Cyfoeth Naturiol Cymru
Natural Resources Wales

Mrs. Anita Manns
Mott MacDonald
Mountbatten House
Grosvenor Square
Southampton
SO15 2JU

Our ref: PAN-018778

Other ref: EPR/ZP3032KQ

Date: 20 September 2023

Via e-mail to: Anita.Manns@mottmac.com
Cc. Dave.Holthofer@dwrcymru.com

Dear Mrs. Manns,

Request for further information to support your application

Application reference: PAN-018778 (EPR/ZP3032KQ)
Operator: Dwr Cymru Cyfyngedig
Facility: Afan Combined Heat and Power Facility, Afan Wastewater Treatment Works Harbour Road, Phoenix Walk, Port Talbot Steelworks, Port Talbot, SA13 1RA

We have reviewed your additional response received on 21/07/2023, to the two Schedule 5 Notices we issued on 01/03/2023 and 30/03/2023 respectively. Unfortunately your additional response still fails to satisfy the outstanding requirements of the two Schedule 5 Notices. Our comments on the report you submitted are provided at the end of this letter.

The deadlines on both notices have passed. Although our previous letter stated that we would not offer any further extensions, we have agreed to give you one final opportunity to provide a comprehensive and satisfactory response, therefore extending the deadlines again to these Schedule 5 Notices to the **20/10/2023** for you to address the outstanding queries.

Failure to respond by the above date or to not satisfactorily address all outstanding queries within the Notices will result in us deeming the application withdrawn.

In this instance there would be no return of the application fee and you will be required to re-submit your application and pay a new application fee. If you have any questions about this notice, please email me at Lucinda.hall@cyfoethnaturiolcymru.gov.uk or contact me on 03000 654 419.

Yours sincerely

Lucinda Hall MCIWM BSc (Hons)
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PAN-018778

Assessment of Response to re-issue of 2No. and 3No. Schedule 5 Notices Requesting Further Information

Application Reference: PAN- 018778
Permit Number: EPR/ZP3032KQ
Operator: Dwr Cymru Cyfyngedig
Facility: Afan CHP Facility, Afan Wastewater Treatment Works Harbour Road, Phoenix Walk, Port Talbot Steelworks, Port Talbot, SA13 1RA

Report Assessed

B16399-123532-ZZ-XX-RP-WA-HY1008 - Afan WwTW Sludge Containment Assessment (Received 21.07.2023)

Report submitted to NRW in response to re-issue of 2No. Schedule 5 Notice and 3No. Schedule 5 Notice requesting information to support the above permit application.

Overview of site and proposed activities

Afan Wastewater Treatment Works (WwTW) and Sludge Treatment Centre (STC) is located within Port Talbot, adjacent to the Bristol Channel. The address for the site is Afan WwTW, Phoenix Wharf, Harbour Road, Port Talbot, SA13 1RA (NGR SS 76061 87329).

Dwr Cymru Cyfyngedig ('the Operator') have applied to vary Permit EPR/ZP3032KQ in order to satisfy the requirements of the Industrial Emissions Directive (IED) and Environmental Permitting Regulations (EPR) 2016 and upgrade their existing waste operation permit to an IED Installation Permit which will include their Anaerobic Digestion Process.

2No. Schedule 5 Notice Dated 01.03.2023

6. Secondary Containment of Raw Materials

Provide:

a) a risk assessment of all primary, secondary, and tertiary (where applicable) containment measures for all raw materials to be stored on site.

No information was submitted within your responses to answer this question.

b) Provide details of the construction standards for this containment measures.

No information was submitted within your responses to answer this question.

Although a revised containment risk assessment report was submitted to NRW on 21/07/2023, which considered secondary containment for the site as a whole, raw materials were not included within the inventory list of tanks / storage vessels within section 3.2.1 (Table 3-1) within report, and an assessment of containment measures for all raw materials along with construction standards have not been provided.

3No. Schedule 5 Notice Dated 30.03.2023

1. CIRIA Risk Assessment – Secondary Containment for Site

Submit revised CIRIA Risk Assessment(s) which demonstrate compliance against BAT19 of the Waste Treatment BREF BAT Conclusions (2018).

Whilst a revised CIRIA Risk Assessment was submitted to NRW on 21/07/2023, the assessment appears incomplete, and does not fully satisfy the information requested within the notice.

The revised July 2023 proposal utilises the same containment area within the STC as the previous proposed. The main changes are a larger containment capacity achieved by the use of a higher perimeter (1 to 2m high) wall with 'flood gate' access. It is proposed drainage of the containment area would be unchanged to current practice which is controlled by the collection to and pumping from the Liquor Returns Chamber to the head of the WwTW works.

There is no reference within the report to techniques described within BAT19 or how the assessment fully meets the BAT19 criteria. In reviewing the information submitted, it has not been possible to assess the proposals against the CIRIA 736 guidance either, due to insufficient information of the proposed structures forming the new containment.

In addition, there is insufficient information regarding the procedures to deal with spills which appear to form a fundamental part of the conceptual design. The spill procedure is also required under EPR to ensure spills are satisfactorily dealt with to prevent pollution not only from the STC but also potentially other DC/WW facilities by ensuring the treatment processes at the STC are not unduly impacted.

Technical Assessment – Additional Comments

1. **Cake Barn**

   The assessment states the Cake Barn falls outside of the STC / proposed permit boundary and sits within the wider WwTW footprint. This appears to be inconsistent with the rest of your application. It was confirmed in your response to the 1st Schedule 5 Notice issued 30.11.2022 (response received 21.12.2022) that the Cake Barn does form part of the STC, yet this has not been considered within this assessment.

2. **Volume of containment capacity**

   This is a critical figure that needs to be agreed as it governs the form of containment required and may exclude some types of containment or requirement for additional tertiary systems.

   - The July 2023 proposals have followed the CIRIA 736 guidance and used 110% of the full *working volume* of one digester (a greater volume than 25% of all relevant inventory). There is also an allowance for pre-failure 1 in 10yr return period rainfall captured within the containment over 24 hours. For this figure to be agreed we would have to be satisfied that there is no hydraulic connection between the two digesters that could lead to both digesters draining (or that there is a satisfactory fail-safe isolation system for each digester).
   - There is also inconsistencies with how tank capacity volumes have been calculated. All volumes referenced within Table 3-1 (with the exception of the digesters) are calculated using total capacity whilst the largest tanks are based on working volume. Models should always consider worst case scenario with capacity volumes calculated using calculations stated within CIRIA 736 standards. Section 4.3.2 of guidance states: "For above ground storage tanks, the brimful capacity of the primary containment should normally be adopted as advised in the environmental permit. However, where the tank is fitted with a physical overflow, the capacity at which the tanks would overflow may be taken".
   - The containment assessment and modelling has identified the largest tank as the 2No. Digester Tanks. The capacity volume used in the assessment is 4,250m3. This is the working volume and not the total volume which the applicants previous CIRIA assessment confirmed as 4,500m3. The modelling and assessment report should demonstrate 110% containment volume of 4,950m3 rather than 4,675m3 as worst case. If the working volume is worst case, evidence needs to be included within the assessment to justify the lower volume.
   - There are no details on the procedure for emptying the containment after a spill. Unless this is a quick process there may be a need to increase capacity for an allowance for post-failure rainfall. This type of containment has a large footprint and hence will collect a significant amount of rainfall.
   - Firefighting liquid has been considered (in relation to the presence of the gas bag store) but not included in the containment capacity on the basis that it would likely be less than the volume allowed for the digester. We could agree this is reasonable if a spill would not occur at the same time as a fire. It is not clear if the risk of fire within the STC has been adequately assessed, with regards to calculating the containment capacity, particularly considering the close proximity of the two digesters and the gas bag at this site. Could a fire lead to emptying of both digesters? Is there a scenario where an allowance for firefighting liquid should be added to the containment capacity?

3. **Risk assessment**

   - The 2023 ABDA overall site risk rating has been deemed as High, requiring Class 3 containment. Without more information on the containment structures/spill procedures it is not possible to assess whether the new proposals meet that criteria, e.g. will the 'flood gates' and pumps be automated? The use of pumps which operate automatically and the recycling of spills back to the head of the works can be considered to be additional measures of containment to Class 3 but it is not clear if this is the case from the limited information submitted.

4. **Options appraisal**

   - The CIRIA 736 containment design process should consider different options to identify the best solution. Only one option has been considered – containment within the STC process area and adjacent road. In the 2020 risk assessments two options were considered but option 1 was not viable as it involved an unbuildable 8.2m high wall around the digesters.

5. **Engineering design of structures in the containment system**
   - There is insufficient detail to evaluate the feasibility of the containment structures. E.g. is there existing infrastructure that would obstruct the building of the wall? A sketch is shown in Figure 5.1 of the assessment report, showing the location and heights of the perimeter walls and the 'flood gates' access areas. However, the perimeter wall and 'flood gate' locations are different in the drawing – Maintenance of new containment areas (working copy) 100123523_MSD_O&MNewContain_AFA.
   - The drainage system within the containment area needs to be isolated from the rest of the site drainage. The drainage drawings that have been submitted shows the existing system of draining the entire STC back to the return Liquor Pump Chamber is unchanged and hence connecting drainage channels outside the containment will form pathways for spills to leave the containment.
6. **Procedures in an event of a spill**
   - There is no description of the intended procedure to deal with a spill to be able to evaluate the containment system. E.g. what is the process for emptying a spill and how long will this take for the worst-case scenario? Will the AD substrate/digestate be pumped from the containment to the head of the works? Can this be done without affecting the SBR treatment process? Will a major spill affect the functioning of the STC process area?
   - How will the 'flood gate' access work, will it be automatically closed?
   - How will drain covers (that are recommended for the drainage inlets where they are located within the modelled areas) be put in place, in the event of a loss of containment event?