

Sarah Raymond
Environment Agency
Permitting Officer – Installations
Sent by email

8th June 2021

Dear Sarah

Ellesmere Port WwTW: Response to information and additional payment request for duly making (Ref: EPR/ZP3031LJ/V004)

Thank-you for your letter dated 6th May 2021 detailing the requirements for duly making our application. I have provided our response to each request below.

Application Fee

An additional fee of £3,965 was processed on 7th June 2021 with the payment reference PSCAPPUUWLTD006. This fee is for the inclusion of 'physical treatment of non-hazardous waste' as a secondary activity to allow for the import of waste.

As agreed by exchange of email on 14th May 2021, we have not included the fee element relating to liquor treatment because all liquors are returned directly to the Urban Waste Water treatment process and undergo no physical or biological treatment within the permit boundary.

To confirm, the total fee now paid is £19,974.

Q1a: Management Systems

The current ISO14001 certificate is attached, which covers the management system of United Utilities Water Limited for all activities involved in the provision of utility services, including the proposed permitted waste activities. The certification covers all activities and locations therefore specific sites are not listed.

Q1b: Site plan

As agreed by phone on 7th June 2021 a site plan showing site surfacing detail is being prepared and will be provided as soon as possible.

Q1c: Emissions points

The locations of emissions points, referenced as A1 – A12, are shown on the Site Boundary Plan and Site Layout Plan which can be found in the Application Support Document (ASD) as Appendices C and D respectively. An updated version of the ASD has been provided with this response.

Q1d: Site Condition Report

The site investigation reports referenced in the Site Condition Report previously submitted have now been provided. For clarity, the reports provided are listed below:

- i. Strata Surveys, December 1977 - Borehole Logs and Location Plan - Ref. No. 1099,
- ii. Strata Surveys, September 1997 – Ground Investigation – Report No. 9069/2 & 2A
- iii. Strata Surveys, April 2012 – Ground Investigation Ellesmere Port WwTW CHP Plant – Report No. 15321
- iv. AEG, October 2007 – Ground Investigation Report – Ref. No. PR1315DW [Please note that the submitted Site Condition Report references ‘2012 (AEG)’ but this is understood to be a typo and the correct date is 2007].
- v. BAM Ritchies, January 2014 – Ground Investigation Report – Ref. No. 4882
- vi. BAM Ritchies, June 2015 – Ground Investigation Report – Ref. No. 5653

Q1e: Operation of Odour Control Units (OCU)

Whilst there are several OCUs at the Ellesmere Port Sludge Treatment Facility, none of them are currently operating as UUW concluded around 10 years ago that, due to the low odour potential from the site and the scarcity of relevant receptors, it was no longer necessary to continue with the ongoing operation and maintenance of the OCUs.

During the period within which the OCUs have not been operating the site has not received any odour complaints – this vindicates UUW’s assessment of the risk of odour from the operation of the sludge treatment facility as not requiring the operation of the OCUs. We also note that on 14 December 2020 a CAR form was issued for the site that stated *“The requirement for an OCU is dependent on the odour impact of the site. If the site can demonstrate that it has no offsite odour impact then an OCU will not be required. This can be done by carrying out a risk assessment and submitting it at the permitting stage.”* As UUW do not receive any odour complaints then this is evidence that there is no significant offsite odour impact arising from the operation of the sludge treatment facility.

For the purpose of this application the OCUs have been included as emission release points because although they are not operational (the fans are not running), they are still in some cases connected to the odour sources that they were designed to serve and so there is the possibility of fugitive point-source emissions from the OCU stacks. We propose to review the option of fully isolating the redundant OCUs and any changes will be incorporated into the site’s Odour Management Plan in due course.

Based on the current status of the OCUs the specific questions posed are not considered to be relevant to the application.

Q1f: Operation of Pressure Release Valves (PRV)

- i. The PRVs installed are actually Pressure Vacuum Relief Valves (PVRV), breather valve types. These are a critical safety system designed to prevent excessive vapour loss and damage to the vessel they serve due to extreme pressure variation during operation and therefore do not routinely operate. They are found on the roof of the vessel they serve – see the following photograph or a typical PVRV installation:



The PVRVs are set to a vessel specific pressure at which they will open in order to preserve the integrity of the vessel – at Ellesmere Port they are set to operate at a pressure of 40mb. Once this pressure is reached the valve opens to release the excess pressure and then reseats once the pressure drops to below the set pressure.

UUW seek to minimise the operation of the PVRVs via the provision of adequate usage and storage of biogas, and the correct sizing of piping components to reduce back pressure. It is not practical for any emissions from PVRVs to be routed to the gas flare or to a containment system.

- ii. The PVRVs are a safety critical system that do not operate routinely and, when they do operate, only open for a very limited period of time. The limited amount of vessel gases released will be dispersed. Due to the infrequent opening of the PVRVs and limited duration of any releases, it is not considered necessary to assess the fate and impact of any substances that may be released.
- iii. No monitoring of any releases from the PVRVs is undertaken or proposed. This is due to both the infrequent opening of the PVRVs and limited duration of any releases making any such monitoring of very limited value, together with the need to ensure that the essential safety operation of the PVRVs when required is not impeded by any additional equipment that may interfere with gas flow. Furthermore, the exposed location is not conducive to reliable operation of monitoring equipment.
- iv. The pressures within the system are monitored and displayed on the SCADA system at the site and actions are taken to ensure that, as far as possible, pressures do not reach the PVRV activation level, in order to minimise the operation of the PVRVs.
- v. Daily site tours are undertaken by site staff which include an inspection of the PVRVs – this will mainly consist of a visual/audible check to see if they are open (they make a distinctive noise when releasing pressure). A mechanical check on their operation is undertaken annually by UUW Field Service Engineers and every two years they are checked and calibrated by an external contractor.

Q2: Waste Acceptance

The site is an existing dedicated treatment plant for a single waste stream, non-hazardous sludge (EWC 19 08 05) derived from urban waste water. Sludges accepted are exclusively from well-established waste water treatment processes carried out on-site or at similar UUW WwTWs. As such, waste composition and characteristics are well-known and consistent.

Sludge treatment is carried out in accordance with the Hazard Analysis and Critical Control Points (HACCP) Code of Practice which ensures that the quality of the sludge produced is suitable for use on agricultural land. A HACCP plan is maintained as part of the overall site management system and includes the relevant monitoring and sampling requirements in addition to process validation data. The Ellesmere Port HACCP Plan has been provided for reference. Any treated sludge which is non-HACCP compliant will be sent for further treatment or disposed of off-site in accordance with all relevant Duty of Care requirements.

Q3: Surplus Activated Sludge activity

The surplus activated sludge (SAS) activity described in the application is now expected to commence operation during 2021. Initial flows are anticipated from June 2021 with full commissioning expected later in the year. As such, we request that the SAS activity is included as part of this application. Details of the SAS process have been included in the updated ASD and reference to any pre-operational conditions has been removed.

If you require any further information please do not hesitate to contact me by phone on 07901 229 272 or email at gillian.ratcliffe@uuplc.co.uk.

Yours sincerely,

Gill Ratcliffe

Waste Permitting Technical Lead