Condition 25

Generator Operating Schedule

Colt Hayes, London

Glasgow
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Document Control

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Contents

Appendices

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1 Introduction

The purpose of this Technical Note is to partially discharge Planning Condition 25 of the Original Permission (ref. 38421/APP/2021/4045) as quoted below.

This technical note pertains to the partial discharge of Buildings 1 & 2 generators only. Separate submissions will be submitted for each development phase (as applicable).

Planning Condition 25 wording:

Prior to operation of the development, or each development phase, a schedule for the testing of standby generators for the development, or each development phase, shall be submitted to and approved in writing by the Local Planning Authority. This shall confirm that testing during school hours and noise sensitive times of day does not occur. Thereafter the development shall be implemented and operated in accordance with these details.

2 Generator testing schedule

2.1 Generator operation

The Emergency Standby Generators (ESGs) are to be used purely as standby plant to provide emergency standby power in the event of grid failure. There is no capacity agreement in place or elective operation of the plant for generating revenue (e.g., STOR, Triad avoidance, Demand Side Response, Peak Demand, etc.). As such, operation of the generators is likely to be limited to monthly maintenance and testing only as outages are rare events.

2.2 Maintenance & Testing schedule

The maintenance schedule for the generators is based on manufacturer guidelines. These guidelines help to prolong the life of the equipment, reduce the use of raw materials (e.g., replacement parts, oil changes) and to ensure the engines perform efficiently to prevent increases in pollutant levels or black smoke.

The proposed testing schedule is presented at a high level in the table below and as a Gannt chart in Appendix A. This is still subject to change as the site is not yet operational, and thus a confirmed schedule is not currently available. The final testing schedule for this site is likely to be similar to other operational Colt sites.

During the application for the Environmental Permit from the Environment Agency (EA), an Air Quality dispersion model was completed assessing impacts from operation of the generators during maintenance and testing. This model did not predict any significant impacts local Air Quality from the proposed test regime. Additionally, there were no significant impacts predicted during the mains failure scenario with all ESGs simultaneously operating for 72 hours.

Where possible and practicable, the intention will be to avoid testing during peak traffic periods when background NOx has the potential to be elevated and to avoid testing during school hours. There may be instances where operational requirements dictate the timing and duration of generator maintenance.

Table 1 – Annual operations per generator

Generator Test Frequency	Description	Load Profile	Duration (per generator)
Monthly Black Building function test	The simulation of a mains failure (parallel operation)"to test the functionality, performance and protection of the standby generation system. All standby generators on a common bus may be operated for a maximum of 1 hour per month (maximum 12 hours per calendar year) to test its operational readiness in the "black building test".	Site load (approx. 30-50%)	1 hour
Annual external load bank test	To test each standby generators operational readiness.	25/50/75/100% load	2 hours
		Total annual hours of operation per generator	**13**

Appendix A.

Generator Testing Schedule

		Generator Test Schedule												
		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Building 1 & 2	IT Gen switch board 1 &2													
	IT Gen switch board 3 & 4													
	Mechanical Generators													
	Landlord gens													

Note: This testing schedule is on a 13-week cycle and will repeat 4 times each year. During one cycle each year week 13 of the cycle will also include an annual external load bank test.