My Reference: 2024/RH/Heartsease/001
Your Reference: PAN-024069
Environmental Permit Reference: EPR/AB3697CN

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Sent by email

16th May 2024

Further information about the application

Dear William,

Further to the application received by Natural Resources Wales (NRW) on 20th September 2023, and your written request for additional information dated 2nd May 2024 (as set out in italic text below), it is my pleasure to provide further information accordingly.

- *Supply a copy of the H1 assessment spreadsheet used to determine impact to water quality.*

Response: Please find enclosed a copy of the H1 assessment spreadsheet.

- *Provide more information on storage and containment. This should include but not limited to:*
    - *What secondary containment measures (such as bunding) are in place in the area where the solutions are stored. This should include if the containment and/or bunds are constructed to the requirements of CIRIA 736.*

Response: The ferric chloride dosing unit will be located within the Effluent Treatment Plant (ETP) building. As described in the application, initially the ferric chloride will be delivered and stored in a 25lt vessel. In due course, it may be stored in IBCs as per the nutrient dosing chemicals.
Each vessel stored in on its own proprietary bund that exceed the 110% capacity requirement. The details of the bund used for the 25lt vessel are provided in the attached document *EMF 004 Bunding Data Sheet*. An example of the bunds that would be used should the ferric chloride storage vessel be scaled to IBCs are shown in Fig 1 below.

Fig 1. Bund arrangement for nutrient dosing chemicals

The chemical storage area of the ETP building is enclosed and provides a secondary containment system in the event of any spillage within the building. The floor of the building is installed with a perimeter drainage channel that directs any liquid that may be spilled within the building to a sump and holding tank. This tank has a capacity of c.10m^3. From this tank any collected liquid is pumped back to the reception tanks and/or to the infeed to the ETP or isolated and tankered away as determined by the plant controller.
All surfaces, bunds, drainage system and tanks are all included in the site's inspection and maintenance programme.

- *The volume of the containment and if it can hold what is outlined in the guidance (110% of the largest tank or 25% of total volume, which ever is larger). This calculation should be based on highest predicted volumes kept on site (including the proposed expansion to 2 tonnes (IBCs)).*

Response: As described above, the ferric chloride storage vessels will be stored on bunds that exceed 110% of the vessel's storage capacity, whether it is stored in 25lt vessels or IBCs. In the unlikely event of a leak from an individual storage container, the capacity of bund is sufficient to collect all drained liquid. In the event of the bund failing to collect all liquid, the capacity of the secondary containment provided by the building footprint and drainage system is sufficient to contain a much higher volume capacity than what is specified by regulatory guidance.

- *Specific location where the solutions are stored on site.*

Response: The ferric chloride dosing unit and associated storage vessel/s will be located adjacent to membrane recirculation pumps as labelled 'A' in the attached Site General Arrangement drawing. In due course it may be repositioned alongside the existing phosphate and nitrogen dosing units in the position marked as 'B' and 'Future IBC'. The containment controls applied will be the same regardless of whether the vessel is located at A or B.

- *Information on the application of the monitoring techniques for chloride in line with the requirements of BAT 2 and BAT 4 of best available techniques for the Food drink and milk industries: eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D2031*

Response: The inventory of ferric chloride stored shall be monitored continuously by the SCADA system. The set dosage rate shall only be adjusted by Radnor Hill's operators as deemed necessary to ensure the balance of nutrients within the bioreactor.
Samples of wastewater and treated effluent shall be analysed daily as part of the effluent treatment plant operational monitoring and management process. Split samples of treated effluent shall be sent to an independent UKAS accredited laboratory in accordance with the BAT 4 i.e. monthly testing to an appropriate EN/ISO standard.

- *Clarify if the dosing system is automated or manually controlled and how this choice is taken into account with the mitigation/control measures.*

Response: The ferric chloride dosing system is automated to allow dosing to occur at a rate set by Radnor Hill's operators via the ETP's SCADA system. Vessel level controllers will be installed with appropriate alarm settings so that Radnor Hill's operators are notified in the event of a significant change, in additional to the daily checks that form part of the team's ETP inspection and monitoring programme.

I trust the information provided above is sufficient, but should you wish to discuss the matter further or have any further information requirements, please don't hesitate to contact me at your convenience on 07738 056451 or at d.sandrof@btinternet.com.

Regards,

Dan Sandrof