IGS INTEGRATED GROUP SERVICES

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Julius Avenue Data Centre

Backup Power Summary

ISPT

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Document Control

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FINAL ISSUE

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1. PREFACE

1.1 Executive Summary

This *Backup Power Report* has been prepared by IGS on behalf of ISPT to accompany a detailed State Significant Development Application (SSDA) for the Julius Avenue Data Centre development at 6-8 Julius Avenue, North Ryde. This report specifically responds to the relevant items within the table below from the SEARs provided by NSW DPHI on 20 February 2025.

Further, this report covers additional assessment requirements specified in the SEARS Cover Letter provided by NSW DPHI on 20 February 2025 which are also included in the table below.

TABLE 1: REPORTING OBLIGATION			
SEARs Ref.	**Issue**	**Matters to Address**	**Consultant**
10	**Back-up Power System** • **Technical Note**	• Provide a detailed overview of any proposed back-up power system, including the scale and capacity of the system, and any associated testing procedures (frequency and duration). • Provide detailed justification for the proposed back-up power system, including alternatives considered. **Additional Assessment Matter** • The Technical Note must include the following: • include a comprehensive options analysis of all commercially available cooling (Refer *ESD Report*) and back-up power systems • provide a detailed overview of the proposed data hall cooling system including number and details of associated plant and equipment, and the energy and water demands of the proposed data hall cooling system • provide demonstration the development can achieve a NABERS 3 stars energy rating or higher, including the Power Usage Effectiveness (PUE) calculations of plant and equipment required for the operation of a data centre.	IGS

This report concludes that the proposed data centre development is suitable and warrants approval subject to the implementation of the following mitigation measures.

- Acoustic attenuation on generator engine equipment
- Limiting testing frequency

Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

Backup power is required for the proposed mission critical facility as outlined in Section 3. While alternatives have been considered in Section 4, ultimately the site will be supported by backup diesel generators housed within acoustic treated plantrooms. Considerations for design have been outlined in Section 5 in terms of the generator itself, acoustics and the fuel used. The exact frequency and duration of testing is not known at this stage as this varies slightly between suppliers but information has been provided within Section 5 to provide the most likely testing frequency and duration based on review of data across the primary generator manufacturers.

2. INTRODUCTION

2.1 The Site

The Site is identified as 6-8 Julius Avenue, North Ryde, legally described as Lot 89 in Deposited Plan 1082131 (the Site). The Site is irregular in shape and is located on the south-eastern side of Julius Avenue, North Ryde.

The Site has a primary frontage of approximately 100m to Julius Avenue and has a partial rear frontage to Richardson Place (cul-de-sac) at the north-eastern corner. The Site has an area of approximately 2.863ha.

The Site is currently vacant. The north-western part of the Site was excavated and cleared of vegetation in 2009 as part of Modified Determination No. 1395/1999 previously approved on the Site.

The Site is zoned E3 Productivity Support pursuant to *Ryde Local Environmental Plan 2014* (RLEP 2014) and is located within the City of Ryde Local Government Area (LGA) which is approximately 15km north-west of the Sydney CBD.

Existing attributes of the Site and surrounding context are noted as follows:

- The Site is generally surrounded to the north-east, north-west, and south-west by commercial uses and E3 Productivity Support zoned land.
- Approximately 150m to the west of the Site is MU1 mixed Use zoned land which contemplates residential development to a height of 95m.
- The Site directly adjoins the Lane Cove National Park to the east and south-east which contains a walking track known as The Great North Walk and a fire trail.
- The Lane Cove River is located approximately 100m to the east of the Site.
- The Site directly adjoins the Ryde City Council Administrative Centre to the east.
- Approximately 500m to the west of the Site is the North Ryde Metro Station.
- The nearest residential development is located approximately 300m to the south-east of the Site on the eastern side of Lane Cove River in Lane Cove North, and 300m to the south-west of the Site on the southern side of Epping Road in North Ryde.

An aerial view of the Site is provided in **Figure 2.1.** below

Figure 2.1. Aerial view of the Site (Source: Nearmap, 2024)

2.2 Proposed Development

The Proposal involves the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre, comprising the following scope of works:

- Site preparation works, including tree removal;
- Earthworks and additional site retaining;
- Infrastructure comprising civil works and utilities servicing;
- Construction of a data centre including the following:
  - Ground level loading dock, services plantrooms and car parking for 38 cars, including 2 accessible;
  - 8 data halls across four (4) storeys with an IT load of 76 MW and a maximum power consumption of 120 MW, plus rooftop plant;
  - Three (3) storey office/front of house building;
  - Five (5) storey enclosed generator gantry to rear of data centre.
- New Ausgrid 132 kilovolt (KV) Sub-Transmission Switching Station (STSS);
- A new pedestrian through-site link from Julius Avenue to Richardson Place; and
- Complementary landscaping and offset planting.

The Proposal includes works as identified in **TABLE 2.1** below.

TABLE 1: DEVELOPMENT PARTICULARS	
Component	**Documentation**
Site Area	28,630sqm
Primary Land Use	Data Centre (16,647 M2 GFA)
Ancillary Land Uses	Office premises (868 M2 GFA)
Gross Floor Area	16,647 M2
Floor Space Ratio	0.58:1
IT Load	76 MW
Maximum Power Consumption	120 MW
Building Height	40m
Car Parking	38 car parking spaces (including 2 accessible)
Landscaping/trees	Total landscaping and tree removal to be confirmed.
Back-Up Generators	48 x 3MW diesel back-up generators (Data Centre) + 1 x 1MW diesel back-up generator (Office)
Dangerous Goods	955kL diesel storage capacity (Data Centre = 12 x 75kL bulk tanks + 48 x 1kL day tanks + Office = 1 x 6kL tank + 1kL day tank)
Estimated Jobs	Total estimated jobs (construction and operation) to be confirmed.

2.3 Planning Framework

Zoning and Permissibility: The Site is zoned E3 Productivity Support under the provisions of RLEP 2014. The proposed use as a data centre is permitted with consent in the E3 Productivity Support zone pursuant to RLEP 2014. The Proposal is also permitted with consent by virtue of being in a prescribed zone pursuant to Chapter 2, Part 2.3, Division 3 of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (the Transport and Infrastructure SEPP).

Approval Pathway: The Proposal is classified as State Significant Development (SSD) on the basis that it falls within the requirements of Section 25 of Schedule 1 of the of *State Environmental Planning Policy (Planning Systems) 2021* (the Planning Systems SEPP), being:

25 Data centres

(1) Development for the purpose of data centres that has a total power consumption of more than the relevant amount.

(2) In this section—

***relevant amount** means—*

(a) for any other development—15 megawatts.

The proposed data centre has a maximum power consumption of 169 megawatts and therefore the consent authority is NSW DPHI.

2.4 Stakeholder Engagement

Stakeholder consultations with Ausgrid are ongoing. Refer to Section 4.2 of the Julius Avenue Data Centre *SEARs Infrastructure Delivery, Management and Staging Plan Report* for further details on stakeholder consultations.

2.5 Methodology

This section outlines the methodology used to define the baseline and undertake the assessment of selection and potential impacts of the proposed backup power system on the surrounding area.

2.5.1 Study Area

he assessment area will be limited to the subject site (including site boundary) and the surrounding roads/buildings.

2.5.2 Method of Assessment

To address the project SEARs, this report has analysed the proposed electrical topology of the site and calculated the individual and aggregate backup power required for the development. The backup power sources have been identified through availability in the market, suitability for Data Centres, and viability for the proposed site. Through vendor discussions and application of Australian design standards, the designs of a generator plantroom and bulk fuel storage have been proposed. The use of prefabricated containerised generator units was considered but proved to be less space efficient than the plantroom option.

2.6 Existing Environment and Considerations

There are no backup power sources known to exist at the current site. While already located in an industrial zone, there are residential properties to the north and south of the site which may be impacted by the proposed site while in construction and in operation.

The noise and emissions from the site backup power generation needs to be considered and mitigated through the design and operation of the site. While individual backup generation sources may produce limited pollution individually, the aggregate contribution of the site to the environment is of particular interest. Refer to Section 5.2 for further details and references to other relevant reports.

3. BACKUP POWER REQUIREMENT

The new development is proposed to be supplied by a new Ausgrid 132kV/33kV Sub-Transmission Switching Station (STSS). The power supply will be distributed within the site via the proponent's own underground electrical infrastructure. The new STSS will only supply this development and not developments in the proximity of the site.

The data centre is a mission critical facility and therefore requires back up generation if there is interruption to the utility supply. The development will be provided with diesel-generators and uninterrupted power supply (UPS) systems. The UPS system is designed to maintain supply between loss of utility and changeover to the generator supply, it is not intended to maintain the full load on site for an extended period. For the purposes of this report, only the diesel-generators are considered as "Backup" power, the UPS and associated battery system are for energy storage and short-term supply only.

Although it is not possible to determine exactly the duration of power outage/damage over a year which would require the standby generators to be in operation, based on the electricity supplier Ausgrid [1], it has been determined that the average unplanned actual system average interruption duration index (SAIDI) of power outage incident over the past 10 years is 74.0 minutes (total cumulative events) of unplanned outages per year per customer – based on year 2013/14 to 2023/24 of SAIDI data. This equates to just over 0.01% of likelihood of occurrence in a year. Ausgrid network and operations covers Sydney, the Central Coast and Hunter regions of New South Wales. However, any interruption without backup power generation on site would be of extreme detriment to the general community through disruption to the internet services facilitated by the data centre in the area.

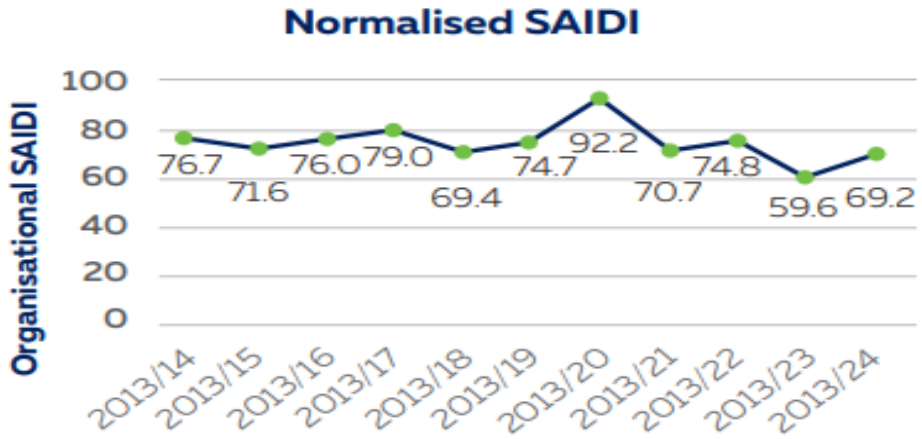


Figure 3.1 - Ausgrid graph of normalised SAIDI data in the past 11 years (Source: Ausgrid, 2024)

4. BACKUP POWER SELECTION

4.1 Selected Power Generation Technology

The proponent has opted for diesel-generator sets for the backup power source for the proposed site. This is based on the most appropriate technology for a mission critical data centre and the market readiness for this technology in New South Wales. Alternatives have been considered for this site, but none are considered viable except for alternative fuel for the generator engines. See Section 4.2 for further details.

4.2 Alternatives Considered

IGS has investigated several options for backup power supply technologies for Data Centre applications in terms of suitability for deployment in data centres, technological maturity in Australia, and viability for the site.

4.2.1 Potentially suitable for deployment

The following table describes the backup supply technology, rates its technology maturity, and provides a recommendation on its suitability for data centres.

As outlined in the table, the following technologies were recommended as potentially suitable for deployment as long duration backup supply in data centres:

- Solar panels with large scale Lithium-ion batteries
- Diesel generators with renewable diesel (HVO) as a fuel
- Open Cycle Gas Turbines (OCGT) or Reciprocating Engines with natural gas as a fuel
- Hydrogen Fuel Generators

Table 4.1 Backup Power Options Analysis Summary

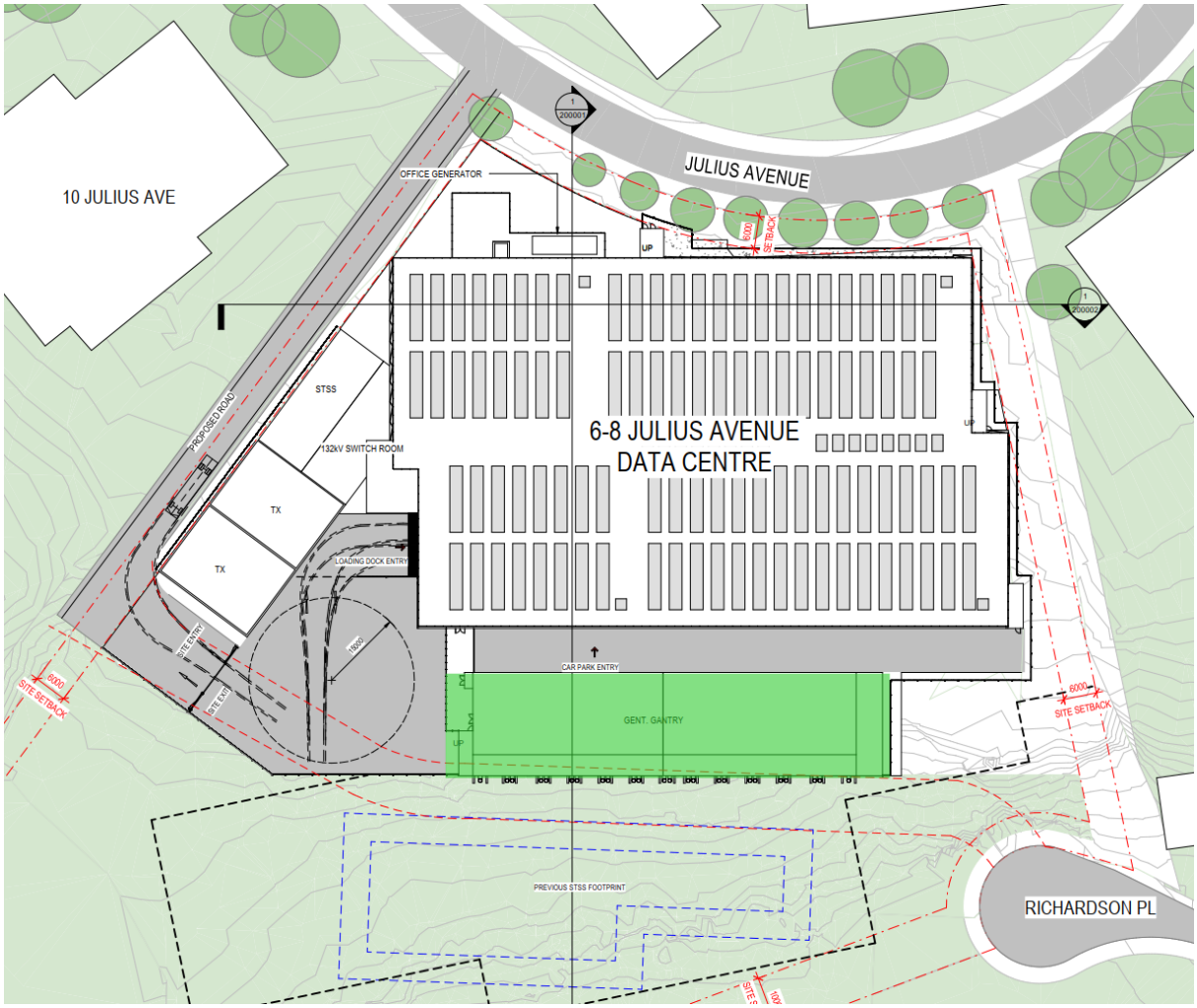
Technology	Consideration	Technology Availability	Feasibility	Comment
Gas Turbine Diesel Generators	Reduce footprint compared to traditional diesel generator.	Yes	Gas turbine takes much longer to start and more suitable at medium voltage network.	Not feasible for this project due to slow start to pick-up the critical load.
Hydrogen Cell	Not considered due to lack of real estate space.	Yes	Very large real estate space required for Data Centre load requirement.	Not feasible for this project due to lack of real estate space in urban areas.
Solar Panels with large scale battery storage	Not considered due to lack of real estate space.	Yes	Very large real estate space required for Data Centre load requirement.	Not feasible for this project due to lack of real estate space in urban areas.
HVO (2nd gen biofuel)	Shelf-life comparable to diesel No special storage required.	Yes	Lack of HVO availability in Australia.	Not feasible due to lack of readily HVO availability in Australia but selected generators will be 'HVO ready'

5. BACKUP POWER GENERATORS

5.1 Site Design

The generators are located adjacent to the southern wing Data Hall they serve in an external six-storey generator multi-storey concrete framed structure (Figure 5.1). The western suite of generators will serve the southern wing Data halls whereas the eastern suite will serve the northern wing.

Figure 5.1 Location of Generators on Proposed Site (Green)



5.2 Generator Design

The proposed site will use forty eight (48) low voltage 3MW generators for the IT load within the Data Halls and one (1) low voltage 1MW generator for the office/FOH and associated safety services. These generators will only operate in the event of a mains utility failure to the respective electrical block or for testing purposes. These generators support a total load of 126MW.

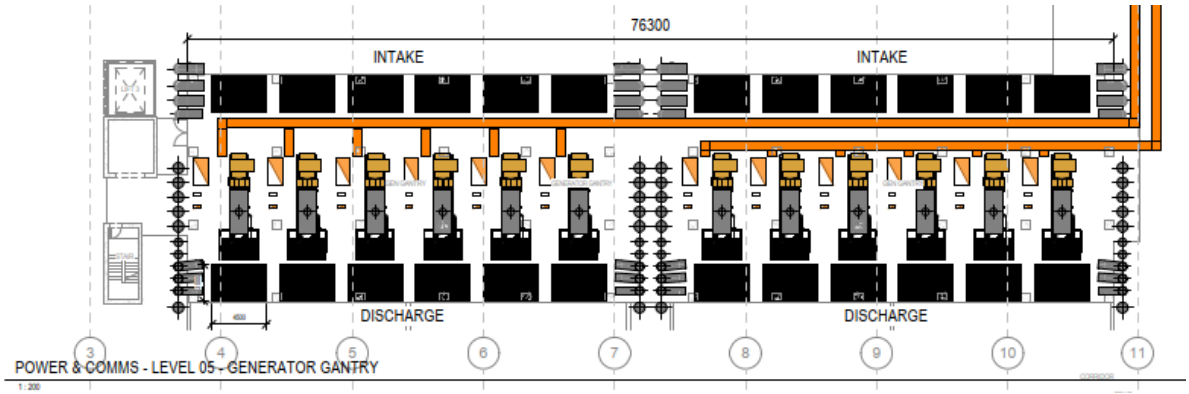
5.2.1 Generator Plantrooms & Enclosure

To improve acoustics, safety, and space efficiency, all Data Hall generators supporting the IT load will be housed in stand-alone four-storey, acoustically treated plantrooms within a post-tensioned reinforced concrete framed structure. Twelve (12) above ground bulk fuel tanks will be located on basement level of the generator multi-storey concrete framed structure to store diesel along with associated pumpsets. Each plantroom contains six generators. The plantrooms will include the following:

- Generator Engine Set
- LV isolator switchboard
- 1,000L day tank
- Control and Power Panels
- Acoustic attenuation for cold air intake, hot air discharge (for ventilation)
- Exhaust Gas Silencer & Flue

Figure 5.2 Typical Data Hall Openset Type Generator

Figure 5.3 Typical Data Hall Generator Plantroom



For final generator flue arrangement refer to architectural renders in Figures 5.4 and 5.7

Figure 5.4 Data Hall Generator Multi-Storey Plantroom – Front Elevation

The office/FOH generator will be housed in an acoustically treated enclosure and mounted on the roof of the office/FOH building. One (1) above ground bulk fuel tank will be located in the ground floor level in a dedicated tank room to store diesel along with associated pumpset.

Figure 5.5 Typical Office /FOH Generator Enclosure

5.2.2 Acoustics

At this early stage the initial acoustic requirements are as follows. For preliminary results and details on the noise modelling for the site (including the generator plantroom) refer to *Noise and Vibration Impact Assessment.*

Table 5.1 Initial Acoustic Requirements

Item	Sound Power Level (SWL)	Sound Pressure Level (SPL) @ 1m	Sound Pressure Level (SPL) @ 7m
Generator Discharge (assuming 6m x 5m louvre)	91 dB(A)	75 dB(A) @ 1m	66 dB(A) @ 7m
Generator Intake (assuming 6m x 5m louvre)	95 dB(A)	79 dB(A) @ 1m	70 dB(A) @ 7m

5.2.3 Emissions

For further details please refer to the *Air Quality Impact Assessment.*

5.3 Fuel on Site

The generator engines on site will use diesel fuel to generate power. Fuel tanks will be designed to comply with AS 1940.

5.3.1 Data Halls

All Data Hall 3 MW generators that service the IT load will be serviced from above ground bulk fuel tanks located in an enclosed ground level plantroom providing 24 hours capacity for fuel storage. All 3MW generator plantrooms will be located on a 4-level multi-storey concrete framed structure where four generators (located on each level and directly above each other) are provided with fuel from a shared bulk fuel tank on the ground level (refer to Figure 5.6). The shared bulk fuel tank will provide 24 hours of fuel for all four (4) generators at full load

The fuel storage is provided by bulk storage tanks. Table 5.2 below summarises the sizing of the fuel storage.

The fuel efficiency of generators varies with load. The hyperscale fuel system is based on the fuel consumption of the CATC175-20. Calculation are based on the following rates of fuel consumption.

- 762.3 l/h at 100% load (from the manufacturers data)
- 577.9 l/h at 75% load (from the manufacturers data)
- 636.9 l/h at 83% load (linear interpolated from the 75% and 100% consumption)

The generators are less efficient at 100% load, making this the governing case for fuel consumption. However, more generators running results in more fuel utilised from day tanks. The fuel consumption calculations have considered two load cases as provided in Table 5.2. However, based on the assumed generator, there is negligible difference between the load cases.

The following table provides the storage requirements on the proposed design.

Table 5.2 Data Hall Fuel Tanks

	4 @ 100%	4 @ 83%	Comment
Fuel Consumption Rate Per Generator	762.3 l/h	636.9 l/h	Based on CAT C175-20 at Full Load
Backup Required	24 hours	24 hours	
Consumed Fuel per Genset	18,295 litres	15,285 litres	
Number of Generators per Rise	4	4	Generators fuel systems are vertically connected so that any bulk tank failure does not disrupt an entire data hall
Total Data Hall Fuel Storage	73,180 litres	61,140 litres	~62,203 / 51,969 tonne

For the purpose of SEPP 33 planning approvals, the quantity of diesel in the SEARs Infrastructure Requirements Report is 948 kL or 806 tonnes.

Table 5.3 Data Hall Fuel Storage

Area	Fuel Storage	Comment
Riser 1	79 kL	4 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 2	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank &4 x 1,000L Day Tanks
Riser 3	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 4	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 5	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 6	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 7	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 8	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 9	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 10	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 11	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Riser 12	79 kL	6 x 3MW Gensets with 1 x 75kL bulk tank & 4 x 1,000L Day Tanks
Total	**948 kL**	**~806 tonne**

The tank sizing is based on standard-sized above ground self-bunded (doubled walled) tank. The Tank Solutions SBW-90 is a self-contained tank with a capacity of 90,000 litres and dimensions 11.1 L x 3.5 W x 3.9 H. It is proposed that custom made tanks with a capacity of 75kL will be provided.

[1] A distributed redundant system in a “6 makes 5” (6M5) system means five (5) off systems will support 100% of the load with the 6th unit/system being redundant. Therefore, one (1) unit/system can fail without loss of the load.

Figure 5.6 Data Hall Generator Multi-Storey Plantroom – Ground Level

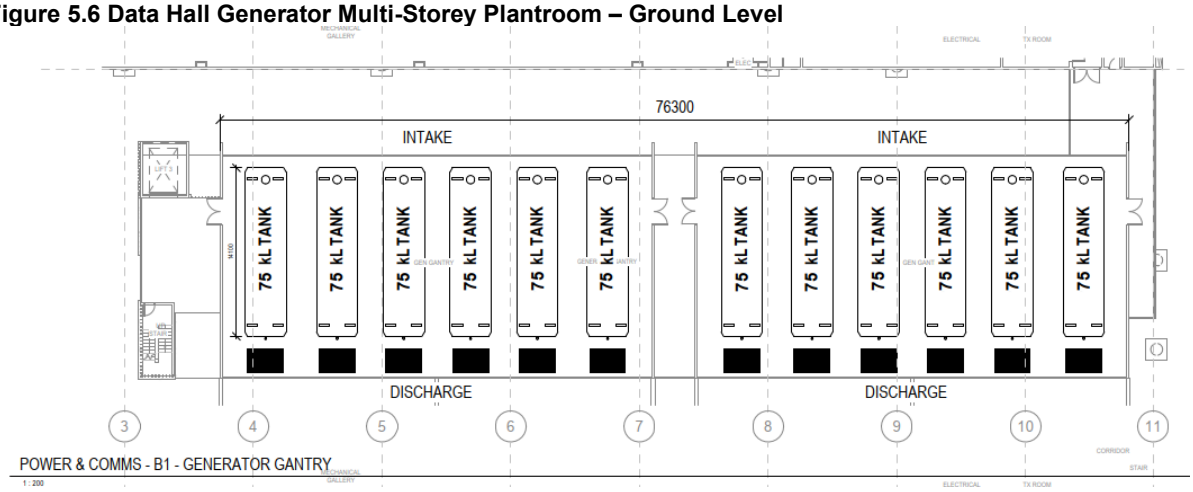


Figure 5.7 Data Hall Generator Multi-Storey Plantroom – Western Perspective

5.3.2 Office/FOH

For the office/FOH building, the 1 MW generator will be serviced from an above ground bulk fuel tank providing 24 hours fuel storage. The generator will be located on the roof of the office/FOH building with fuel from a bulk fuel tank located in the ground floor in a tank room. The proposed bulk tank is double-walled and 4-hour fire rated proprietary tank with 6,000L capacity.

The following table provides the storage requirements on the proposed design.

Table 5.4 Office/FOH Fuel Tanks

	Quantity	Comment
Fuel Consumption Rate Per Generator	226.4 l/h	Based on CAT DE1100 GC at Full Load
Backup Required	24 hours	
Consumed Fuel per Genset	5,433 litres	
Number of Generators	1	N=1 and 0 Redundant
Total Data Hall Fuel Storage	5,433 litres	~4,618 tonne

For the purpose of SEPP 33 planning approvals, the quantity of diesel in the SEARs Infrastructure Requirements Report is 7 kL or 5.95 tonnes.

Table 5.5 Office/FOH Fuel Storage

Area	Fuel Storage	Comment
Office/FOH	7 kL	1 x 1MW Genset with 1 x 6,000L bulk tank & 1,000L Skid tank
Total	**7 kL**	**~5.95 tonne**

The tank sizing is based on standard-sized bulk tank with generator belly tank. The SuperVault SVR-6000 is 240/240/240 fire rated with a capacity of 6,000 litres and -self-bunded (double walled) tank with dimensions 2.2 W x 2.7 L x 2.1 H.

5.3.3 AS 1940 Separation Distances [2]

Section 5.7 of AS 1940:2017 outlines the requirements for separation of above-ground fuel storage tanks. Table 5.3 of AS 1940:2017 sets the requirements for separation between fuel storage tanks, distances to security fence and on-site protected places, where a protected place may comprise any building inside or outside the property boundary. Table 5.4 of AS 1940:2017 sets the requirements for distance to off-site protected places based on the maximum capacity of any storage tank.

Table 5.6 below summarises the assessment results of location and separation of proposed arrangement against the requirements of AS 1940:2017.

Table 5.6 Assessment of Separation Requirements

AS 1940:2017 Requirements	Proposed Arrangement	Assessment Results
Table 5.3 requires a separation distance to other platforms or package storage to be at least 7.5 m.	No other platforms or package storage within vicinity of generator area.	Proposed arrangement meets the requirements of AS 1940:2017.
Table 5.3 requires distances to protected places that are considered '*office buildings, warehouses, manufacturing and processing areas, workshops or amenities blocks on the same premises*' to be calculated based on Table 5.4 but not exceed 7.5 m. Considering 75 kL of diesel per bulk storage tank, Table 5.4 requires minimum distance of approximately 6.2 m.	Diesel storage tanks are proposed to be located more than 8 m from the building external wall.	Proposed arrangement meets the separation requirements of AS 1940:2017.
Table 5.3 requires distance to security fence to be diameter of the tank or 7.5 m, whichever is less, but at least 3 m.	Greater than 7.5 m (approximately 26 m) to security fence on allotment boundary.	Proposed arrangement meets the requirements of AS 1940:2017.
Considering the tanks as horizontal tanks, Clause 5.7.6 of AS 1940:2017 requires a minimum 0.6 m distance between tanks. Considering the tanks are double walled and have integral secondary containment, a spacing of 0.6 m between tanks is also required by Clause 5.9.2 (h) of AS 1940:2017.	Approximately 2.5 m distance between diesel storage tanks.	The distance between tanks meets the requirements of AS 1940:2017.
Table 5.4 requires the distance to off-site protected places to be at least 6.2 m.	Greater than 7.5 m (approximately 35 m) to security fence on allotment boundary.	Proposed arrangement meets the requirements of AS 1940:2017.

5.4 Testing Procedures

The Generators will each be tested to ensue they are functional in the event of a utility failure. Initially all generators as they are installed at the proposed site will undergo commission testing which involves several hours that the generator will run. After the generator is installed and commissioned, regular testing will occur for all generators. For a breakdown of generator testing across the site, refer to Table 5.7 below.

Table 5.7 Proposed Stand-by Generator Maintenance Schedule [3]

Parameter	Detail
Total number of generators to be tested	49 (48 × IT, 1 × 'house')
Testing frequency	Monthly (12 testing periods)
Operational testing hours	Daytime hours (7:00 am to 6:00 pm (Monday to Sunday))
Generators tested simultaneously	Two (one in eastern side, one in western side)
Testing events per period	Up to 25 (24.5)
Duration per test	27 minutes total (22 minutes runtime, 5 mins cooldown)
Total testing time per period	661.5 minutes
Total testing time per year	7 938 minutes
Total testing hours per year	132.3 hours

Generators are tested by connecting to a load bank (equipment that consumes electricity for testing purposes). Only one generator per wing would be tested at any one time (two in total) with two (2) 3MW load banks being proposed on the ground floor of the main building to use for UPS and generator testing. Two (2) generators are proposed to run standard tests at the same time to reduce the total testing time of all generators per annum.

6. CONCLUSION

This report has provided an overview of the proposed diesel backup power system which will support the 126MW of load through 48 no. 3MW generators for the IT load, and 1 no. 1MW generator for the office/FOH load. These generators will be tested at commissioning for several hours each, and subsequently once every month for several hours at a time. Housing these generators inside acoustic-treated plantrooms will mitigate risks of excessive noise pollution in the area. Limiting testing to the frequency mentioned within this report will reduce overall emissions and fuel usage at the site.

Although alternative technologies exist to provide backup power generation, none are viable for the site due to several factors. The main issues for alternatives are market availability and infrastructure readiness to cater for the increase in load, and the space available on site to make alternative options work for a medium-term utility power interruption.

The backup power generation design has been curated to deliver the most viable solution for the proposed site and ensure this state significant development will provide its services as early as possible with minimal impact to the surrounding area and community.

7. REFERENCES

[1] Ausgrid, *Distribution and Transmission Annual Planning Report Summary (DTAPR, December 2024)*

[2] Vector Alliance, “Review of Diesel Fuel Storage Arrangement,” Vector Alliance, ref 24135-003 Rev 2, 27.03.2025.

[3] Northstar, Julius Avenue Data Centre “Air Quality Impact Assessment”, report ref 25.1064.DR1V1, 04.04.2025.