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NEXT DC S5 Data Centre Ryde (SSD-63168959) EPA Advice on EIS

Dear Mr Williams

The NSW Environment Protection Authority (EPA) is writing to you in relation to your request for advice on the Environmental Impact Statement (EIS) for the above project at 269 Lane Cove Road, Macquarie Park (SSD-63168959).

The EPA understands the proposal is for:

- Staged construction and operation of two data centre buildings (Building A and Building B) with a total power consumption of 90 megawatts.
- The operation of 60 x diesel generators (2MWe) to be operated during mains power failure.
- 1,137 tonnes of diesel fuel storage in 12 x above-ground diesel storage tanks (110kL each).
- Eight above-ground water tanks for industrial water (460kL each).
- 432 tonnes for the storage of Li-ion batteries stored onsite.
- storage of 29 tonnes of non-toxic and non-flammable pressurised gas across the site.

The EPA has reviewed the following documents:

- Environmental Impact Statement, by Urbis, dated 20 June 2024
- Noise and Vibration Assessment, by Aurecon, ref: P521243, Rev G, dated 14 June 2024
- Air Quality Report, by Arup Australia, dated 4 June 2024
- Preliminary Hazard Analysis, by Arup Australia, dated 18 April 2024
- Greenhouse Gas Assessment Report, by Arup Australia dated 25 June 2024

EPA cannot recommend approval of proposal

The EPA has reviewed the Proposal and cannot recommend the Proposal as there is insufficient information provided to make an adequate assessment of the Proposal. Please see the reasons set out below in Appendix A.

The EPA advises that should project approval be granted for the proposal, the proponent may need to apply for an environment protection licence for the premises, as the proposal could potentially trigger threshold volumes in Clause 9 (chemical storage), Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) for the proposed storage of 29 tonnes of non-toxic and non-flammable pressurised gas across the site.

If you have any further questions about this matter or require more information on the comments provided, please contact me on 9995 5646.

Yours sincerely

Trevor Wilson
Manager Operations
NSW Environment Protection Authority
Att. A. EPA comments on proposal

Appendix A – EPA comments on EIS

1. Air Quality

The EPA reviewed the Air Quality Report (AQR) and EIS to understand the potential impacts to air quality. It is noted that there was insufficient information in these reports to allow the EPA to provide comment. The EPA makes the following comments:

If the number of test hours for the emergency generators exceeds more than 200 hours per year, this may trigger the scheduled activity 'Electricity Generation' under Cl17, Sch 1 of the POEO Act. The AQR does not appear to identify the onsite diesel storage as a potential air emissions source.

If the proposal triggers the licensing requirement in scheduled premises under Schedule 1 of the POEO Act, the diesel generators will have to meet Group 6 emission limits prescribed under Schedule 2 Part 2 Division 3 of the POEO (Clean Air) Regulation (2022).

The EPA recommends that the proponent provide further information including:

i. Provide more detail to justify the use of the AERMOD model for air quality impacts.

ii. If the proposal is going to trigger a licensing requirement under schedule 1 of the POEO Act, the Proponent should evaluate the in-stack concentrations for the diesel generators for all relevant air pollutants and demonstrate compliance with Schedule 2 Part 2 Division 3 Group 6 of the POEO (Clean Air) Regulation (2022).

2. Greenhouse Gas Emissions

Estimated GHG emissions trigger additional requirements under the Draft Greenhouse Gas Assessment Guide for Large Emitters

The EPA notes that in Table 24 of the GHG report, the estimated Scope 2 GHG emissions for the first three operational years are above the 25,000 tonnes of CO_2-e per annum threshold in the large emitters guide. Therefore, this proposal triggers the requirement to prepare a GHG mitigation plan and Climate Change Mitigation and Adaptation Plan (CCMAP).

The EPA recommends that the proponent provide the including:

i. The GHG assessment should be revised to address the requirements outlined in the Draft Greenhouse Gas Assessment Guide for Large Emitters.

If the proposal is anticipated to emit 25,000 tonnes or more of scope 1 and 2 emissions (CO_2-e) in any financial year during the operational life of the project, the proponent should provide:

- A GHG Mitigation Plan prepared in accordance with the most recent version of the EPA's large emitters guide.
- A Climate Change Adaptation Plan (CCAP) that incorporates the recommended components provided below.

The Climate Change Adaptation Plan should incorporate the following components:

i. A climate change risk assessment that addresses predicted climatic changes and the potential impacts of climate hazards on the environmental performance of the project.

Notes:

- A climate hazard is defined as a physical event (hydro-meteorological or oceanographic) that can harm human health, livelihoods, or natural resources. These could be direct climate hazards such as flooding of a sewage treatment plant, causing water pollution to nearby waterways, or indirect hazards such as a drought, where water is not available for dust suppression.
- A climate risk is the potential for adverse consequences for human or ecological systems from climate hazards (adapted from IPCC).
- The risk assessment must consider AdaptNSW regional climate change projections, for the near future and for the life of the project.
- Regional climate change projections are available on the AdaptNSW website.

ii. An assessment of measures to reduce climate risk, including:

   i. a description of measures that would be implemented to reduce likely climate change risks and potential impacts on the environmental performance of the project.

   ii. an assessment of:

   - the likely effectiveness of these measures
   - whether these measures will remain effective over time as climate change risks increase
   - whether contingency plans will be necessary to manage any residual risks.

   iii. if contingency measures are deemed necessary under (ii) above, a description of how the project is designed so that these contingency measures can be readily implemented if and when necessary.

iii. A description of how the effectiveness of measures to reduce climate risk will be monitored over time, including:

   iv. a description of metrics that will be used to periodically evaluate the effectiveness of the adaptation management measures.

   v. a description of the measures that would be implemented to monitor and periodically report on against these metrics.

iv. A timetable for review of the project's Climate Change Adaptation Plan that reflects the project's lifespan and incorporates at each review the latest knowledge about predicted climate risks in the short and long term.

Notes:

Further guidance on considering climate adaptation can be found in the following resources:

- ISO 31000
- ISO/TS 14092
- AS 5334
- Climate Risk Ready NSW Guide (while this guide was developed for NSW Government agencies, the principles, steps and resources may assist the proponent to prepare a Climate Change Adaptation Plan).

There is uncertainty regarding the Scope 1 emissions estimated for the testing regime of the emergency generators

Table 19 of the GHG report indicates that the estimated Scope 1 GHG emissions for the operational stage of the project (50 years) is 446 tonnes of CO_2-e. From this total, 262 tonnes of scope 1 emissions correspond to testing activities. However, no detailed information regarding the assumptions made and input data used were provided in the GHG report. The EPA considers that additional information should be provided so the EPA may verify results and conclusions included in the GHG assessment.

ii. It is recommended that the Proponent provides additional information to demonstrate that the estimated Scope 1 emissions are representative of the proposed diesel generator testing regime. All input data and assumptions must be provided and robustly justified.

3. Noise and Vibration Impacts

The Noise & Vibration Impact Assessment (NVIA) considers the construction and operational phases of the development.

Construction Phase

The NVIA identifies noise levels during the construction phase of the development that are likely to exceed the Noise Management Levels (**NMLs**) at the sensitive receivers without the adoption of mitigation measures. If the proposal is approved, there should be a thorough consideration of feasible and reasonable mitigation that is specific to the proposal to minimise noise from the construction works.

The EPA recommends that the proponent provide the including:

i. The proponent must prepare and implement a detailed Construction Noise Management Plan (CNMP), prior to commencement of construction activities, that includes but is not necessarily limited to;
   - identification of each work area, site compound and access route (both private and public)
   - identification of the specific activities that will be carried out and associated noise sources at the premises and access routes,
   - identification of all potentially affected sensitive receivers,
   - the construction noise and vibration objectives identified in the Environmental Assessment,
   - assessment of potential noise and vibration from the proposed construction methods (including noise from construction traffic) against the objectives identified in the Environmental Assessment,
   - where the objectives are predicted to be exceeded an analysis of feasible and reasonable noise mitigation measures that can be implemented to reduce construction noise impacts,
   - description of management methods and procedures and specific noise mitigation treatments that will be implemented to control noise and vibration during construction, including the early erection of any operational noise control barriers,
   - procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity,
   - measures to monitor noise performance and respond to complaints.

Operation Phase

The NVIA provides that the standard operation and generator testing scenarios for the proposal do not exceed the relevant noise criteria and will not result in any potential noise impact on the community. The predicted noise levels for standard operation and generator testing will comply with:

- the night-time criteria for both and standard and enhanced weather conditions; and
- the daytime criteria for the generator testing operation.

The EPA notes that the emergency operations scenario (when all generators are operating due to a power failure) has not been assessed against the standard operation noise criteria. This is due to the low likelihood of this event as the if a grid power failure was to occur, the duration of an outage is expected to be hours rather than days. However, since it would be in a situation where there is a power outage (i.e. in an emergency and used temporarily) any decision by the EPA to apply noise limits in such a situation would be made following a review of the assessment of mitigation measures implemented onsite.

The EPA recommends that the following:

ii. Should the proposal be approved, a condition should be included that provides that no more than one standby generator can be undergoing routine testing at a time.
iii. Select equipment with sound power levels no more than values as listed in Table 16 of the NVIA.
iv. Plant roof screens and louvres should be incorporated as described in Figure 3 and Figure 4 of the NVIA.
v. Generators should be attenuated as per the recommendations provided in Table 15 of the NVIA.
vi. Load banks and water-cooled chillers are to be contained within an acoustic enclosure.
vii. Adoption of all other noise mitigation measures provided in Table 15.

4. Lithium Battery Storage

The EPA has reviewed the Preliminary Hazard Analysis Report and notes that 432 tonnes of lithium batteries will be stored onsite. Lithium batteries can present a fire risk.

Should the proposal be approved, the EPA recommends the following conditions of consent:

i. When defective or out of date batteries are replaced, they must be disposed of within 48hrs to prevent stockpiling of old batteries onsite.
ii. A routine maintenance and inspection protocol for lithium batteries should be implemented, including a protocol to address defects/battery replacement.
iii. Emergency fire response should include consideration of the most appropriate fire-fighting equipment and methods based on the hazards that lithium batteries present.
iv. Lower explosive limit (LEL) and temperature alarms must be installed to sense thermal runaway as proposed in Section 9.3.2.

5. Diesel Storage

In reviewing the Preliminary Hazard Analysis Report, the EPA notes that 1,137 tonnes of diesel will be stored in above ground tanks**,** which will not trigger the requirement of environment protection licence for the premises, pursuant to Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) for Chemical Storage.

The EPA recommends that the proponent provide the including:

i. Additional information on how the diesel storage tanks will be filled, including the location of the fill points, whether there is any secondary containment and/or covered and whether fill protection controls such as shut off valves and level alarms will be installed.

Should the proposal be approved, the EPA recommends the following conditions of consent:

ii. That tanks should be either belly (within generators) or double skinned above-ground.
iii. Secondary containment or stormwater cut-off should be considered in the event of a spill of a belly tank.
iv. Fuel storage, including secondary containment and fill points, must comply with AS 1940:2017.