

Clark, Wayne

From: Paul Wright <pwright@slrconsulting.com>
Sent: 24 January 2023 13:58
To: Gosling, Laura
Subject: RE: EFC Concrete application EPR/DP3443QN

Follow Up Flag: Follow up
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Hi Laura,

Apologies, I was on leave last week.

We provided information on the intrinsic safety of the process in Section 4.1 of the BATOT document, I have provided additional information below to address your specific queries.

1) Over-pressurisation of the digester

Over-pressurisation of the digester cannot occur. The digester is a rated pressure vessel with a design pressure of 18.35bar, see Appendix 2 document provided. The only source of pressure to the digester is the boiler, there is no exotherm or pressure development from the process inside the digester. The boiler is rated at 15bar maximum, see Appendix 1 document provided, so significantly below the design pressure of the digester and has pressure relief valves fitted, so there is no possibility of a pressure in excess of 15bar being applied to the digester from the boiler.

Additionally, the digester vessel also has a safety relief valve fitted which vents to the blowdown tank. This relief valve is set at 15bar, again significantly below the design pressure of the digester.

2) Overheating of the digester

As mentioned above the process within the digester is not exothermic. The only source of heat to the digester is the boiler.

The normal operating temperature of the boiler is approximately 185°C, which is governed by the maximum operating pressure of the boiler. This temperature is governed by the boiler output, a large increase in pressure is required for a small increase in temperature and hence the physical limits of the boiler and the fail safe measures in place mean that the boiler would shut down before overheating of the digester could occur.

3) Containment

All containment measures on site will comply with CIRIA C736 requirements.

Regards,

Paul



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He/Him/His

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From: Gosling, Laura <Laura.Gosling@environment-agency.gov.uk>
Sent: 19 January 2023 14:55
To: Paul Wright <pwright@slrconsulting.com>
Subject: EFC Concrete application EPR/DP3443QN

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Hi Paul,

I have tried calling you today but I haven't been able to get through.

I have been assessing the bespoke application for EFC Concrete EPR/DP3243QN/A001 and in particular, establishing whether the installation can be considered a low impact installation.

As you are aware, we assess whether an installation can be classified as low impact based on the criteria listed in application form guidance for Part B2, Appendix 2. I am confident that most of the criteria have been met. However, as highlighted in the pre-application discussions and subsequent response (dated 20 June 2022), the decision hinges on whether the process concerning the digester can be considered intrinsically low impact. In particular, we are concerned with the environmental impact of a catastrophic failure of the digester and any potentially explosive situations.

Please can you provide further details on the consequences of a major over-pressurisation or overheating event within the digester. Please could you also describe in more detail the containment measures, in particular, confirm that the building housing the digester is banded to a volume that can contain the full digester contents.

I would appreciate a response by the 26th January 2023.

After today I will not be available until Tuesday 24th January but I'd be very happy to have a discussion with you then if you would like to talk this through.

Many thanks,
Laura

Laura Gosling

Permitting Officer
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