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24 April 2019

Greg Lin
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Dear Greg

State Environmental Planning Policy No.33 Assessment - Sydney Fish Markets Refrigeration System

In accordance with AECOM's scope of consulting services under '*Building Services – Sydney Fish Markets' Condition of Agreement between Urban Growth NSW and AECOM Australia Pty Ltd (AECOM)'* 7/9/17, we have commissioned the attached SEPP 33 assessment for inclusion in the Development Application submission.

Yours faithfully

Mobile: +61 401 650 794

RiskCon Engineering

CONSULTANTS ADVICE NOTICE

Project:	New Sydney Fish Markets – SEPP33	**Ref No.:**	RCE-19038
From:	Steve Sylvester	**Date:**	18 April 2019
		Issue:	B – Issued For Review

	Attention	**Company**	**Email/Fax**
To:	Toni Scott	AECOM	Toni.scott@aecom.com
cc:			

RE: State Environmental Planning Policy No.33 Assessment – Sydney Fish Markets Refrigeration System

1. INTRODUCTION

1.1. Background

As part of the development of the new Sydney Fish Market it is proposed to install refrigeration systems that will serve the various cool rooms, freezer rooms and ice making systems within the facility. AECOM has been tasked with the refrigeration system design, which will use an ammonia based refrigerant. As ammonia is classified as a Class 2.3 gas, under the Australian Dangerous Goods Code (Ref.1), it is necessary to review the quantities of gas proposed for use at the site and determine whether State Environmental Planning Policy No.33 – hazardous and offensive Developments (SEPP33) applies.

AECOM has commissioned RiskCon Engineering Pty Ltd (RiskCon) to assist with the SEPP33 assessment and to report on the finding of the study for submission with the project development application (DA).

1.2. Objectives

The objectives of the study are to:

- determine whether SEP33 applies to the proposed new Sydney Fish Markets based on the quantity of Dangerous Goods proposed for storage at the sites; and
- report on the findings of the study in support of the Development Application.

1.3. Scope

The scope of work is for a SEPP33 assessment of the quantities of Dangerous Goods (DGs) proposed for storage in nominated locations within the new Sydney Fish Market and to determine whether the SEPP33 policy applies to the facility. In addition, a review of the quantity of vehicle movements as a result of the DGs being stored will be assessed to determine whether additional traffic assessment is required. The assessment does not include any other sites or the preparation of any other planning studies should they be required.

2. METHODOLOGY

The methodology used in this assessment is as follows;

- Review the types and proposed quantities of DGs to be stored at the development site;
- Compare the quantities of DGs to the threshold quantities listed in “Applying SEPP33 – Hazardous and Offensive Development” (Ref.2, see extract at Appendix A) to identify whether the storage location or quantity triggers SEPP33;
- Review the likely vehicular movements as a result of DGs being stored and compared against the applicable thresholds detailed in Applying SEPP33 (Ref.2); and
- Report on the findings of the SEPP33 assessment.

3. BRIEF DESCRIPTION OF THE PROPOSED new Sydney Fish Market & REFRIGERATION SYSTEM

3.1. Location of the new Sydney Fish Market

The new Sydney Fish Market will be constructed at the head of Blackwattle Bay, adjacent to the existing Sydney Fish Market. **Figure 3.1** shows the location of the new Sydney Fish Market with regards to the Sydney CBD.

The new Sydney Fish Market is located in the Bays Precinct of the Inner West area of Sydney. The area is a mix of commercial and residential properties located on the shore of Blackwattle Bay. The land surrounding the proposed development is described below:

- North – Blackwattle Bay, Western Distributor (freeway);
- East – Existing Fish Markets, Western Distributor (freeway), Banks Street, medium density residential;
- South – Wentworth Park, commercial (shops) and high-rise residential development; and
- West – Blackwattle Bay, Blackwattle Bay Park.

An aerial photograph of the proposed development is shown at **Figure 3.2**, indicating the surrounding land uses.

Figure 3.1: Regional Location of the new Sydney Fish Markets

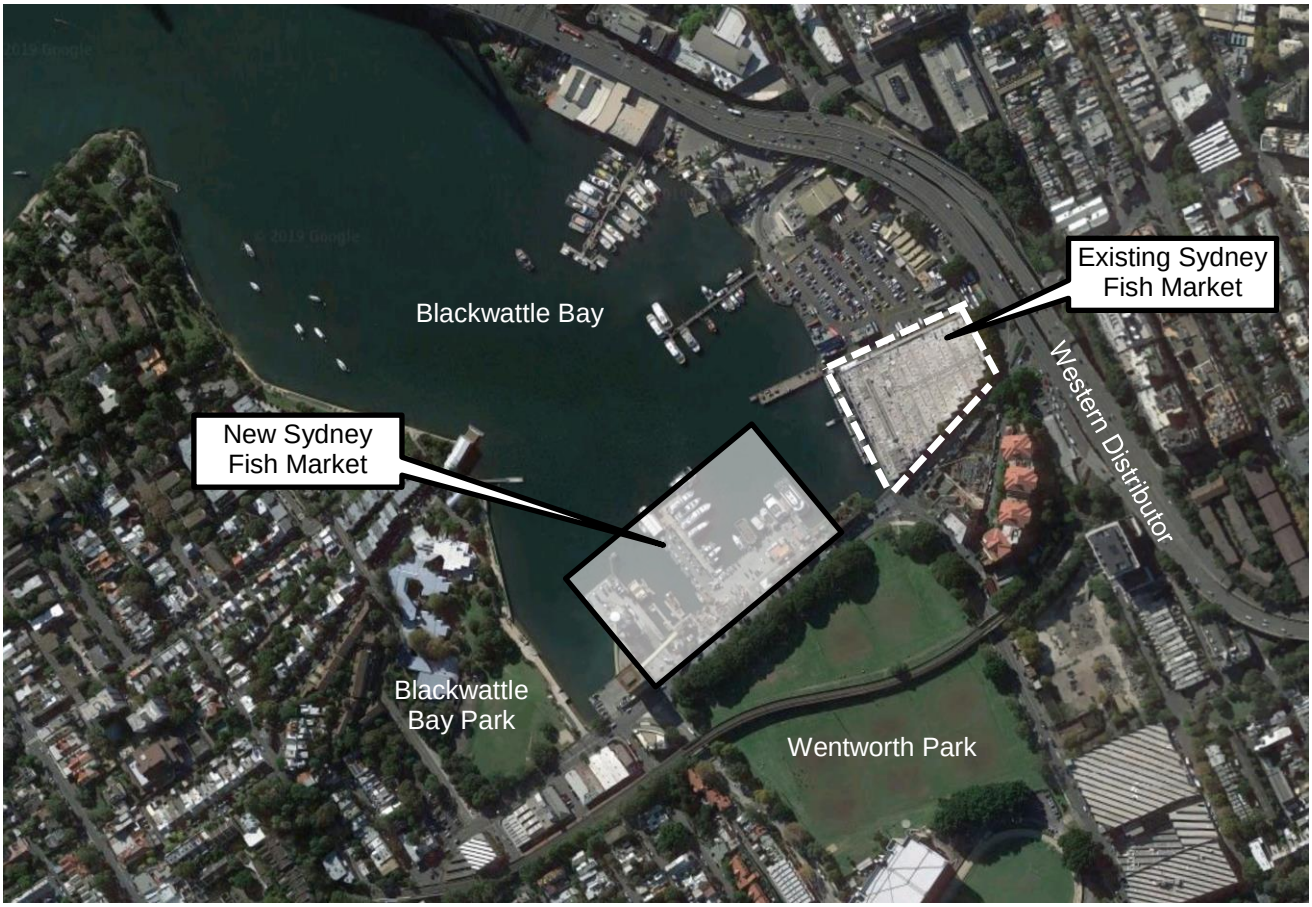


Figure 3.2: Aerial Photograph Showing Existing and New Sydney Fish Markets

3.2. Brief Description of the New Sydney Fish Markets

As noted above, the new Sydney Fish Market is located on the Southern side of Blackwattle Bay, between the bay and Pyrmont Bridge Road. **Figure 3.3** shows the proposed facility location with regards to Blackwattle Bay and the surrounding land uses.

The facility will be designed to create a wholesale and retail outlet for fresh foods, including the fish market, which will be a centre-piece of the new development. This will include the development of a range of facilities within the building including retail spaces, offices, cooking school, elevated/mezzanine walkways, terraces, restaurants and amenities. **Figure 3.4** shows the currently proposed Mezzanine Level layout.

As part of the new Sydney Fish Market operations it will be necessary to provide cool rooms, freezer rooms and ice making facilities for the storage of fish and seafood during the sale and prior to shipping to other facilities. Hence, new refrigeration systems will be installed at the new Sydney Fish Market.

3.3. Refrigeration System Description Summary

As part of the new Sydney Fish Market refrigeration system design, a number of system concepts were reviewed to identify the suitable system arrangements for installation at the facility. This included assessment of the quantity of refrigerant required, confining refrigerant to specific areas within the building (i.e. confining hazardous refrigerants to designated plant rooms), implementation of appropriate safety systems and compliance with relevant codes, standards and regulations.

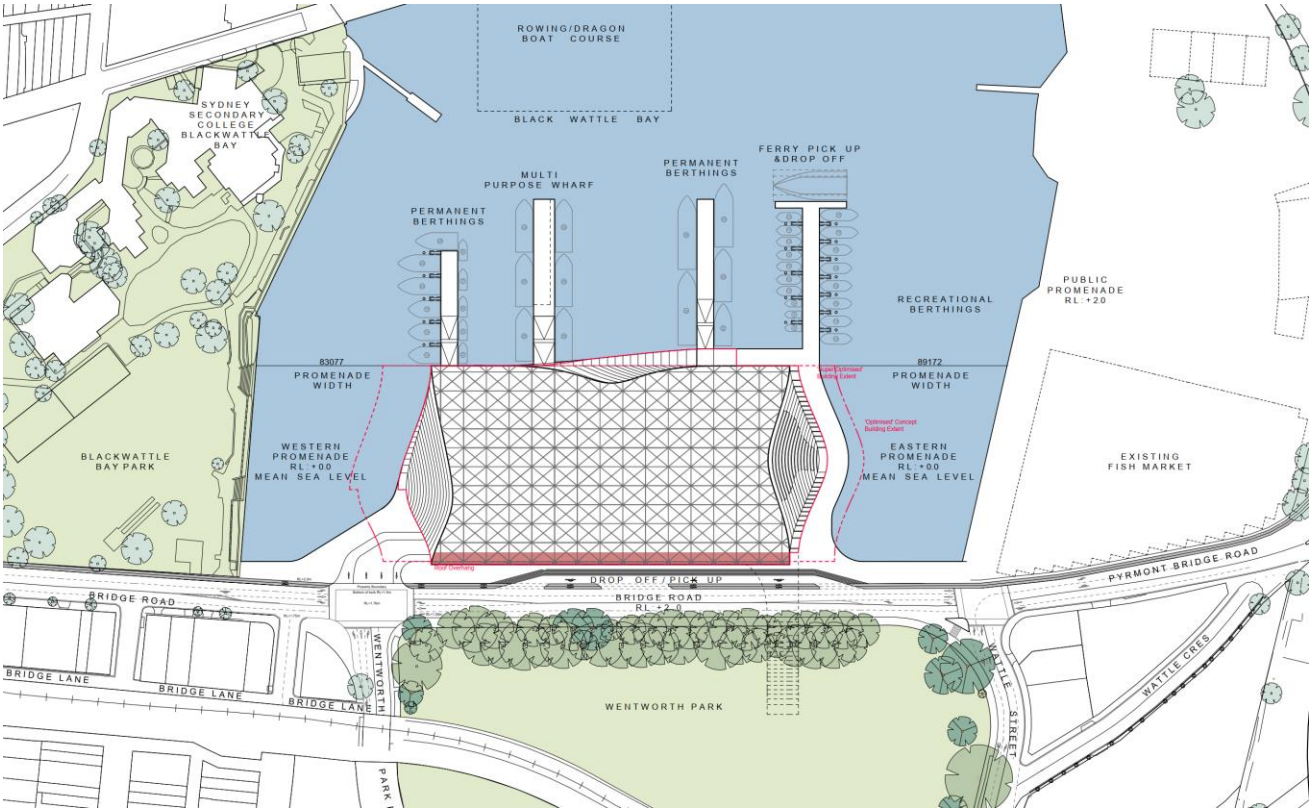


Figure 3.3: Proposed New Sydney Fish Markets and Surrounding Land Uses

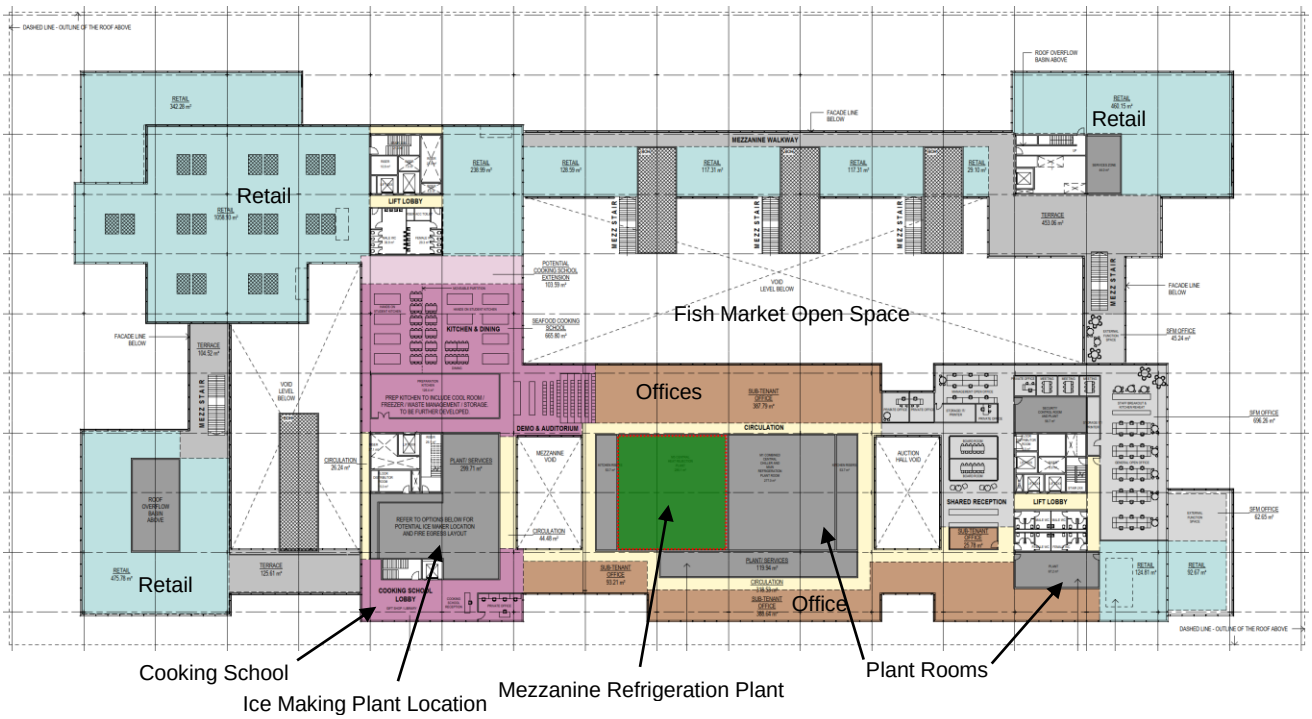


Figure 3.4: New Sydney Fish Markets – Building Layout

Based on the refrigeration system assessment for the facility, the following refrigerants are intended to be used in the site's refrigeration systems:

- A CO_2 (R-744) refrigeration system
- An ammonia (R-717) refrigeration system
- Ice making refrigeration system operating on ammonia refrigerant (R-717)

A review of the hazardous materials and Dangerous Goods at the proposed facility identified that only two materials were classified as Dangerous Goods (as listed in the ADG, Ref.1). The Dangerous Goods (DGs) listing is provided in Table 3.1, along with the Class and quantities of DGs charged to the refrigerant systems.

Table 3.1: Refrigerant Gas Details – new Sydney Fish Market Refrigeration Systems

System	Refrigerant Gas	Un No.	Class	Quantity Charged
CO_2 and ammonia refrigeration plant	Carbon Dioxide (CO_2) - Liquefied	1013	2.2	5 tonnes
	Ammonia (anhydrous)	1005	2.3	1.7 tonnes
Ice Making refrigeration system	Ammonia (anhydrous)	1005	2.3	0.3 tonnes

4. ASSESSMENT OF SEPP33 APPLICATION TO THE NEW SYDNEY FISH MARKETS

4.1. new Sydney Fish Market DG Materials and SEPP33 Application

The proposed new Sydney Fish Market facility will be developed with refrigeration systems that contains two gases that are classified as DGs (Ref.1); one a Class 2.2 (non-flammable/non-toxic gas) and one a Class 2.3 (toxic gas).

Table 3.1 lists the estimated quantity of DGs proposed for charging to the refrigeration systems in the facility.

"Applying SEPP33" guideline (Ref.2) provides details on the application of Figures or Tables from the same document to determine the applied screening Threshold. It shows that:

- for Class 2.2 – Table 3 from the guideline is used; and
- for Class 2.3 - Table 3 from the guideline is used.

Table 3 from "Applying SEPP33 - Hazardous and Offensive Developments" has been extracted and is included at **Table 4.2**.

The assessment conducted for the new Sydney Fish Market facility has been performed in tabular format. **Table 4.1** provides a detailed list of material (DG) quantities, estimated charges for the refrigeration systems, versus the permissible SEPP33 threshold levels. **Figure 3.3** shows the currently proposed location of refrigeration systems at the new Sydney Fish Market facility.

Table 4.1: SEPP33 Assessment Application – Proposed new Sydney Fish Market Facility

CLASS	DESCRIPTION	UN NO.	QUANTITY CHARGED	SEPP33 THRESHOLD	SEPP33 APPLIES
2.2	Carbon Dioxide (CO_2)	1013	5 Tonnes	Not Subject to SEPP33	
2.3	Ammonia	1005	2 tonnes	5 tonnes	NO

It can be seen from **Table 4.1,** and referencing **Table 4.2**, that for Class 2.2 gases, SEPP33 does not apply (also reference Appendix 4 [Page 33] of Applying SEPP33, Ref.2), which states:

> **Class 2.2** — are non-flammable, non-toxic gases and are not considered to be potentially hazardous with respect to off-site risk.

Table 4.3 also indicates that for Class 2.3 gases, the maximum quantity that can be held on site is 5 tonnes, for anhydrous ammonia kept in the same manner as Liquefied Petroleum Gases (LPG) and not kept for sale. As the quantity of ammonia held in the refrigeration system is only 2 tonnes, SEPP33 does not apply.

4.2. new Sydney Fish Market SEPP33 DG Transport Assessment

In addition to the storage of Dangerous Goods, SEPP33 also requires the review of the transport of DGs to the site. **Table 4.2**, extracted from "Applying SEPP33" (Ref.2), lists the threshold levels for transport of each class of DG. As DGs will not be transported as part of the new Sydney Fish Market operations, SEPP33 does not apply for transport at this site.

Table 4.2: Transport Screening Thresholds (Extracted from "Applying SEPP33" (Ref.2)

Applying SEPP 33 | January 2011

Table 2: Transportation Screening Thresholds

	Vehicle Movements		Minimum quantity* per load (tonne)	
	Cumulative	Peak		
Class	Annual *or*	Weekly	Bulk	Packages
1	see note	see note	see note	
2.1	>500	>30	2	5
2.3	>100	>6	1	2
3PGI	>500	>30	1	1
3PGII	>750	>45	3	10
3PGIII	>1000	>60	10	no limit
4.1	>200	>12	1	2
4.2	>100	>3	2	5
4.3	>200	>12	5	10
5	>500	>30	2	5
6.1	all	all	1	3
6.2	see note	see note	see note	
7	see note	see note	see note	
8	>500	>30	2	5
9	>1000	>60	no limit	

Table 4.2: General Screening Threshold Quantities - Extracted from "Applying SEPP33" (Ref.2)

Table 3: General Screening Threshold Quantities

Class	Screening Threshold	Description
1.2	5 tonne	or are located within 100 m of a residential area
1.3	10 tonne	or are located within 100 m of a residential area
2.1	(LPG only — not including automotive retail outlets[1])	
	10 tonne or16 m^3	if stored above ground
	40 tonne or 64 m^3	if stored underground or mounded
2.3	5 tonne	anhydrous ammonia, kept in the same manner as for liquefied flammable gases and not kept for sale
	1 tonne	chlorine and sulfur dioxide stored as liquefied gas in containers <100 kg
	2.5 tonne	chlorine and sulphur dioxide stored as liquefied gas in containers >100 kg
	100 kg	liquefied gas kept in or on premises
	100 kg	other poisonous gases
4.1	5 tonne	
4.2	1 tonne	
4.3	1 tonne	
5.1	25 tonne	ammonium nitrate — high density fertiliser grade, kept on land zoned rural where rural industry is carried out, if the depot is at least 50 metres from the site boundary
	5 tonne	ammonium nitrate — elsewhere
	2.5 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers <30 kg
	1 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers >30 kg
	5 tonne	any other class 5.1
5.2	10 tonne	
6.1	0.5 tonne	packing group I
	2.5 tonne	packing groups II and III
6.2	0.5 tonne	includes clinical waste
7	all	should demonstrate compliance with Australian codes
8	5 tonne	packing group I
	25 tonne	packing group II
	50 tonne	packing group III

Class 2.2 Gas not listed & not subject to SEPP33

Note: *The classes used are those referred to in the Australian Dangerous Goods Code and are explained in Appendix 7.*

4.3. new Sydney Fish Market SEPP33 Assessment – Offensive Operations

SEPP33 also contains a requirement for review of operations that may cause offense in the form of odour, environmental impact, nuisance (noise), etc. An indication of whether "offensiveness" may occur at the facility is whether an Environmental Protection Authority (EPA) licence is required for specific operations at the site. A review of the new Sydney Fish Market operations indicates that there are no processes that would result in the manufacture, production or transfer of materials in a form that may result in the release of bulk materials at the site or that could result in odour generation or, for example, excessive noise. An EPA licence would not be required for this site.

Based on this, there would be no "offence" resulting from operations at the facility and SEPP33 does not apply for this component of the SEPP.

5. CONCLUSIONS

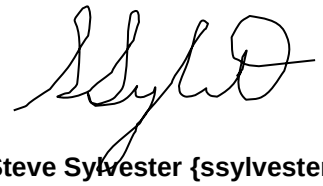
The analysis conducted for the proposed New Sydney Fish Market (new Sydney Fish Market), at Blackwattle Bay, has been assessed for the application of State Environmental Planning Policy No.33, Hazardous and Offensive Developments (SEPP33), based on the proposed charging of refrigeration systems with gases which are classified as DGs.

The NSW Department of Planning and Environment (DPE) has published a guideline to assist regulators in determining the application of SEPP33, "Applying SEPP33"(Ref.2), which contains threshold levels of DGs above which SEPP33 would apply. The analysis conducted and reported in this document has identified that the threshold levels of Dangerous Goods, proposed for charging to the refrigeration systems at the new Sydney Fish Market, do not exceed the threshold levels listed in "Applying SEPP33". Further, the transport of DGs does not exceed the threshold levels published in "Applying SEPP33" and there are no "offensive" operations at the site. Hence, it is concluded that SEPP33 would not apply to the proposed site.

6. REFERENCES

1. "The Australian Code for the Transport of Dangerous Goods by Road and Rail", known as The Australian Dangerous Goods Code or ADG, ed. 7.3, 2015, Federal Office of Road Safety, Canberra, ACT
2. "Applying SEPP33 – Hazardous and Offensive Developments", NSW Department of Planning, Sydney, 2011.
3.

For and on behalf of RiskCon Engineering Pty Ltd,



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