>3</sup>/year, rounded to 8,100,000 m<sup>3</sup>/year</p>			

### Additional Information

#### Mogden STC – Thames Water Daily / Annual Throughputs.

We have recently noted that the average actual 'daily throughput' of 5,500 m<sup>3</sup>/day we provided is likely to be used as a limit in Table S.1.1. of any draft permit you issue. We have previously provided the average 'daily throughput' value of 5,500 m<sup>3</sup> /day in our application as opposed to the maximum volume of sludge fed to the digesters of 6,055 m<sup>3</sup> / day.

Please therefore find the following clarification to our application:

#### **Daily throughput to the Digester (thickened sludge input to the primary digesters) – 6,055 tonnes per day calculated as:**

The average digester throughput capacity calculation is based on 16 parallel digesters, with volumes of 4,125 cubic metres for each digester and 12 days hydraulic retention time equates to an average total digester feed of 5,500 m<sup>3</sup>/day.

The maximum allowable digester feed throughput capacity is 6,055 tonnes a day at the point of feed into the digesters (which is equivalent to 2,210,000 tonnes per year).

Sludge import at the permit boundary remains unchanged, calculated as follows:

**Annual throughput (un-thickened sludge) at the Permit Boundary – 8,100,000 tonnes a year calculated as follows:**

Unthickened primary: 82.40 tds/day; worse case 0.90% dry solids = 9,156 m<sup>3</sup>/day = 3,341,822 m<sup>3</sup>/year

Unthickened SAS: 82.40 tds/day; worse case 0.70% dry solids = 11,772 m<sup>3</sup>/day = 4,296,629 m<sup>3</sup>/year

Imported Liquid: 41.20 tds/day; worse case 3.50% dry solids = 1,177 m<sup>3</sup>/day = 429,663 m<sup>3</sup>/year

Total Combined import calculation 8,068,114 m<sup>3</sup>/year; rounded to **8,100,000 m<sup>3</sup>/year** (which is equivalent to 22,192 m<sup>3</sup>/day at the permit boundary).

### **Summary**

Please update the Draft Permit with the following figures:

Thames Water understand that the Environment Agency will use **the 8,100,000 tonnes a year** as the figure included in Table S2.2 as a “Maximum Quantity” “Annual Throughput shall not exceed” limit (see above).

Thames Water ask that the Environment Agency use the **6,055 tonnes a day figure at the point of feed into the digesters** in Table S1.1, Activity Reference (Row) AR2 and (Column) ‘Limits of specified activity and waste types’ as an ‘Anaerobic digestion’ limit.