

## Request For Information Response June 2023

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**Appendix I: Ellesmere Port WwTW Sludge Treatment Facility Application Support Document (June 2023)**

**Appendix II: Ellesmere Port Odour Management Plan (June 2023)**

**Appendix III: Ellesmere Port Waste Characterisation and Acceptance Procedure (June 2023)**

**Appendix IV: Spill Modelling Addendum Report (June 2023)**

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**Appendix V: Updated Application Forms C2 and C6**

**Appendix VI: Chris Maggs WAMITAB Continuing Competence Certificate**

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### 1. Introduction

United Utilities Water Limited (Uuw) submitted a permit variation application for the biological treatment of waste at an existing anaerobic digestion facility co-located at Ellesmere Port Wastewater Treatment Works (WwTW). The application was required due to the implementation of the Industrial Emission Directive (IED) for the biological treatment of waste following the issue of the waste treatment Best Available Technique Reference (BREF) document. The application proposes to add biological treatment to the existing specified generator permit (EPR/ZP3031LJ) for the combined heat and power (CHP) engines, which will become a directly associated activity.

A request for further information regarding the permit variation application was received from the EA on 14<sup>th</sup> June 2023 as the application was considered to be missing information. This document supplies the missing information.

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### **2. EWC code 19 08 99**

#### 2.1. EWC code 19 08 99

We have removed EWC code 19 08 99 from the Ellesmere Port WwTW sludge treatment facility permit application. The following documents have been updated to reflect this change:

- Application Support Document (June 2023)
- Odour Management Plan (June 2023)
- Waste Characterisation and Acceptance Procedure (June 2023)

Copies of these documents have been included as Appendices I to III, as attached to this document.

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### 3. Existing Indirect Emissions to Water

\*\*Please note that the existing indirect emissions to water have been renumbered as R1 to R6 as follows:

- R1 – Filtrate discharge point (NGR SJ 42061 74169);
- R2 – Centrate discharge point (NGR SJ 42053 74177);
- R3 – Boiler blowdown discharge point (NGR SJ 42455 74257);
- R4 – GBT liquor well and surface water (NGR SJ 42465 74289);
- R5 – Contingency cake storage pad (NGR SJ 42384 74293);
- R6 – Humus return well (including centrate, cake bay run off and surface water) (NGR SJ 42344 74343)

The following responses align to this new numbering\*\*

#### 3.1. Sampling and Analysis Methodology of the Effluent to be Discharged

Proposed outline sampling and analysis methodology of the effluent to be discharged and the likely pollutants in the effluent are detailed in Section 6.16 and Section 4.6 of the updated Application Support Document. Monitoring will be carried out in accordance with established process monitoring procedures, and we have provided the current site specific instruction for reference (see Attachment 11 of the application submitted in September 2022). This will be updated once the new permit is issued.

In addition, a draft Standard Operating Procedure (SOP) detailing the operating requirements, practices and support processes required to undertake emissions monitoring as per the environmental permit requirements and to assess the results has been added as Appendix K to the Application Support Document. This will be finalised on issue of the permit and incorporated into the company's management systems documentation as a controlled document.

#### 3.2. BAT 3 Compliance

We confirm in Sections 5.13, 5.23 and 6.16 (and updated Section 5.13) of the updated Application Support Document that sampling and analysis will be carried out in line with BAT 3, as appropriate.

#### 3.3. MCERTS Accredited Sampling and Analysis

Updated Sections 4.6, 5.13 and 6.16 of the Application Support Document confirm that analysis will be undertaken to MCERTS or UKAS ISO17025 standards, where available. However, it should be noted that only around 10% of the 156 hazardous and priority substances (to be analysed for R1 and R2 emission points) can be analysed in-house at UUWs laboratories and initial contact with commercial laboratories has indicated that for some parameters they would not be able to achieve the EQS levels as a limit of detection on a centrate/ filtrate matrix and potentially may not be able to analyse at all.

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3.4. Sampling of Emission Points R1, R2, R3, R5, R6 and R7 (\*\*Renumbered R1 to R6\*\*)

Updated Sections 4.6 and 5.13 of the Application Support Document confirm that sampling of emission points R1 to R6 will be undertaken.

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### 4. New Indirect Emission to Water

#### 4.1. Identification of Emission Points and Pollutants

The proposed new Surplus Activated Sludge (SAS) thickening plant/infrastructure (including the future SAS filtrate discharge point) has been removed from this permit application. Should we propose to commission the SAS plant at a future date, this would be undertaken via a separate permit variation. The following documentation has been updated to reflect the removal of the SAS thickening plant from the application:

- Application Support Document (June 2023)
- Odour Management Plan (June 2023)

Copies of these documents have been included as Appendices I to II, as attached to this document.

#### 4.2. Data on Pollutant Concentrations

As above. Not required as the SAS thickening plant has been removed from this permit application.

#### 4.3. Quantitative Risk Assessment

As above. Not required as the SAS thickening plant has been removed from this permit application.

#### 4.4. Assessment of Hazardous Substances

As above. Not required as the SAS thickening plant has been removed from this permit application.

#### 4.5. Drainage Plan

As above. Not required as the SAS thickening plant has been removed from this permit application.

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### **5. Secondary Containment of New SAS Thickening Plant**

#### 5.1. Secondary Containment Proposals and Implementation Schedule

Not required, as the proposed new Surplus Activated Sludge (SAS) thickening plant/infrastructure has been removed from this permit application.



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**6. Secondary Containment of Existing Assets**

**6.1. Partially Submerged Raw Sludge Tanks**

Please find attached as Appendix IV an addendum to the initial spill modelling report. As the initial modelling exercise was based on a zonal approach of the assets, a new Group 5 has been created to include the identified five additional tanks. During the modelling of this group, the 110% or 25% aggregated totals were reviewed with the greater volume of 110% of the above ground sludge tank attributed to the modelled tank failure (see table below). The addendum report includes the result of the uncontained spill and solution modelling for the identified tanks.

Group	Asset Description	No. of Units	Total Capacity (m <sup>3</sup> )	110% of largest tank	25% of aggregate
5	Digested sludge Buffer Tank	1	30	107	56.5
	Raw Sludge tank 1	1	98		
	Raw Sludge tank 2	1	98		
	Raw Sludge tank 3	1	Below Ground	0	0
	Raw Sludge tank 4	1	Below Ground		

**6.2. Permit Boundary**

A revised permit boundary has been included with this response (Appendix C of the updated Application Support Document) to incorporate the various additional areas identified during the clarification and/or as a result of the additional modelling completed under Section 6.1 above.

**6.3. Sacrificial Areas**

As the detailed design is currently being progressed in parallel to this permit application process, we confirm that all surfacing within the spill containment areas will comply with Section 11 of CIRIA 736 (or equivalent). An updated existing site surfacing plan can be found in Appendix G of the update Application Support Document.

Included with this response is an addendum to the spill modelling report (Appendix IV), which incorporates additional modelling identified in Section 6.1 and the revised permit boundary in Section 6.2 above).

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6.4. Containment Solution Capacity

With the removal of the SAS tanks and addition of the sludge tanks (refer to Section 6.1 above), the 25% and 110% values for the various zones have been reviewed and confirmed as:

Group	Asset Description	No. of Units	Total Capacity (m <sup>3</sup> )	110% of largest tank	25% of aggregate
1	Mesophilic Digesters	3	1992 each	2191	1494
	Thermophilic digesters	3	360		270
2	Post digestion tank	1	2200	2420	550
3	Centrate	1	1200	1320	300
	Centrate buffer tank	1	40		10
5	Digested sludge Buffer Tank	1	30	107	56.5
	Raw Sludge tank 1	1	98		
	Raw Sludge tank 2	1	98		
	Raw Sludge tank 3	1	Below Ground	0	0
	Raw Sludge tank 4	1	Below Ground		
			<b>Spill volumes</b>	<b>2420</b>	<b>2680.5</b>

As the difference in the volume of the 25% aggregated total or 110% of the largest tank is minimal (260m<sup>3</sup>), we confirm that the detailed design solution will provide containment of the 25% aggregated volume of the total capacity of all the tanks (totalling 2,680m<sup>3</sup>), as this is the larger of the two values.

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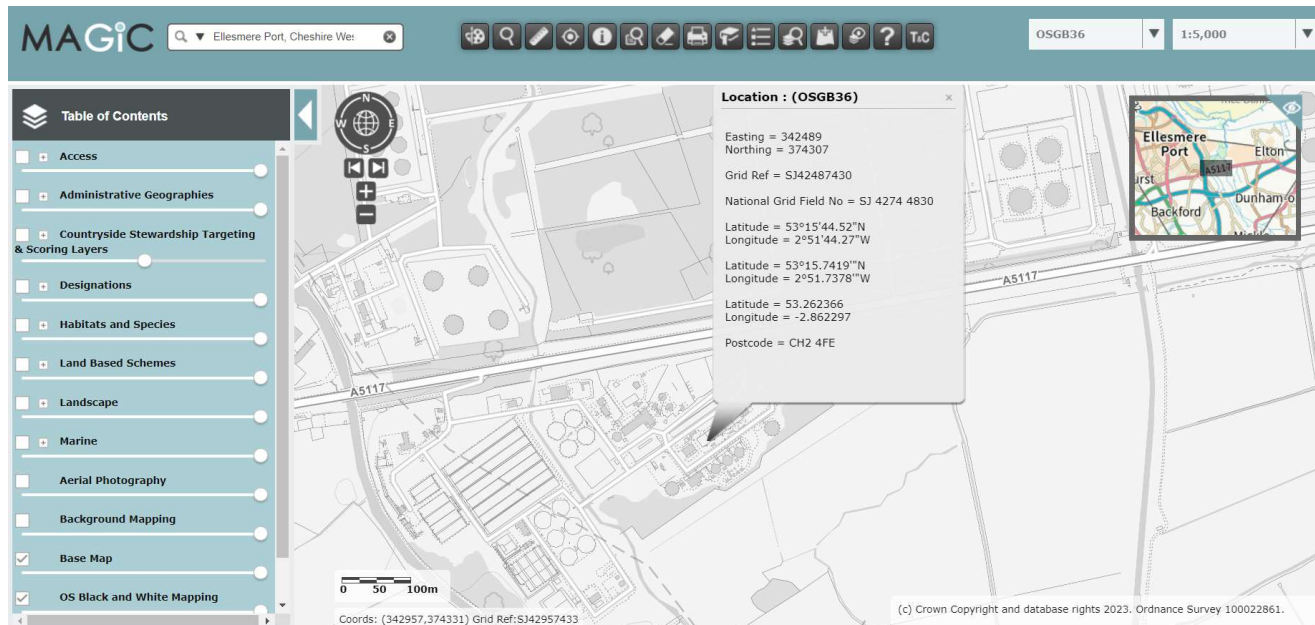
### 7. Provide Information Specified in Application Form – Part C2

#### 7.1. Question 1c – Site Details

The updated Part C2 Application Form is included as Appendix V. The response to Question 1c has been updated, as the postcodes previously supplied (including on the current permit) were incorrect. The correct address of the installation is:

Ellesmere Port WwTW Sludge Treatment Facility  
Ring Road,  
Little Stanney,  
Nr. Chester,  
Cheshire  
CH2 4FE

This postcode matches with the site's national grid reference, as shown on the screenshot from Magic Maps as detailed below.



#### 7.2. Question 2a – Type of variation

The updated Part C2 Application Form is included as Appendix V. The response to Question 2a has been updated to change the variation type, to substantial.

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### 7.3. Question 2c – Consolidating (combining) or updating existing permits

The updated Part C2 Application Form is included as Appendix V. The response to Question 2c has been updated to request a modern style permit.

### 7.4. Question 3b – Technical ability

A copy of the named technical competent person (Chris Maggs) continuing competency certificate, under the WAMITAB scheme, has been included in Appendix VI.

### 7.5. Question 5 – Supporting information

#### Boundary Plan

The updated Ellesmere Port Boundary Plan is included as Appendix C of the attached updated Application Support Document (Appendix I to this document).

#### Further Document Updates

The following documents have been updated to reflect the boundary plan changes:

- Application Support Document (June 2023) – Appendix D (Site Layout Plan) and Appendix G (Site Surfacing Plan)
- Odour Management Plan (June 2023)

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**8. Provide Information Specified in Application Form – Part C3**

8.1. Question 4a – Monitoring

Please see Section 4.6 of the updated Application Support Document (attached as Appendix I), which now provides additional detail regarding measures used for monitoring emissions at the installation.

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**Appendix I: Ellesmere Port WwTW Application Support Document (June 2023)**

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**Appendix II: Ellesmere Port Odour Management Plan (June 2023)**

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**Appendix III: Ellesmere Port Waste Characterisation and Acceptance Procedure (June 2023)**



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**Appendix IV: Spill Modelling Addendum Report (June 2023)**

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**Appendix V: Updated Application Forms C2 and C6**

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**Appendix VI: Chris Maggs WAMITAB Continuing Competence Certificate**