

3 August 2017

Alison Brown
Associate Director
Urbis
Level 23, Darling Park Tower 2
201 Sussex Street
Sydney NSW 2000

Dear Alison,

NEXTDC S2 – 6-8 Giffnock Avenue - Development Application Clarifications regarding Amenity and Hazards

We provide the following clarifications to the NEXTDC S2 Development Application no. LDA2017/0192 for consideration on the NEXTDC S2 project at 6-8 Giffnock Avenue, Macquarie Park.

1 Ryde LEP 2014 Definition of High Technology Industry

We are instructed that the Development Application seeks consent to a High Technology Industry.

The definition of high technology industry excludes an industrial activity that presents a hazard or potential hazard to the neighbourhood or that, because of the scale and nature of the processes involved, interferes with the amenity of the neighbourhood.

Despite the scale and nature of the processes involved, the following assessment in Sections 2, 3 and 4 of this letter supports the conclusion that the proposed industrial activity, that is, the operation of the data centre, does not inherently present a hazard or potential hazard to the neighbourhood. Nor does the presence of diesel fuel for use by the emergency generators represent a risk that cannot be appropriately mitigated.

Further, Section 2 confirms that the proposal is not anticipated to interfere with the amenity of the neighbourhood.

2 Ryde LEP 2014 Definition of Light Industry

We are instructed that High Technology Industry is a subset of Light Industry. Further, we understand that the proposed use, being a type of Light Industry, is required to not interfere with the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or otherwise.

The amenity considerations are addressed in the table below.

Amenity consideration	Impact on the amenity of the neighbourhood
Noise	We note that the Aurecon "Noise Impact Assessment" Report Dated 10 March 2017 (Rev 01, Document Control Update 26 June 2017) was submitted to Council as part of the requirement to assess the potential noise and vibration impact of plant on the neighbouring properties. The report

	<p>established the boundary conditions for nearby sensitive receptors and clearly delineates the requirements under Table 5-3 Project Specific Noise Criteria. This has been reflected in the draft development consent Condition No. 178.</p> <p>Preliminary design criteria were provided under Paragraph 6.2 of the Noise Impact Assessment for the noise generating plant (generators and mechanical cooling) that indicated achievable mitigation criteria of 75dBA at 1m for generators during emergency situations and 62dBA at 1m for mechanical cooling plant under normal operating conditions. While further design will be required to finalise the selections for the noise mitigation strategies, plant that meets the mitigation criteria is readily available for selection.</p> <p>Additional Engineering Reports will be submitted at the appropriate times in line with the requirements of the raft consent condition no.s 80, 97, 152, 158 and 180.</p> <p>Suitable mitigation solutions will be installed to meet the requirements of the draft consent conditions no.s 126, 176, 177, 178 and 179.</p> <p>It is therefore anticipated that the proposal will not interfere with the amenity of the neighbourhood in relation to noise.</p>
Vibration	<p>We note that the Aurecon "Noise Impact Assessment" Report Dated 10 March 2017 (Rev 01, Document Control Update 26 June 2017) was submitted to Council as part of the requirement to assess the potential noise and vibration impact of plant on the neighbouring properties. The report established the boundary conditions for nearby sensitive receptors and clearly delineates the requirements under Table 5-3 Project Specific Noise Criteria. This has been reflected in the DA Consent under item 178.</p> <p>Vibration forms part of our assessment (for construction and operation). Including criteria regarding</p> <ul style="list-style-type: none"> • Structural Damage – DIN4150-3 Standard • Human Comfort – "Assessing Vibration- A technical Guideline" • AS2834-1995 <p>Based on the preliminary assessment of the operational vibration from the mechanical/ electrical equipment proposed for the project, we understand that suitable vibration isolators and anti-vibration mounts will be designed for all the major equipment including but not limited to Generators, Cooling towers, pumps, etc. in the detailed design stage. These isolators will provide the necessary isolation to comply with the stipulated vibrational criteria at the receiver boundary.</p> <p>Construction itinerary at this stage of the project is not finalised and therefore any preliminary vibration assessment at this stage is not feasible. Based on our previous experience, vibration from the construction equipment will be assessed at the boundary of the nearest receivers and suitable mitigation measures will be undertaken in accordance with Interim Construction Noise Guideline and AS2436-2010.</p> <p>Additional Engineering Reports will be submitted at the appropriate times in line with the requirements of the Draft Conditions Item 80, 97, 152, 158 and 180.</p>

	<p>Suitable mitigation solutions will be installed to meet the requirements of the Consent Condition items 126 and 177.</p> <p>It is therefore anticipated that the proposal will not interfere with the amenity of the neighbourhood in relation to vibration.</p>
Smell	<p>NEXTDC have not identified activities as part of their operations on this site that will produce smell that will interfere with the amenity of the neighbourhood.</p>
Fumes	<p>We note that Aurecon Report "Air Quality Assessment – Generators" dated 19 May 2017 addresses the fume emissions for the proposed facility.</p> <p>We note that Paragraph 4 refers to the legislative provisions for generator emissions:</p> <p>For air quality assessments of developments in NSW, statutory methods that are to be used to model and assess emissions of pollutants from stationary sources are listed in the document <i>Approved methods for the modelling and assessment of air pollutants in New South Wales</i> (2016). The <i>Protection of the Environment Operations (Clean Air) regulation 2010</i> also refers to this document. The clean air regulation provides regulatory measures to control emissions from a number of sources in NSW.</p> <p>According to clause 57A of Division 5 of Part 5 of the Clean Air Regulation, the following exemption is applicable to emergency electricity generation:</p> <p><i>'Emergency standby plant comprising a stationary reciprocating internal combustion engine for generating electricity is exempt from the air impurities standard for nitrogen dioxide and nitric oxide specified in Schedule 4 in relation to that plant if the plant is used for a total of not more than 200 hours per year.'</i></p> <p>Considering the above exemption, the 33 generators are considered as the plant.</p> <p>Therefore, emissions from the plant can exceed limits for up to 200 hours per year provided these exceedances occur during emergency use only. .</p> <p>NEXTDC-S2 is located in Macquarie Park, which is part of the Local Government Area (LGA) of Ryde. Electricity is provided to Ryde by Ausgrid. Data describing past Ausgrid outages is available online (Ausgrid, 2016). The latest 12 months of data available is for the period starting October 2015 and ending September 2016. Total duration of all outages impacting any building in the larger Ryde LGAduring this period totalled approximately 178 hours, noting that no one building experienced all outages and most outages affected only a very small percentage of buildings in the applicable area.</p> <p>The outage time from Ausgrid quoted for Macquarie Park is the worst case and includes customers on low voltage pillar supplies. NEXTDCs site will be provided with dedicated supplies directly from the substation, as per the existing NEXTDC S1 facility in Macquarie Park, We are advised by NEXTDC that outages for S1 have not exceeded 10 hours total over the last 5 years. Furthermore, most outages are very short, and do not result in the diesel engines actually starting, as the kinetic storage in the rotary UPS carried the load.</p>

	<p>It is therefore expected that the grid outage events that will require the site to supply its own power through the operation of the diesel generators will be substantially below the 200 hours per annum limit.</p> <p>Additional Engineering Reports will be submitted at the appropriate times in line with the requirements of the draft consent condition no. 83A, which requires the submission of a revised Air Quality Assessment detailing measures to comply with relevant legislation.</p> <p>Suitable provisions will be installed to meet the requirements of the draft consent condition no. 175.</p> <p>By implementing the recommendations of the reports and conditions, it is therefore anticipated that the proposal will comply with the Clean Air Regulations and will not interfere with the amenity of the neighbourhood in relation to fumes.</p>
Smoke	NEXTDC have not identified activities as part of their operations on this site that will produce smoke that will interfere with the amenity of the neighbourhood.
Vapour	NEXTDC have not identified activities as part of their operations on this site that will produce vapour that will interfere with the amenity of the neighbourhood.
Steam	NEXTDC have not identified activities as part of their operations on this site that will produce steam that will interfere with the amenity of the neighbourhood.
Soot	NEXTDC have not identified activities as part of their operations on this site that will produce soot that will interfere with the amenity of the neighbourhood.
Ash	NEXTDC have not identified activities as part of their operations on this site that will produce ash that will interfere with the amenity of the neighbourhood.
Dust	NEXTDC have not identified activities as part of their operations on this site that will produce dust that will interfere with the amenity of the neighbourhood.
Waste water	<p>Waste water will be produced by domestic facilities serving the office space, and minor discharge from cooling systems.</p> <p>All plumbing and drainage works will be carried out in accordance with the Requirements of Sydney Water Corporation, appropriate Australian and NSW standards and in accordance with Draft Condition 11, 44, 51, 116, 129, 170 and 171</p> <p>The waste water produced is not anticipated to interfere with the amenity of the neighbourhood.</p>
Waste products	<p>The submitted Waste Management Plan provides an outline of proposed strategies for waste management.</p> <p>Storage, management and collection of waste on site will also respond to Draft Condition Items 42 and 43, 64, 78, 79, 161, 162.</p> <p>The waste produced on site is not anticipated to interfere with the amenity of the neighbourhood.</p>
Grit	NEXTDC have not identified activities as part of their operations on this site that will produce grit that will interfere with the amenity of the neighbourhood.

Oil	<p>Refer to the submitted NEXTDC S2 Dangerous & Hazardous Goods Report dated 23 June 2017, and Section 4 of this letter, for further details of the quantities of fuel oil storage on site.</p> <p>We note that comprehensive bunding and fire separation of fuel storage areas will be implemented along with leak detection strategies to safely contain and identify any potential oil/fuel spillages on site. All systems will be designed to comply with Australian Standards (AS1940-2004) and NSW regulatory requirements.</p> <p>All systems will be in line with the requirements of the draft consent condition no.s 25, 26, 27, 28, 29, 30, 31, 32, 33, 75, and 76.</p> <p>By implementing the recommendations of the reports and conditions, it is therefore anticipated that the proposal will not interfere with the amenity of the neighbourhood in relation to oil.</p>
'Or otherwise'	<p>NEXTDC are not aware of any additional activities as part of their operations on this site that will produce other impacts on the amenity of the neighbourhood.</p>

3 Ryde LEP 2014 Definition of Hazardous Industry

We have been instructed to consider whether the development should be categorised as a hazardous industry (or other hazardous use such as hazardous storage establishment).

hazardous industry means a building or place used to carry out an industrial activity that would, when carried out and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the activity from existing or likely future development on other land in the locality), pose a significant risk in the locality:

- (a) to human health, life or property, or
- (b) to the biophysical environment.

The proposed industrial activity, that is, the operation of the data centre, does not inherently present a hazard or potential hazard to the neighbourhood. Nor does the presence of diesel fuel for use by the emergency generators represent a risk that cannot be appropriately mitigated.

In relation to risk to human health, life or property, or biophysical environment, the comprehensive amenity assessment in Section 2 confirms that the operation of the facility is not anticipated to interfere with the amenity of the neighbourhood. It therefore follows that the proposal does not pose a 'significant risk'.

We further note that significant mitigations will also be employed to further reduce and minimise risk to the locality. This includes:

- A fire engineered solution for the building that will be agreed with Fire & Rescue NSW
- Fire isolation of plant areas, including between individual electrical rooms and generator rooms.
- Automated fire suppression systems to provide protection of the building and equipment in accordance with the requirements of the Fire engineered solution, including specific systems for diesel and generator areas.
- Sensitive, smoke detection systems for early warning of ignition risks in electrical plant rooms and data halls allowing for early detection and isolation of fire risks.

4 Risk Assessment

Aurecon Report NEXTDC S2 Dangerous & Hazardous Goods Report dated 23 June 2017 addresses the assessment and storage of diesel fuel on the 6-8 Giffnock Avenue site. However, for completeness, expanded consideration is provided below.

Description of SEPP 33

SEPP 33 came into force in 1992 with a focus on the identification and assessment of potentially hazardous industry. It applies to any development proposal, which falls under the Policy's definition of "potentially hazardous industry" or "potentially offensive industry".

Certain activities may involve handling, storing or processing a range of substances which in the absence of locational, technical or operational controls may create an off-site risk or offence to people, property or the environment. These activities would be defined as potentially hazardous or potentially offensive.

For development proposals classified as 'potentially hazardous industry' the policy establishes a comprehensive test by way of a preliminary hazard analysis (PHA) to determine the risk to people, property and the environment at the proposed location and in the presence of controls.

For developments identified as 'potentially offensive industry', the minimum test for such developments is meeting the requirements for licensing by the DECCW or other relevant authority. If a development cannot obtain the necessary pollution control licences or other permits, then it may be classified as 'offensive industry', and may not be permissible in most zonings.

Risk Screening

In order to determine whether the proposed development is a Potentially Hazardous development, the risk screening method described in the DUAP Guidelines applying SEPP 33 Hazardous and Offensive Development Application Guidelines was applied to the proposed development.

A Risk Screening process is undertaken on the proposed development to determine whether or not it is Potentially Hazardous. The risk screening is based on the potential for, and consequences of an explosion, fire, or release of toxic substances. It takes the following factors into account:

- The properties of the substances being handled or stored;
- The conditions of storage or use;
- The quantity involved;
- The location with respect to the site boundary; and
- The surrounding land use.

The Australian Code for the Transportation of Dangerous Goods by Road and Rail (Dangerous Goods Code) provides a full description of the classification of substances as dangerous goods. The dangerous goods that are to be stored on the site are for cleaning and maintenance purposes. These are in small quantities that do not exceed the threshold quantities as described in SEPP 33. Other materials such as diesel and oils are not dangerous goods as described by Australian Dangerous Goods Code. The proposed development is not a Potentially Hazardous Industry.

Application of SEPP 33

There are no dangerous goods on the site that are above the threshold values as described in SEPP 33. The proposed development is not a Potentially Hazardous Industry as described by SEPP 33 and does not require a Preliminary Hazard Analysis to be conducted.

The current proposal involves the installation of up to 363kL total diesel fuel storage split between two separate bulk storage areas (24 hours of fuel for 33x1500kW diesel engines) and minor storage located throughout the building at each engine generator locations (33 x 1kL). The bulk diesel storage will be located in the building basement using single skin, above ground tanks in a fully bunded and

fire rated and separated tank chamber, and banded minor storage within each engine generator container.

Under the Australian Dangerous Goods (ADG) Code, diesel (UN1202) is classified as a combustible liquid (C1). C1 combustible liquids are not classified as dangerous goods (ADG Code, Edition 7.4, page 561), however they are defined as dangerous goods under workplace legislation (for NSW Workcover notification).

The risk screening assessment process for SEPP 33 is set out in the document issued by the then Department of Planning, 'Applying SEPP33', dated Jan 2011. The assessment is based on the quantity of dangerous goods involved in the proposal (section 2.1 and Fig 1).

As diesel is not defined as a dangerous good, it does not trigger the storage threshold levels (SEPP 33 Table 1) nor a requirement for a Preliminary Hazard Analysis (PHA). That is, 'Applying SEPP 33' confirms that the diesel storage would not be assessed under SEPP 33.

All diesel storage at the site will be installed and operated according to AS1940-2004 and NSW regulatory Requirements and NSW Workcover notifications. Where a fire system operates normally and is designed to the appropriate standards, there would be no significant human health, life or property (offsite), or biophysical impact due to a fire on the site. AS1940 and other regulatory requirements define what the fire system is for the diesel storage.

Should you have any further questions with regards to the attached information, please do not hesitate to contact the undersigned.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Matthew Gurr'.

Matthew Gurr
Associate

Enc:

Copies: