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 Permitting and Support Centre, Quadrant 2  
 99 Parkway Avenue  
 Parkway Business Park  
 Sheffield, S9 4WF  
 Submitted electronically by email to [tommy.wager@environment-agency.gov.uk](mailto:tommy.wager@environment-agency.gov.uk)

4 September 2024

## Response to Schedule 5 – Application EPR/GP3690CH/V002 Alfreton STF

Dear Tommy,

This correspondence is in response to the Environment Agency request for more information received 19/08/24, regarding the application variation to our sludge treatment installation. This particular submission is in relation to Severn Trent's Sludge Treatment Facility at Alfreton Sewage Treatment Works, DE55 7FF, referenced as permit number EPR/GP3690CH/V002. This is to be read in conjunction with information previously submitted on 31/03/22 and 25/05/23, with updated documents on 30/01/24.

### Q1 – Provide payment of the additional £622 and forward on any remittance information/advice that may help us trace the payment through our internal systems.

Remittance details below for the additional payment (as part of a larger payment). This payment will appear in the Bank Account within 3 working days.

**Payment Number:** 2000112385  
**Payment Date:** 21-AUG-2024  
**Payment Currency:** GBP  
**Payment Amount:** 42,094.50

<u>Invoice Number</u>	<u>Invoice Date</u>	<u>Purchase Order</u>	<u>Contract Number</u>	<u>Work Order</u>	<u>Operation</u>	<u>Amount Paid</u>
ALFRETONREG61	21-AUG-2024	3500215834				622.00

### Emission point plan

### Q2 – Provide a revised emission point plan addressing the following aspects:

- Inclusion of sampling point(s) to characterise the AD operation wastewater effluent.
- Inclusion of a sampling point for imported waste discharged to the Head of Works (HoW).

- **Inclusion of a sampling point for effluent leaving the Liquor Treatment Plant (LTP) specifically – (important as this will be tied to the LTP waste import to determine performance).**
- **A key listing the emissions/sampling points (both water and air) by name ensuring this is consistent with the information held in the raw materials, wastewater residue management plan (RMWWRMP).**

The emissions point plan has been updated with the relevant sample points and is attached to this submission.

#### **Raw materials, wastewater residue management plan (RMWWRMP)**

**Q3 – Provide a revised RMWWRMP addressing the following aspects:**

- **Inclusion of sampling point(s) to characterise the AD operation waste water effluents.**
- **Inclusion of a sampling point for imported waste discharged to the Head of Works (HoW).**
- **Inclusion of a sampling point for effluent leaving the Liquor Treatment Plant (LTP) specifically – (important as this will be tied to the LTP waste import to determine performance).**
- **Inclusion of transfer points T3-T5 as identified on the emission point plan.**

The RMPWWRMP has been updated with the relevant sample/transfer points and is attached to this submission.

#### **Process flow diagram (PFD)**

**Q4 – Provide a revised PFD addressing the following aspects:**

- **Removal of the entry point for ‘treated sludge imports for dewatering’ going into the digested sludge dewatering plant**
- **The proposed sampling points showing which effluent streams they will be characterising**
- **Liquor transfer point T2 and potentially T3-T5**

The PFD has been updated with the relevant sample/transfer points and is attached to this submission.

### **Storm Overflow Conditions**

**Q5 - Provide the following information regarding releases of effluent/wastes in storm condition:**

- **Provide written procedures which describe the site's contingency arrangements to prevent liquid wastes and effluent being discharged off site while the WwTW are in storm conditions.**
- **Provide a description of the buffer storage proposals to control or hold emissions to the event of storm overflow conditions at the WwTW.**
- **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.**

There are no contingency arrangements or buffer storage tanks required at the inlet to prevent site returns being discharged off site without full UWW treatment at any time (in this case during storm conditions) because the site returns from the installation activities are returned to a point downstream of the storm offtake at the works. The force of the incoming UWW flow does not allow for any flow to travel upstream. As such, during storm conditions, it cannot bypass the works and is instead treated through the UWW treatment at the site.

### **Bioaerosols Risk Assessment**

**Q6 – Provide your Site-Specific Bioaerosols Risk Assessment (SSBRA).**

The bioaerosols risk assessment is attached to this submission.

### **Pre-acceptance, acceptance, and rejection procedures**

**Q7 – Provide your pre-acceptance, acceptance and rejection procedures.**

Preacceptance, acceptance and rejection procedures are attached to this submission.

### **Liquor treatment plant (LTP) process**

**Q8 - Provide a detailed description of the LTP process ensuring the following aspects are addressed:**

- **The biological process that is undertaken within the LTP.**
- **Is it just the addition of caustic soda and the aeration process or do any other treatment processes occur within the LTP.**
- **How do you establish the treatment is appropriate for the LTP considering it is processing both dewatering liquors and the high strength waste imports.**

The liquor treatment plant (LTP) is a high rate aerobic treatment process which receives centrate from the dewatering process onsite. Its purpose is to reduce the ammonia concentrations to levels that it can be returned back to the inlet for further treatment. The centrate firstly enters the balancing tank where it can be buffered in between treatment processes. The system is a batch process as opposed to continuous. The centrate is aerated within the LTP for a period of 2-6 hrs. It is then allowed to settle for 1 hrs prior to it being decanted into the treated liquor pumping station.

Process parameters are controlled by an online dissolved oxygen (DO) probe, pH probe, and Ammonia monitoring. Where pH is needed to be corrected this is done by dosing Caustic Soda (Sodium Hydroxide) solution to bring this back up. In addition to continuous monitoring this is validated by onsite sampling and laboratory analysis. This is carried out in accordance with the company Golden Measures operating procedures.

#### **Site Address**

**Q9 – Provide confirmation that the site address is to be updated on the permit to ‘Alfreton Sewage Treatment Works, Rodgers Lane, Alfreton, DE55 6AW’.**

The site address for the permit is to remain Alfreton Treatment Works, Alfreton Road, Alfreton, Derbyshire, DE55 7FF.

Supporting information to this response:

Waste Pre acceptance, Waste Acceptance and Nonconformance procedures

RMPWWRMP

Site emissions plan

PFD

Site-Specific Bioaerosols Risk Assessment

I hope you find that the attached is sufficient for your review, but any questions regarding this content can be directed to me by email or phone using the details below.

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I hope you find that the attached is sufficient for your review, but any questions regarding this content can be directed to me by email or phone using the details below.

Yours sincerely,



Joanne Chapman

Waste Regulations Specialist, Severn Trent Water

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