Condition 36

Emission Reduction Plan

Colt Hayes, London

Glasgow
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Document Control

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4	28/02/2025	Issue	28/02/2025_HL	28/02/2025_NS	First Issue

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Appendices

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1 Introduction

The purpose of this Technical Note is to partially discharge Planning Condition 36 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 36 wording:

Prior to operation of the development, or each development phase, a Emission Reduction Plan (ERP) for the development, or each development phase, shall be submitted to and approved in writing by the Local Planning Authority. This shall outline and commit to a programme for replacing the diesel backup units with cleaner units, with clear time scales. This shall include but is not limited to the following:

1. *A review of options for reducing NOx and PM2.5 emissions impacts for the National Grid power failures;*
2. *A feasibility study including cost benefit analysis for potential upgrades or other changes to infrastructure, generators and operational regimes on site that could reduce emissions over time;*
3. *Use of the above information to propose appropriate changes in the generators type, selection of generators or other potential options for decreasing emissions over time; and*
4. *Proposal of an appropriate timescale for improvements.*
5. *Thereafter the development shall be implemented and operated in accordance with these details.*

2 Background & proposed programme

Colt is committed to reducing emissions associated with the operation of the emergency standby generators (ESGs) as far as practicable. This has been demonstrated during the planning process by the significant investment made procuring generators that are best in class on NO_x for the size of engines.

In addition, Colt has further abated emissions by installing Selective Catalytic reduction (SCR) to reduce NO_x emissions to levels that outperform similar sized gas generators. The SCR system reduces NO_x emissions to 95mg/m3 at 15% O2 (equivalent to <250mg/Nm^3 (5% O_2) as provided in the manufacturer warranty), down from 3,576 mg/Nm^3 (5% O_2) on an unabated engine.

Colt is committed to further reducing both NO_x and PM2.5 emissions associated with the operation of the generators as far as practicable by producing an Emission Reduction Plan (ERP). As per the condition wording this will include a feasibility study and cost benefit analysis.

The following sections present the proposed approach and programme for undertaking the feasibility study and this has been based on previous LBH experience for another Data Centre in Hayes.

The proposed programme for undertaking the feasibility presented in Appendix A.

3 Feasibility study approach

The proposed approach for how the feasibility study is to be conducted is presented in the following section. This approach is based on previous LBH experience for another Data Centre in Hayes. The specific approach will be agreed with LBH.

The feasibility study is to be based on the principles of BAT (Best Available Technology) and giving weight to sustainability principles and the objectives of the Borough on improving air quality.

The assessment will include but will not be limited to a review of the following ways to further reduce NO_x and PM2.5 emissions.

3.1 National Grid power failures (Condition point i)

Power failures are rare events and during such events the SCR systems will operate to significantly reduce NO_x emissions to acceptable levels. The Air Quality Assessment (AQA) undertaken as part of planning and the Environmental permit application to the Environment Agency (EA), further demonstrates the proposed development is unlikely to significantly impact local air quality during a grid failure event.

A review of the following will be undertaken to investigate potential ways to mitigate emissions further:

- The process and means for determining how long the site operates on generators and ways to reduce the number of generators operating and the time the site runs on generators
- Controls and settings determining which generators operate and for how long
- The process and means for operating on generators as opposed to switching to unaffected power supply
- Review of the technology used to provide power

3.2 Feasibility study and benefit analysis (Condition point ii)

Periodic feasibility reviews, covering National Grid power failures (Section 3.1), are to be completed that will seek to assess the feasibility for potential upgrades to the generators and / or changes to infrastructure.

The generators have an operational lifetime of circa 20 years. As per the proposed programme in Appendix A, we will seek to provide LBH with feasibility study progress updates every 2 years with an interim feasibility study report in year 10 and a final report in year 21.

3.3 Proposed changes (Condition point iii)

Where reasonable and practicable improvements have been identified from the above reviews, proposed changes are to be presented for decreasing emissions. If changes or opportunities are identified, these will be detailed in the aforementioned reports.

3.4 Proposed timescales (Condition point iv)

The aforementioned reports will seek to identify the timescales for implementing improvements. Timelines will differ depending on the opportunity identified.

Appendix A.

Proposed Programme

Proposed programme for Emission Reduction Plan (ERP)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
Annual Emissions Reporting	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Emissions Testing[1]					■					■					■					■					■					■
Viability Study progress updates		■		■		■		■			■		■		■		■		■											
Submit interim Viability Study report										■																				
Submit Final Viability Study report																					■									
Actions to Reduce Emissions[2]	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Notes

1. In line with EA permit requirements which is every 1500 hours of operation or once every five years (whichever comes first).
2. Timeline for changes will differ depending on the opportunity in question.