From: [redacted]
To:
Cc:
Subject: RE: Sizewell C Combustion Activity - Permit Application EPR-MP3731AC-A001 - Request for further information
Date: 24 March 2022 17:23:52
Attachments: image004.png
image001.png

Hi [redacted],

I hope you are well? Below is the response to your request for further information.

1. ***Provide further information about the actual operating hours of the generators during the commissioning phase***

Unfortunately, the commissioning program of the Sizewell C diesel generators has not commenced, and it is not possible to provide further information on the actual operating hours, load and sequencing of the diesel generators during the commissioning phase. The number of hours required for off-site testing of the diesel generators prior to arrival at the site is also not known at this stage.

The HPC commissioning program for the EDGs has not been finalised, whilst the commissioning program for the UDGs has not started. A draft outline of the HPC EDG commissioning program is provided below:

1. First engine start tests up to full speed without load;
2. Synchronisation to the grid without load;
3. Genset progressive load building up to full power; and
4. Contractual requirements validation:
   - Twenty starting tests followed by stable operation;
   - Sudden discharges at full power, thirty minutes of no-load operation followed by thirty minutes at full power; and
   - Eight days of stable operation testing between half power and full power (including four days at full power).

Explain in more detail what will be done to minimise the hours of operation at the site during the commissioning.

The commissioning programme developed for the diesel generators will minimise the duration and frequency of testing on a best endeavours basis. However, tests must be of a sufficient duration and frequency to adequately demonstrate that the diesel generators operate in a safe and efficient manner in accordance with their contractual requirements and regulations and to meet their nuclear safety function.

Also, explain in more detail why the generators are required to be operated within the proposed hours during the commissioning.

The testing and commissioning activities of the diesel generators are an essential part of the overall project. The diesel generator systems and sub-systems must work together. The tests begin with installation/equipment checks, progressing into integration of elementary functions testing followed by overall sequence testing.

The commissioning program allows the integration of the diesel generators in a safe and efficient manner in accordance with the contractual requirements and regulations. The strategy of the commissioning program is to provide a smooth and efficient transfer of the

diesel generator systems from their construction to their commissioning. The commissioning program is only considered final once all of the system and sub-systems are checked and in compliance with the design requirements.

Is there a link between the commissioning of the generators and the commissioning of the SZC EPRs?

There is a link between the commissioning program of the diesel generators and EPRs. The commissioning tests described above for the diesel generators could be done independently, however, after this step the diesel generators and the plant are also tested in case of on-site or off-site electrical power loss (also known as 'BAS' tests) to the nuclear power plant. The objective of the power loss tests are to validate the transients generated by these switchovers, check the electrical behaviour of the plant and the recovery of the safety functions necessary to reach a safe and stable state.

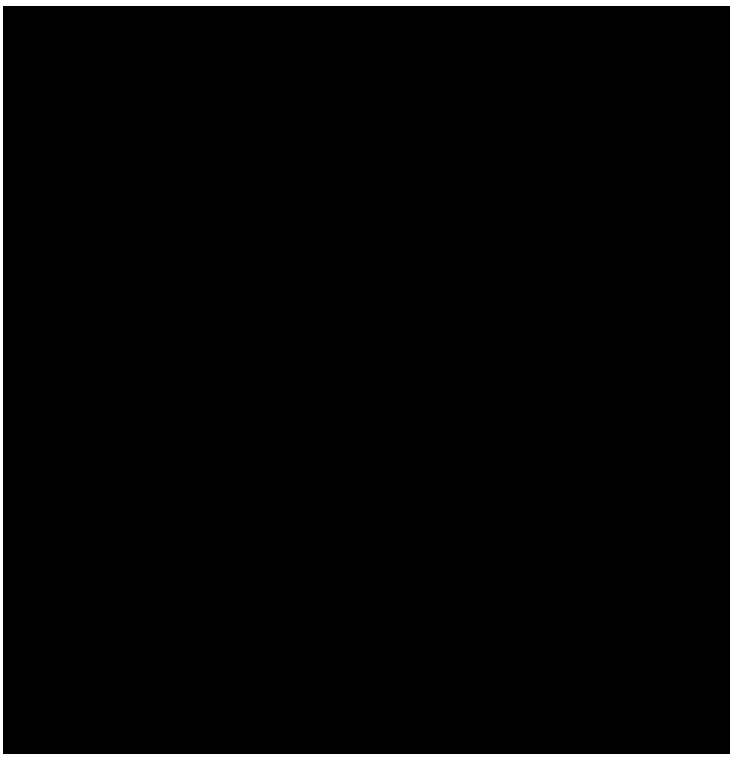
In addition, the diesel generators are also required to be available for fuelling the reactor and for sensitive phases including hydraulic pressure tests of the primary circuit.

2. ***Confirm whether the proposed generators can be run on ultra-low sulphur gas oil (sulphur content max 0.001%). And if not, justify this.***

Based on a load test in 2021 the HPC EDGs were run on ultra-low sulphur gas oil (sulphur content max 0.001%) without issue. However further testing would need to be carried out to confirm that the EDGs could be run on ultra-low sulphur gas. No testing has been carried out at this stage for the UDGs using ultra-low sulphur gas oil.

Please let us know if you have any questions or comments.

Kind Regards



From: [redacted]
Sent: 11 March 2022 11:45
To: [redacted]
Cc: [redacted]
Subject: [EXTERNAL] RE: Sizewell C Combustion Activity - Permit Application EPR-MP3731AC-A001 - Request for further information

Hi [redacted]

I am good, thank you.

Thank you for your update. I look forward to hearing from you by 24th March.

Regards
[redacted]

From: [redacted]
Sent: 10 March 2022 17:53
To: [redacted]
Cc: [redacted]
Subject: Sizewell C Combustion Activity - Permit Application EPR-MP3731AC-A001 - Request for further information

Hi [redacted]

I hope you are well?

We had a meeting today with HPC to discuss the information request and we will draft a response which we should be able to provide you by the 24th March. In regards to the first question in relation to the actual operating hours unfortunately we cannot provide any further clarity on the hours at this stage as the information is not available. The engineers can describe the commissioning program and we can provide responses to the other questions.

I hope this helps.

Kind Regards

[redacted]

From: [redacted]
Sent: 01 March 2022 15:16

To: [redacted]

Subject: Sizewell C Combustion Activity - Permit Application EPR-MP3731AC-A001 - Request for further information

Dear [redacted]

Further to our conversation earlier today. We require the following additional information in support of the above application. Please respond by 9th March 2022. If you require more time, please call me to discuss.

1. Provide further information about the actual operating hours of the generators during the commissioning phase. Explain in more detail what will be done to minimise the hours of operation at the site during the commissioning. Also, explain in more detail why the generators are required to be operated within the proposed hours during the commissioning. Is there a link between the commissioning of the generators and the commissioning of the SZC EPRs?

   Reason: Under the Medium Combustion Plant Directive (MCPD) new medium combustion plants that do not operate more than 500 operating hours a year, as a rolling average over a period of three years, may be exempt from compliance with the emission limit values set out in Part 2 of Annex II. This will apply to SZC Combustion Activity during the operational phase of the plant.

   However, SZC Combustion Activity will operate for 4 892 hours during the commissioning in the first 2 years. Table 4.1 of the Schedule 5 Response - Air Quality Assessment confirms that each of the 4 Unit 1 EDGs will be run for 242.5 hours during commissioning. Each of the 2 UDGs will be run for 738 hours. This is an aggregated total of 2,446 hours operation for the 12 months of commissioning. On the second year of the commissioning each of the 4 Unit 2 EDGs will be run for 242.5 hours during commissioning. Each of the 2 UDGs will be run for 738 hours. This is an aggregated total of 2,446 hours operation for the 12 months of commissioning. This is more than 500 operating hours a year and therefore the plant should be compliant with the emission limit values set in Part 2 of Annex II of the MCPD during the commissioning phase.

   Application Document ref. 100207658 states that some of the 738 hours needed for commissioning the UDGs will involve tests that can be carried out before the engines are brought to site. The commissioning hours presented therefore represent a conservative estimate of the time for which plant will be run during this phase. It also states that commissioning operations were not considered in the GDA as this is a site-specific activity dependant on manufacturer's recommendations. Table 4.1 Schedule 5 Response – Air Quality Assessment also states that actual commissioning hours and sequencing is still to be confirmed.

2. Confirm whether the proposed generators can be run on ultra-low sulphur gas oil (sulphur content max 0.001%). And if not, justify this.

   Reason: Application Document ref. 100207658 states that fuel to be used in diesel generator engines must contain less than 0.1% sulphur (in line with the SCOLF Regulations). However, ultra-low sulphur gas oil (sulphur content max 0.001%) should be available and therefore this is considered BAT for the installation.

Kind regards

[redacted]

[redacted]