

**Request for Further Information – Aylesbury, 8th November 2024**

**Date:** 22 November 2024  
**Project name:** STC IED  
**Project no:** B22849AZ  
**Attention:** Liz Topping  
**Company:** Thames Water  
**Prepared by:** Mark McAree  
**Document no:** C.241122-1

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Dear Liz,

Thank you for your email “Request for further information EPR/KP3305MR/A001 - Aylesbury Sludge Treatment Centre, Rabans Lane Industrial Estate, Rabens Lane, Aylesbury, HP19 8RT” on Friday the 8<sup>th</sup> of November 2024. Please see below for the answers to your questions:

1. The SAS Thickening Plant and Primary Sludge Thickening Plants (pre-AD) are both within Aylesbury Sludge Treatment Centre Installation boundary, however we’re struggling to find the following information within your application for these assets/tanks:
  - a) **Confirm whether these assets comprise of any additional tanks which have not previously been listed or whether it is a centrifuge, and if there are additional tanks, please confirm the volumes.**
  - b) **Confirm whether these assets are enclosed or open.**
  - c) **We have noticed that the SAS Thickening Plant and Primary Sludge Thickening plant are not included within your secondary containment document, all tanks should be listed and assessed as part of this report.**

**Answer 1a**

There are no additional tanks associated with the SAS Thickening Plant and Primary Thickening Plant (pre-AD).

The SAS Thickening Plant consists of two Belt Thickening units and a polymer dosing system.

The Primary Thickening Plant consists of two Drum Thickening units within a building and a polymer dosing system.

**Answer 1b**

The SAS Thickening Plant is open.

The Primary Thickening Plant is enclosed within a building.

**Answer 1c**

The SAS Thickening Plant and Primary Sludge Thickening plant is within the containment area, but no additional volume has been taken into account for this plant, as it is not a tank (as in Q1a), which is consistent with all other containment assessments to date.

The Secondary Containment Options Report, B22849AZ-JA-AYLES1ZZ-100-RP-Z-0001, November 2023 version, lists all of the tanks to be assessed within Table 3.

2. BAT 53 requires that “In order to reduce emissions of HCl, NH3 and organic compounds to air, BAT is to apply BAT 14d (Containment, collection and treatment of diffuse emissions) and to use one or a combination of the techniques including adsorption, biofilter, thermal oxidation and/or wet scrubbing:
  - a) **Provide commitment to cover all pre-anaerobic digestion tanks identified as the contingency storage tanks in line with BAT 53 and 14d.**
  - b) **Provide the specification of the abatement technology that will be implemented in line with BAT 14d and BAT 53 to treat air emissions and if they will be open or closed.**
  - c) **Provide the proposed NGR of the OCUs air abatement plant emission points and add them to the air emissions site plan.**
  - d) **Provide a written statement which explains why the abatement plant will be effective at treating point-source waste gas and odour emissions.**

*You have advised that the sludge import tank, sludge blending tanks and digester feed tank pre-AD are open. There may be further open tanks pre-AD at this site, depending on your response to question 1. You have advised that “Thames Water is committed to meeting the requirements of BAT. A full BAT risk assessment is required to determine the potential need to cover open topped tanks”. Your activity includes prior to the anaerobic digestion (AD) process (the biological treatment of waste) the thickening and dewatering process which is a directly associated activity (DAA) of the AD process. The BAT AELs and techniques identified for the dewatering activity are defined under the BREF as ‘Treatment of water-based liquid waste’. These include wastes under the category ‘19 08 wastes from 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 will be subject to the BAT AELs specified within BAT conclusion 8 and any odour control unit that serves this DAA must meet the requirements of BAT 53.*

**Answer 2**

The response to question 1 has not identified any additional tanks at the site.

It is not clear which tanks are the contingency storage tanks referred to in the question. There are six tanks, labelled as ‘remote containment’ tanks, on the site emission point plan, and it is assumed that these are the tanks being referenced.

These tanks are existing structures and will be empty when repurposed as part of the outline containment solution for the site, to hold a spillage in the unlikely event of a loss of primary containment. As these tanks are not in routine operational use, we understand there is no requirement to cover and abate these tanks.

3. The site plans submitted with this application show 6 remote containment tanks within the installation boundary, but these are not described in your supporting information or included in your flow diagram or included in your secondary containment document.
- a) **Provide a description of what these tanks are used for and if they will contain pre-AD or post-AD sludge.**
  - b) **What is the volume of these tanks and are they open or closed?**
  - c) **Make sure these tanks are included in all required supporting documentation.**

*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.*

**Answer 3a**

The 6 remote containment tanks within the installation boundary form part of the proposed containment solution\*. They are referred to within the containment report as disused Humus tanks and are to provide containment as per Chapter 6 of the Aylesbury STC – Containment Options Report, November 2023.

\*Please note this response includes the clarification sought by the EA as set out above.

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.

**Answer 3b and 3c**

Remote containment tanks are not part of the site tank inventory and not applicable to other documentation.

**4. Provide a letter of authorisation to authorise to sign the declaration section of form Part F1.**

*Part F1 has not been signed by someone listed as a company director or secretary on companies house. Therefore, we require a letter of authorisation, authorising the individual signing the declaration section of form F1 to sign on behalf of the company. The application refers to such a letter, but I cannot find a copy of it.*

**Answer 4**

Please see previously submitted correspondence on PSC files: 'Letter to Act-Delegated Authority for EA- November 2023-signed RH 03.11.2023 pdf'. The signatory for this application is consistent with Appendix A of this letter 'Employees with Delegated Authority'.

On 13/11/2024 this letter was additionally placed on file with the IED AD team at the Environment Agency - please see Jemma Blood-Halvorsen for a copy.

**5. Provide a copy of TWUL's Environmental Management System or provide an EMS summary.**

*The EMS has been referenced within the main application document but has not been submitted in the original submission or most recent documents.*

**Answer 5**

An overview of the EMS is provided on pages 15-18 of the document TW\_STC\_EPR\_10a\_ABY\_ASD. A copy of the complete EMS is not possible to provide as this is predominately a sharepoint and SAP based system.

**3d Management systems**

**What management system will you provide for your regulated facility?**

Identify the form of the management system from the list:

- Own management system

Thames Water has a SharePoint based Environmental Management System, with site specific elements and procedures linked from across the organisation Thames Water also has an Asset Management System accredited to ISO 55001 and an Energy Management System accredited to ISO 50001.

**Scope**

Thames Water has an EMS in place for its permitted assets.

**Environmental Policy**

Implementation of Thames Water's Environmental Policy is approved by the Thames Water Executive Committee of the Thames Water Board and is the responsibility of all employees, with the Chief Executive being accountable for its implementation. The policy covers all company activities, including this installation, and applies to all individuals who are employed by, or carry out work on behalf of, any Thames Water company including contractors, temporary staff and agency workers. The Management Systems Team is responsible for the implementation and assurance of the EMS, the site operations teams will be responsible for maintaining ongoing compliance with the EMS and managing the site.

**Management and Responsibilities**

The Management Systems Team (EMS specialists) have responsibility for the management and upkeep of the EMS. Compliance with specific elements of environmental legislation is managed by the relevant Business Areas across the Company. The Environmental Assurance Team maintain a Legal Register and, in consultation with Operations Teams, the environmental permitting team and other specialists, assess environmental risks for in-scope areas using a significance scoring method under normal, abnormal and emergency conditions. Significant environmental aspects and impacts consider legal and other requirements, cost to the business, scale of impact and interested parties.

Management Systems Team are responsible for setting internal environmental standards which are then implemented by the relevant business areas. The Standards and other relevant information are communicated through several routes. Incident and corrective action routes exist to promote continual improvement. The team run a programme of Management System Audits to determined adherence to the environmental policy and environmental standards.

Local operating procedures are the responsibility of the operational teams that operate the sewage works.

The defined roles and responsibilities are allocated to relevant personnel, depending on their job description, qualifications, knowledge, experience and training. Training and competency are based on specific roles.

### **Operational Control**

Procedures are in place within the EMS to identify and control environmental issues arising from company activities. Each department is required to achieve operational control of its activities using standardised systems.

Routine sewage treatment operations and activities are recorded within the corporate management database, SAP. These include routine inspections, monitoring and maintenance tasks.

Non-routine activities, such as major overhauls/refurbishments, which involve the use of sub-contractors are assessed for health & safety concerns; relevant environmental risks and with accompanying method statements to respond to these. Contractors who are required to carry out major services are closely managed by operational or other staff to ensure that compliance with Thames Water's H&S and environmental policies is achieved. No contractors may work on site without having undergone a full site induction and being issued with a Thames Water Operational Safety Authorisation (TWOSA) for the task(s) they intend to complete.

Processes on site operate continuously, 24-hours per day, 7-days per week, apart from maintenance periods. The plant is designed to operate unattended with process parameters being monitored continuously. Operating logs are stored electronically.

### **Maintenance and Monitoring**

Management will have the ultimate responsibility for the effective maintenance of plant throughout the company. The facility has named staff that are responsible for day-to-day maintenance operations and contractors are also used as required. All maintenance is logged on SAP. The following basic inspections and maintenance activities are indicative of those carried out on site:

- Daily operation of plant (24/7) involves visual inspection of operational assets;
- Daily inspection of temporary pipe work installed;
- Routine maintenance programme for plant; and
- Routine lubrication programme.

Personnel responsible for the inspection, testing and maintenance of pollution prevention infrastructure are trained to an appropriate level.

All regular maintenance of all plant and equipment will be completed on the time scale specified by the equipment manufacturer including routine inspections.

### **Environmental Improvement**

Thames Water is committed to environmental improvements and has established environmental targets and plans relating to materials and waste management, transport, climate change mitigation and adaptation (energy efficiency and renewable energy generation), water resources, biodiversity, river water quality, and drainage asset performance. TWUL's Environmental Governance Board meets on a regular basis to provide strategic direction, and interrogative review, attached to any environmental issue of substantive concern including emerging risks as well as current topics.

### **Competence, Training and Training Records**

Thames Water aims to ensure that all employees are in possession of the knowledge, skills and experience necessary to perform their role in accordance with the company's operating procedures and in full compliance with the law. Training needs are identified by the employee's immediate supervisor or line manager.

For those sites treating 'waste' as defined by the Waste Regulations 2011, coverage at all permitted sites by staff who hold the appropriate level of WAMITAB 'Certificate of technical Competence' is monitored centrally. This aspect of the staff training is currently being reviewed in light of the change in permitting requirements for sludge treatment centres.

For each internal training course held a Training Record is issued.

Induction training is carried out by the responsible line manager and consists of an introduction to the Company's Environmental Health and Safety Policy and description of emergency response and spill prevention procedures.

Staff receive specific training in the plant's operation and the environmental impact of the process as well as health and safety. The operators will have a detailed understanding of the operational procedures for the site for both normal and abnormal operation. As part of the training, operators will receive specific instructions relating to those aspects of plant operation that have the potential for a negative impact on the environment. This training will be provided by the equipment manufacturers or in-house staff as appropriate.

### **Contractors**

There are several procedures to ensure contractors have the required skills and environmental competencies to carry out works at the site.

Initially, contractors are assessed by the procurement department for inclusion on the approved supplier list, which includes health and safety and environmental criteria for example, waste documentation such as waste carrier's licence/training certificates. Even when the contractors are on the approved supplier list, they are still further assessed for each specific contracted activity.

The contractor is required to submit a method statement prior to any commencement of work, identifying how work is to be undertaken and the associated risks. The method statement must be approved by the Site Manager, who will also identify any site hazards and issue an Authorisation to Work/Enter the site, following a site induction. When on-site, the contractor must carry this Authorisation to Work at all times.

### **Incidents, Non-Compliances and Complaints**

Thames Water has procedures for incidents, non-compliances and environmental complaints.

Incidents are managed through corporate and site-specific procedures which ensure that all incidents are logged and that necessary preventative and/or corrective actions are taken.

Customer complaints are made via the Customer Services Centre which will log all complaints electronically. An action is raised to Waste Operations Control Centre (WOCC) who contact the CSM by telephone and email the complaint information to both the CSM and Performance Manager. The CSM and Performance Manager will review the complaint and take action to investigate the complaint. The CSM is responsible for contacting the customer and updating them on the outcome of the investigation and any actions taken. Where complaints relate to odour/noise/amenity, typical follow up action would include physical checks onsite of the operation of plant; offsite checks where needed; with all the actions taken being logged. Where appropriate, site management may contact the customer to discuss the outcome of the complaint, otherwise, there is a customer communication plan that identifies how and when contact will be made with customers and other stakeholders.

Information regarding complaints is recorded to allow determination of an appropriate response (corrective action) and identify what measures need to be taken in the future to prevent its reoccurrence (preventive action).

**Communication**

There are regular meetings held on site to discuss all aspects of the treatment works and performance against targets. These meetings include the operation and performance of the installation. Other communication methods to promote environmental management issues and continual improvement include: toolbox talks, environmental alerts, OSC portal forums, formalised event learning processes following an operational incident and compliance audits.

**6. Propose a technically competent manager (TCM) to cover the physical treatment of non-hazardous waste activities (import of sludge to the head of works and import of cake for temporary storage and transfer) on site.**

*The registration letter provided will only cover the anaerobic digestion activity. Though the qualifications for anaerobic digestion and for treatment/transfer of non-hazardous waste do share some modules, they do not share all modules. So, we would expect that the TCM for any site which has a separate waste activity would also hold MROC1 - CIWM (WAMITAB) Level 4 Medium Risk Operator Competence for Non-hazardous waste treatment and transfer or equivalent.*

**AD Modules:**

To achieve this qualification, learners must complete the Mandatory Units.

Ofqual Code	Title	Level	CIWM Unit Code
A/508/0756	Maintain health and safety in the waste and resource management industry	4	OCS01
F/508/0757	Manage the environmental impact of work activities	4	OCS02
F/508/0760	Manage the movement, sorting and storage of waste	4	OCS05
J/508/0887	Manage the reception of non-hazardous waste	3	OCS12
A/508/1003	Manage site operations for the anaerobic digestion of non-hazardous waste	4	OCS32
T/508/0979	Manage transfer and disposal from anaerobic digestion operations	4	OCS63

**Treatment/Transfer of Non-Haz Waste Modules:**

To achieve this qualification, learners must complete the Mandatory Units.



Ofqual Code	Title	Level	CIWM Unit Code
A/508/0756	Maintain health and safety in the waste and resource management industry	4	OCS01
F/508/0757	Manage the environmental impact of work activities	4	OCS02
F/508/0760	Manage the movement, sorting and storage of waste	4	OCS05
J/508/0887	Manage the reception of non-hazardous waste	3	OCS12
K/508/0980	Manage transfer and disposal from non-hazardous waste treatment and recovery operations	4	OCS20
M/508/0995	Manage site operations for the treatment of non-hazardous waste	4	OCS28

**Answer 6**

Thames Water understand that the Environment Agency requires our Technically Competent Managers to gain an additional CIWM (WAMITAB) for Non Hazardous Waste Treatment and Transfer to cover the import of waste to the head of works and import of digested sludge cake for temporary storage and transfer.

Thames Water have reviewed this requirement with our external training provider and commit to ensuring that Technically Competent Managers providing TCM cover at this site, obtain the additional qualification within 12 months of permit issue. Thames Water also understands that the key requirements for the non-hazardous waste treatment and transfer are included in the mandatory modules for the AD course, which our staff are currently undertaking.

Thames Water have previously confirmed their understanding that there are two routes to obtaining a CoTC for Anaerobic digestion as follows and that Thames Water intend to follow Option B:

- a. CIWM (WAMITAB) Level 4 Medium Risk Operator Competence for anaerobic digestion (MROC5) and
- b. CIWM (WAMITAB) Level 4 Certificate in Waste and Resource Management - VRQ and Optional VRQ407 – Principles and practices of managing a biological treatment processing facility (Anaerobic Digestion and Composting)

Similarly, Thames Water understand there are two routes to obtaining a CoTC for Non-hazardous waste treatment and transfer (Level 4 Medium Risk) and again Thames Water staff will follow Option B:

- a. CIWM (WAMITAB) Level 4 Medium Risk Operator Competence for Non-Hazardous waste treatment and transfer (MROC1) and
- b. CIWM (WAMITAB) Level 4 Certificate in Waste and Resource Management - VRQ and Optional VRQ406 – Principles and practices of managing a physical treatment processing facility (Transfer and treatment of Non-hazardous waste)

Please be assured of Thames Water’s commitment to progressing training arrangements for specific staff, in order that they can attend the required training in a programmed and timely manner to ensure compliance with this additional requirement at Sludge Treatment Centres. We cannot put all staff on the course at the same time, it has to be staggered to ensure the safe continuity of operations.



**7. 'T' monitoring points**

- a) Provide the national grid references (NGR's) for T1, T2 and T3.**
- b) Confirm whether emission point T3 is also the sampling point for the head of works. If not, provide a separate sampling point for the head of works. Include the national grid reference and add to the emission point plan.**

*You have proposed sampling points (S1 and S2) for emissions to sewer from the anaerobic digestion activity. However, we also require a separate sampling point for the head of works. If the head of works is also sampled from the emission point at T3, please confirm. If not, propose a head of works sampling point.*

**Answer 7a**

NGRs for Transfer Points T1, T2 and T3 are:

- T1 - SP 79000 14614
- T2 - SP 79012 14721
- T3 - SP 79020 14425

**Answer 7b**

Head of Works sampling, S3, is at approx. NGR: SP 79016 14429 as per the attached updated site plan.

A new site plan, B22849AM-JAC-ABY-DR-0002 P06 is attached.

The OMP, AM-OMP Aylesbury STW.pdf is also updated with the new site plan and provided as an attachment.

**8. Confirm whether any treatment, including blending and thickening, occurs in the SAS Tank.**

*If any blending and thickening occurs in this tank, this would constitute a pre-treatment step. If pre-treatment is undertaken in the SAS Tank, this tank will need to be included in the site boundary and within the secondary containment report.*

**Answer 8**

There is no blending or thickening of SAS in the SAS Tank.

**9. Only sections 1 to 3 are completed within the site condition report. Please complete all sections and supply the finalised site condition report.**

**Answer 9**

In accordance with the current Environment Agency H5 guidance, only sections 1 – 3 of the SCR template are required to be completed for a new application. Sections 4 – 10 are to be completed through the lifetime of the permit or as part of the permit surrender process.

**10. What is the individual thermal input in MWth and fuel type for the three emergency generators? And what are the operating hours per year.**

**Answer 10**

The generators at the site have thermal inputs <5MWth and were commissioned prior to 2017. All three are defined for emergency use only (50hrs cap per annum; run on diesel only).

They have been assessed as not being a DAA to the IED activities and for 1 to 5MWth plant will not enter MCPD permitting until 2029/2030.

**11. Please amend the wrong permit number on the front of the LDAR document.**

**Answer 11**

The permit number has been corrected on the front of the LDAR document, please see TW\_STC\_EPR\_10a\_ABY\_APPH

**12. The site address postcode in B2 application form is HP19 8RU. I think it should be HP18 8RT. Please confirm the correct site postcode.**

**Answer 12**

The correct postcode is HP19 8RT, as per the current discharge consent held with the Environment Agency.

A new Form B2 is attached which includes the correct postcode, 'TW\_STC\_EPR\_10a\_ABY\_FB2'.

## Additional Information

### **Aylesbury STC – Thames Water Daily / Annual Throughputs.**

We have recently noted that the average actual 'daily throughput' of 296 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 296 m<sup>3</sup> /day in our application as opposed to the maximum volume of sludge fed to the digesters of 329 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) – 329 tonnes per day calculated as:**

The average digester throughput capacity calculation is based on 2 parallel digesters, with volumes of 1,566 and 1,980 cubic metres for each digester and 12 days hydraulic retention time equates to an average total digester feed of 296 m<sup>3</sup>/day.

The maximum allowable digester feed throughput capacity is 329 tonnes a day at the point of feed into the digesters (which is equivalent to 120,000 tonnes per year).

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

### **Annual throughput (un-thickened sludge) at the Permit Boundary – 370,000 tonnes a year calculated as follows:**

Unthickened primary: 4.27 tds/day; worse case 1.00% dry solids = 427 m<sup>3</sup>/day = 155,985 m<sup>3</sup>/year

Unthickened SAS: 2.69 tds/day; worse case 0.70% dry solids = 384 m<sup>3</sup>/day = 140,069 m<sup>3</sup>/year

Imported Liquid: 5.25 tds/day; worse case 3.00% dry solids = 175m<sup>3</sup>/day = 63,880 m<sup>3</sup>/year

Total Combined import calculation 359,934 m<sup>3</sup>/year; rounded to 370,000 m<sup>3</sup>/year (which is equivalent to 1,014 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 370,000 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 329 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.