Non-Technical Summary

This Part A(1) Environmental Permit application is submitted by VDC LHR11 Limited (referred to hereinafter as "VDC" or "the Client") for the operation of a combustion plant comprising electricity generators present at the LHR-11/12 Datacentre (LHR 1 Datacentre) located at Chandos Road, Park Royal, London, NW10 6NF ("the Installation").

The LHR 1 Datacentre comprises two datacentre buildings referred to as LHR11 and LHR12, with dedicated infrastructure housing for the generators, one for each datacentre building, containing a total of 37 diesel fired generators for the production of electricity located within associated with the datacentre buildings. The generators associated with the operation of LHR11 are housed within a generator building, whilst the generators associated with the operation of LHR12 are housed inside individual acoustic enclosures on a gantry structure. The generators are intended as emergency generation provision to the datacentres in the event of an interruption to the electricity supply to the site from the National Grid. Each generator is expected to operate for approximately 24-hours per year as part of periodic testing and maintenance, in addition to any emergency operation. As such, the typical operation of the generators will be limited to 50 hours per year for testing and maintenance. The generators will be capable of operating with both diesel and hydrogenated vegetable oil (HVO).

In total 37 generators will be present at the site, with an aggregated net rated thermal input capacity of approximately 225.7 MW_{th}. Under Schedule 1, Part 2, Chapter 1, Section 1.1 Part A(1)(a) of the Environmental Permitting (England and Wales) Regulations 2016 (as amended) ("the EP Regulations") the burning of any fuel in an appliance with a rated thermal input of 50 or more megawatts is a regulated activity, and an environmental permit is required to operate the Installation.

Raw materials

The primary raw materials used in the permitted activity consists of fuel (diesel or HVO), which will be used to power the generators; urea for use within the Selective catalytic Reduction (SCR) abatement, lubricants, and coolants. Fuel will be stored in four underground bulk tanks which will fill the individual belly tanks associated with each generator. All material storage container is provided with suitable and adequate containment measures, in line with the requirements of CIRIA 736.

Waste

The permitted activity is expected to generate minor quantities of waste, primarily from maintenance and repair activities. All waste generated at the Installation will be managed in line with the waste hierarchy and will be removed from the site by a licenced waste management company.

Energy

Diesel (or HVO) is used as the predominant primary energy source for the facility; however, a limited amount of electricity will also be used by the generator plant control equipment. All plant

being installed is new and highly efficient, with the typical electrical efficiency of the generators being in the region of 45%.

Emissions to air

Each generator will have an individual flue stack which have the potential to generate emissions of oxides of nitrogen (NOx)`. The flue stacks for the generators for LHR11 grouped together as three groups of four and one in a group of five, therefore resulting in four emission points for LHR11, whilst the flue stacks for the flue stacks for the LHR12 generators are arranged in two rows of ten.

The impact of the emissions from these points have been assessed using air dispersion modelling and the Environment Agency's risk assessment methodology, which demonstrates that the long-term and short-term impacts are not significant at any of the identified receptors (both human health and ecological). The impact of ammonia deposition associated with the NOx emissions from the generators on the identified ecological receptors was also found to not be significant.

The emission limit values set out under the Schedule 25B of the Environmental Permitting (England and Wales) Regulations 2016 (as amended) are applicable to the Installation. However, as the generators are planned to operate for less than 500 hours per year the emission limit values applicable under this Schedule are not applicable to the installation.

As there are no emissions limit values relevant to the Installation, periodic monitoring of NO_x emissions is not proposed.

Emissions to Water and Sewer

There are no process emissions to controlled waters (comprising groundwater, surface water and sewer), with discharges to controlled waters limited to uncontaminated rainwater run-off through interceptors before entering the local municipal surface water drainage network. Where drainage serves storage and delivery areas, shut-off valves are installed prior to leaving site.

Emissions to Land

The Installation will be located on a concrete floor with no pathways to the underlying ground. There will therefore be no process emissions to land from the Installation.

Noise

A noise impact assessment has been undertaken for the operation of the generators in an emergency scenario (all generators being operational) and for the regular testing of the generators (one generator tested at one time). The assessment concluded that:

- the predicted rating level at the nearest residential receptors will be less than the typical daytime background noise levels under the testing scenario; and
- The predicted rating level at the nearest residential receptors will be less than the typical background noise level under the emergency operation scenario.

Therefore, noise is not considered to be a significant issue at the Installation.

Environmental Management Systems

The Installation will be operated in line with an environmental management system (EMS), which will be developed prior to commencement of operations, to manage the environmental aspects of the operation of the Installation. The EMS will be developed in line with the requirements of ISO14001: 2015 and relevant Environment Agency guidance.

Site Condition

A Site Condition Report has been prepared which considers the risks presented by the materials stored at the installation, the sensitivity of the receiving environment and the measures in place to mitigate the potential for ground contamination. The primary risk is derived from the storage and use of diesel (or HVO). It is considered that appropriate containment will be provided to all fuel storage and transfer systems to prevent loss of materials to environment. All raw materials and wastes will be stored in appropriate containers.