

# SEPP 33 - PRELIMINARY RISK SCREENING

**Macquarie Data Centre  
17-23 Talavera Road North Ryde NSW 2113**

**Prepared for:**

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## BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Macquarie Data Centres Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

## DOCUMENT CONTROL

Reference	Date	Prepared	DRAFT	Authorised
610.30465.00000-R03-v1.5	22 October 2021	Craig Simpson	Jordan Harley	Craig Simpson
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## EXECUTIVE SUMMARY

This SEPP 33 Preliminary Risk Screening Assessment has been prepared by SLR Consulting Australia Pty Ltd on behalf of Macquarie Data Centres (MDC) C/- GIDDIS Project Management.

The following SEPP 33 Preliminary Risk Screening Assessment has been produced to support the Environmental Impact Statement (EIS) prepared by Willowtree Planning PTY Ltd (Willowtree Planning).

The EIS has been submitted to the New South Wales (NSW) Department of Planning, Industry and Environment (DPIE), in support of an application for State Significant Development (SSD), for the construction and operation of a data centre, involving earth works, provision of infrastructure and expansion of an existing data centre at 17 – 23 Talavera Road, Macquarie Park (Lot 527 DP 752035).

The proposal represents an extension to the approved data centre (LDA/2018/0322) to allow for additional data storage capacity at the Site, improving the overall operational efficiencies and provision of technology services to customers and the wider locality.

The proposal involves the construction and operation of an expansion to an existing data centre located at 17-23 Talavera Road, Macquarie Park (Lot 527 in DP 752035), comprising:

- a five-storey building
- ancillary office space and staff amenities
- a back-up power system
- associated infrastructure, car parking, loading docks and landscaping

The Site is located within the City of Ryde Local Government Area (LGA).

The Project seeks to operate 24 hours per day, seven (7) days per week, with the testing of back-up generators (generators) occurring between the hours of 9:00 am to 4:00 pm from Monday to Friday.

The particulars of this proposal are summarised below:

- Minor earthworks involving cut and fill works
- Infrastructure comprising civil works and utilities servicing
- Construction of a five (5) storey building extension, comprising up to:
  - 14 data halls
  - 18 generators
  - fitout of the building for use as a data centre (on an as-needs basis).

The SEPP 33 Preliminary Risk Screening requirements, set out in NSW State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33), are to provide a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is “potentially hazardous” a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).

## EXECUTIVE SUMMARY

The report included details regarding the location and number of back-up generators, diesel fuel storage tanks and lithium-ion batteries to be installed to service the development and the existing facility.

The table below sets out where this information can be found.

**Table 1 Relevant Information**

SEARS Items	Location
Preliminary SEPP 33 Screening	Section 5
Back up generators location & number	Table 3 Diesel Storage Requirements
Diesel storage tanks	Table 3 Diesel Storage Requirements
Lithium ion batteries	Table 6 Estimate of Lithium Ion Battery Storage on Site

It is the conclusion that the proposed development, with suitable engineering and design controls in place, meets all the requirements stipulated by the Department of Planning and Environment, and hence would not be considered to be an offensive or hazardous development on site.

Under the Protection of the Environment Operations Act 1997, Schedule 1, Clause 9(1) 'petroleum products storage', which would include diesel fuel storage, is a Scheduled Activity. Capacity to store greater than 2,000 tonnes requires an environment protection licence from the NSW Environmental Protection Authority (EPA). Under the current design the final storage capacity at 540 tonnes (refer Table 5 for calculation details) is not expected to require an environment protection licence. Further advice on these requirements may be sort from NSW Environmental Protection Authority.

The volume of diesel fuel storage exceeds the manifest quantities for C1 combustible liquids specified in schedule 11 of the Work Health and Safety Regulation 2017. Therefore, Safework NSW must be notified, which will include manifests and lodgement an emergency plan to Fire and Rescue NSW. Further advice on these requirements should be sought from Safework NSW.

Lithium ion batteries are Class 9 Miscellaneous dangerous substances and articles, which are excluded from the SEPP 33 screening process. However, the estimated quantity exceeds the Safework NSW manifest quantity. Therefore, Safework NSW must be notified. Further advice on these requirements should be sort from Safework NSW. Hazards associated with these lithium ion batteries related to fires were to be covered in a separate Fire Safety Strategy for the development.

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# 1 Introduction

SLR Consulting Australia Pty Ltd (SLR) have been appointed by Macquarie Data Centres (MDC) to undertake the SEPP 33 Preliminary Risk Screening Assessment for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site at 17-23 Talavera Road, Macquarie Park (the Site). The site is within the local government area of City of Ryde Council (Council).

This Preliminary Risk Screening assessment forms part of the supporting documentation for the Development Application (DA) for the Proposal in accordance with Council's Requirements, which included the following in relation to Land Use Safety:

*A preliminary risk screening completed in accordance with Applying SEPP 33 - Hazardous and Offensive Development Application Guidelines (DoP 2011). Should the screening indicate that the development is "potentially hazardous", a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011). The PHA should estimate the cumulative risks from the existing and proposed development.*

The purpose of this report is to provide a screening assessment of the hazards associated with the storage of dangerous goods on the site in accordance with NSW State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33). The purpose of the initial SEPP 33 risk screening is to exclude from more detailed studies those developments which do not pose significant risk.

Where SEPP 33 identifies a development as potentially hazardous and/or offensive, developments are required to undertake a Preliminary Hazard Analysis (PHA) to determine the level of risk to people, property and the environment at the proposed location and in the presence of controls.

If the risk levels exceed the criteria of acceptability and/or if the controls are assessed as inadequate, or unable to be readily controlled, then the development is classified as 'hazardous industry'. Where it is unable to prevent offensive impacts on the surrounding land users, the development is classified as 'offensive industry'.

A development may also be considered potentially hazardous with respect to the transport of dangerous goods. A proposed development may be potentially hazardous if the number of generated traffic movements (for significant quantities of hazardous materials entering or leaving the site) is above the cumulative annual or peak weekly vehicle movements. **Table 5** in the document Applying SEPP 33: Hazardous and Offensive Development Application Guidelines (NSW Department of Planning, 2011), outlines the screening thresholds for transportation.

This report presents information pertaining to the presence of any hazardous materials, flammable substances, and compressed or liquefied gases proposed to be stored or handled in relation to the Development Site, including on site storage, or transported to or from the site.

## 1.1 Secretary's Environmental Assessment Requirements

This SEPP 33 Preliminary Risk Screening Assessment is prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs). The SEARs for the proposal outline Key Issues to be addressed as part of this EIS and includes:

SLR have been appointed by Macquarie Data Centres (MDC) to undertake the SEPP 33 Preliminary Risk Screening Assessment for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site.

The following SEARS are addressed within **Table 2** of this report.

**Table 2 SEARS Requirements**

SEARs Items	Secretary's Environmental Assessment Requirements	Response
Key Issue	<p><b>Hazards and risk</b> – including:</p> <ul style="list-style-type: none"> <li>- a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is “potentially hazardous” a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011)- details regarding the location and number of back-up generators, diesel fuel, storage tanks and lithium-ion batteries to be installed to service the development</li> </ul>	<p>This report and specifically: <b>Sections 2.2, 3.1 &amp; 3.2</b></p>

## 2 PROPOSED DEVELOPMENT

### 2.1 Site Description

The site is described as Lot 527 DP 752035, commonly known as 17 – 23 Talavera Road, Macquarie Park. The site has a total area of approximately 20,000m<sup>2</sup>, with access achieved via Talavera Road.

The site forms part of the Macquarie Park Corridor, which is the strategic centre of Macquarie Park, being a health and education precinct and an important economic and employment powerhouse in Sydney's North District.

The site is described through its current commercial setting as an existing Data Centre (LDA/2018/0322), adjoining surrounding commercial premises along Talavera Road, and forming part of the wider Macquarie Park Corridor.

The site is situated approximately 12.5 km northwest of the Sydney CBD and 11.3 km northeast of Parramatta. It is within close proximity to transport infrastructure routes (predominantly the bus and rail networks), as well as sharing direct links with the wider regional road network, including Talavera Road, Lane Cove Road, Epping Road and the M2 Motorway.

These road networks provide enhanced connectivity to the subject site and wider locality. Additionally, the site is located within close proximity to active transport links, such as bicycle routes, providing an additional mode of accessible transport available to the subject site.



**Figure 1 The site 17 – 23 Talavera Road, Macquarie Park, being Lot 527 DP 752035**



## 2.2 Overview

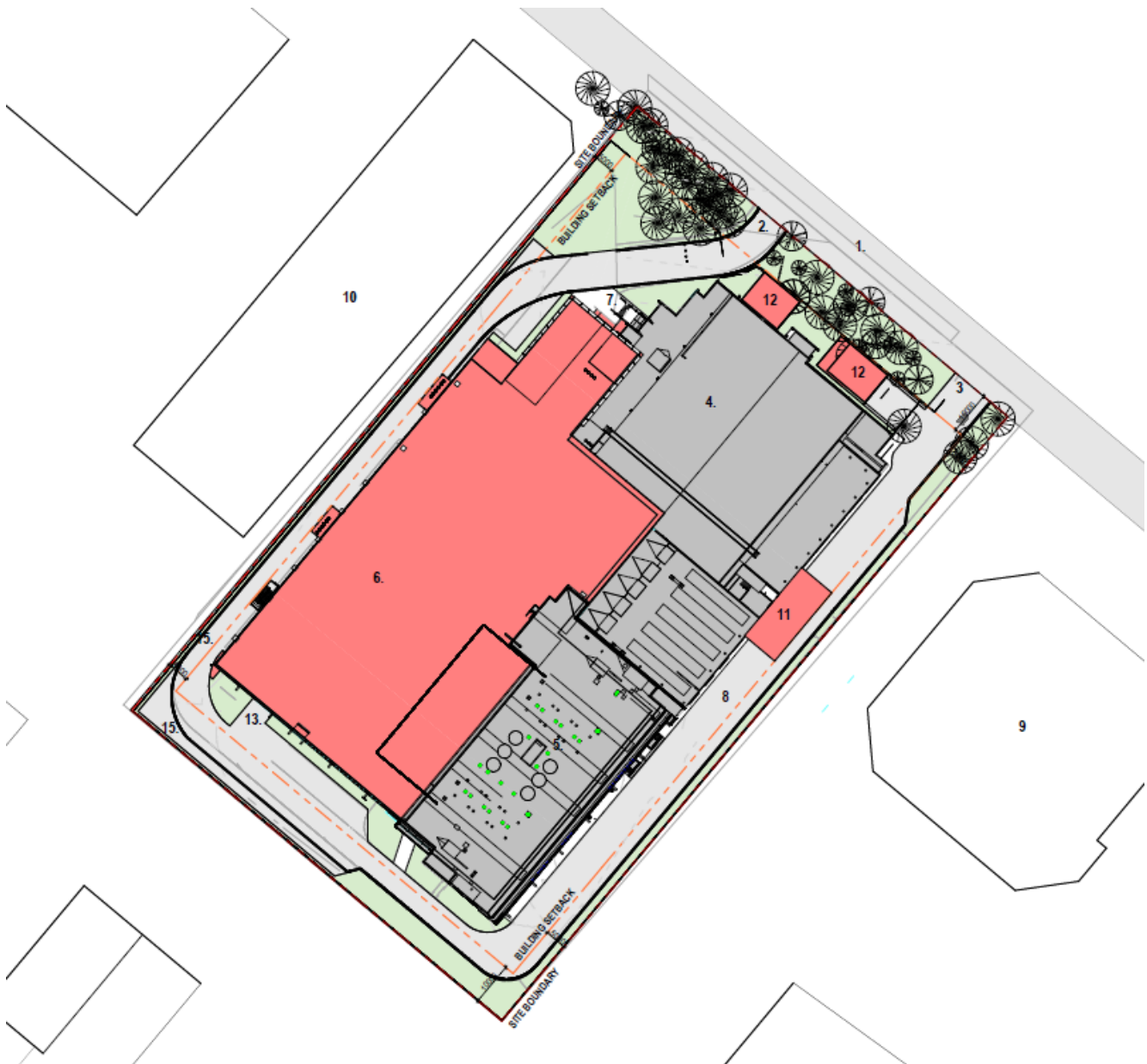
The Macquarie Data Centre facility will cater for the storage of data, essentially large halls with server racks. There will be no processing related to this facility, other than electronic storage of data.

The site consists of an existing data centre buildings, IC2 and IC3e (Stage 1), to which the footprint is to be expanded by the construction of IC3w (Figure 2). The site includes administrative offices, internal roads and car parks.

The site plan has been set out in **Figure 2**.



**Figure 2 Site layout**



No Dangerous Goods will be required for the operation of the site.

The only potentially hazardous material associated with the facility will be diesel fuel for the back-up generators. The total number of generators for the site will be 34, situated in both the existing buildings, being IC2 and IC3e (16 generators) and the proposed building IC3w (18 generators). The fuel on the site is made up of the bulk fuel capacity plus the capacity in the generator day tanks for both the existing IC2 and proposed IC3w. The total site bulk fuel storage is 638,400 L.

Diesel fuel storage shall be limited to generator day tanks and the bulk fuel storage systems. The breakdown of this storage requirements has been set out in **Table 3** below.

**Table 3 Diesel fuel storage requirements<sup>1</sup>**

	IC3w (proposed)	IC3e (existing)	IC2 (existing)	
<b>Bulk Tank Capacity</b>	100,00	60,000	90,000	
<b>Quantity Ltr</b>	400,000	60,000	90,000	
<b>Bulk Tanks</b>	4	1	1	
<b>Local Day Tanks Ltr</b>	18	8	8	
<b>Day Tanks Ltr</b>	1,000	7,800	1,000	
<b>Total Day Tanks Ltr</b>	18,000	62,400	8,000	
<b>Total Capacity</b>	418,000 L	122,400 L	98,000 L	638,400 L

Note: <sup>1</sup> Source GIDDIS Project Management

The proposed data centre has established procedures for the safe delivery and handling of fuel.

Diesel fuel top up would occur infrequently to ensure stocks remain at the required level. Replenishment of stock in significant quantities would only occur in the event of a major power failure to the site.

Generators are required to ensure ongoing operation if the mains grid electricity supply is interrupted for more than a few minutes. The function of the standby generators is to provide power when there is an unexpected interruption of mains grid electricity.

During the operational phase, the generators would be a source of products of combustion while undergoing testing and in the event of a power failure. In general, power interruptions last anything from a few seconds to a few hours and therefore even when required the generators would only operate for a short time.

**Table 4 Proposed Generator Testing Regime**

Parameter	Value
No of generators	34 (inclusive of 16 existing and 18 proposed)
Test frequency per generator	Quarterly
Run time per test	60 minutes
No of generators per test	1 - 5
Number of tests per day	8
Testing schedule	Monday to Friday (9:00 am to 4:00 pm)
Total testing time for all generators	132 hours / annum (based on 1 generator per test)

As outlined in **Table 4**, testing of generators is proposed to be conducted for 60 minutes between 9:00 am to 4:00 pm, Monday to Friday. No more than five generators will be tested per day and the five generators will not necessarily be tested concurrently, noting that in previous discussions with the EPA on annual operating hours of diesel generators, they have indicated that time spent testing more than one generator concurrently will be counted once, i.e. not hours multiplied by number of generators running. The total test time for all generators (existing and proposed) is therefore estimated to be 132 hours or less per year.

In order to assess the worst-case scenario, the modelling undertaken for the operational scenario conservatively assumes that:

- Each generator would be tested for a period of 60 minutes.
- Five generators will be tested concurrently within the same hour.
- Testing of generators is conducted every hour of the year between 9:00 am and 5:00 pm, i.e. one additional hour.

## 2.3 Hours of Operation

The proposed development will operate 24 hours a day, seven days a week.

## 2.4 Vehicular Access and Parking

Access to the Development Site will be via Talavera Road (refer **Figure 1**).

# 3 PRELIMINARY RISK SCREENING

Preliminary risk screening of the proposed development is required under SEPP 33 to determine the need for a Preliminary Hazard Analysis (PHA). The preliminary screening assesses the storage of specific dangerous goods classes that have the potential for significant, off-site effects. Specifically, the assessment involves the identification of classes and quantities of all dangerous goods to be used, stored or produced on site with respect to storage depot locations as well as transported to and from the site.

## 3.1 Dangerous Goods Storage

There are no Dangerous Goods to be used or stored at the facility and therefore the facility is not considered potentially hazardous with regards to Dangerous Goods in accordance with the thresholds pertaining to SEPP 33.

Diesel fuel to be stored on site, is not classed as a Dangerous Goods, but is classed as a C1 Combustible Liquid provided no flammable liquids are stored with the diesel.

SLR has been advised that no flammable liquids will be stored with the diesel. Therefore, in the proposed development diesel will be classed as a C1 Combustible Liquid.

Note that C1 combustible liquids are not a dangerous good under UN (United Nations) classification. However, they are defined as dangerous goods under NSW workplace legislation. Where dangerous goods are used or stored in volumes greater than the manifest quantities specified in schedule 11 of the Work Health and Safety Regulation 2017, Safework NSW must be notified, which will include manifests and lodgement an emergency plan to Fire and Rescue NSW. Further advice on these requirements should be sort from Safework NSW.

It should be noted that the Protection of the Environment Operations Act 1997, Schedule 1, Clause 9(1) indicates that 'petroleum products storage', which would include diesel fuel storage, is a Scheduled Activity. Capacity to store greater than 2,000 tonnes requires an environment protection licence under the Protection of the Environment Operations Act 1997 (POEO Act), from the NSW Environmental Protection Authority (EPA).

The proposed inventory of diesel, and classification is provided in **Table 5** below.

**Table 5 Classification of Diesel in Storage\***

Substance	Hazardous Class	Packing Group	Combustible Liquid Class	Total Storage on Site	Manifest Quantity	SEPP 33 Level Findings
Diesel	Not applicable	-	C1	638,400 litres	100,000 kg or litres	<b>Safework NSW notification required</b>
				Equivalent to 540 tonnes <sup>^</sup>	2,000 tonnes	Environmental Protection Licence under (POEO Act) not required from NSW EPA

\* Information provided by GIDDIS Project Management : <sup>^</sup> Conversion based on 1,182 L per tonne for automotive diesel, source: Department of the Environment and Energy (2017).

Lithium ion batteries are Class 9 Miscellaneous dangerous substances and articles, which are excluded from the SEPP 33 screening process.

Hazards associated with these lithium ion batteries relate to fires and therefore were to be covered in the Fire Safety Strategy for the development.

In the proposed development, lithium ion batteries will be contained in Vision Revo Le TP200 Battery cabinets. Estimates of total quantity of lithium ion batteries are based on the weight of cabinets (900kg) and 304 cabinets in IC3w. This gives an estimate of total quantity of lithium ion batteries as 273,600 kg for IC3w. The existing IC2 and IC3e do not have lithium ion batteries. Note this is likely to be an overestimate as the supplier details do not specify weight of lithium and therefore the total weight may include non lithium components, such as wire, frames, etc. (See **Table 6**.)

**Table 6 Estimate of Lithium Ion Battery Storage on Site**

Substance	Hazardous Class	Packing Group	Total Storage on Site	Manifest Quantity	SEPP 33 Level Findings
Lithium Ion Batteries	Class 9	-	273,600 kg	10,000 kg or litres	<b>Safework NSW notification required</b>

## 3.2 Dangerous Goods Transport

There will be no transport of Dangerous Goods associated with the facility.

## 4 PRELIMINARY RISK SCREENING CONCLUSION

This report has reviewed and applied the requirements of SEPP 33 in order to determine whether the policy applies to the Project.

The SEPP33 screenings for storage of dangerous goods indicate that the development may not be classified as a hazardous or offensive industry.

It is the conclusion that the proposed development with suitable engineering and design controls in place, meets all the requirements stipulated by the Department of Planning and Environment, and hence would not be considered, to be an offensive or hazardous development on site.

Under the Protection of the Environment Operations Act 1997, Schedule 1, Clause 9(1) 'petroleum products storage', which would include diesel fuel storage, is a Scheduled Activity. Capacity to store greater than 2,000 tonnes requires an environment protection licence from the NSW Environmental Protection Authority (EPA). Under the current design the total site storage capacity at 540 tonnes is not expected to require an environment protection licence. Further advice on these requirements may be sort from NSW Environmental Protection Authority.

The volume of diesel fuel storage exceeds the manifest quantities for C1 combustible liquids specified in schedule 11 of the Work Health and Safety Regulation 2017. Therefore, Safework NSW must be notified, which will include manifests and lodgement an emergency plan to Fire and Rescue NSW. Further advice on these requirements should be sort from Safework NSW.

Lithium ion batteries are Class 9 Miscellaneous dangerous substances and articles, which are excluded from the SEPP 33 screening process. However the estimated quantity exceeds the Safework NSW manifest quantity. Therefore, Safework NSW must be notified. Further advice on these requirements should be sort from Safework NSW.

Hazards associated with these lithium ion batteries related to fires were to be covered in a separate Fire Safety Strategy for the development. The finding of the Fire Safety Strategy might indicate a more detailed Preliminary Hazard Assessment may be required.

## 5 REFERENCES

Commonwealth Government, 2020, Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Number 7.7).

Department of the Environment and Energy (2017), Guide to the Australian Energy Statistics 2017, Canberra, August.

Department of Planning NSW, 2011, Applying SEPP 33 - Hazardous and Offensive Development Application Guidelines.

NSW Government Code of Practice Managing Risks of Hazardous Chemicals in the Workplace, August 2019

NSW Government Notifications of Schedule 11 Hazardous Chemicals and Abandoned Tanks – Guidance Material. Safework NSW

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Planning NSW, 2011 Risk Criteria for Land Use Safety Planning – Hazardous Industry Planning Advisory Paper No 4, New South Wales Government  
Planning NSW, 2011 Hazard Analysis – Hazardous Industry Planning Advisory Paper No 6, New South Wales Government



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