

Appendix G

# SEPP 33 Risk Screening

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# WORTH RECYCLING

## PROPOSED WASTE RECYCLING FACILITY – ST MARYS

### STATE ENVIRONMENTAL PLANNING POLICY NO.33 ASSESSMENT

#### 1. Introduction

Worth Recycling (Worth) proposes to construct and operate a waste recycling facility at St Marys, NSW. As part of the recycling facility development, Worth is required to obtain Development Approval from the local regulator, which includes a review of the site for applicability of a number of State Environmental Planning Policies.

As part of the proposed operations at the Worth recycling facility, a number of Dangerous Goods (DGs), listed in the Australian Dangerous goods Code (Ref.1), will be stored and handled. These DGs may be subject to State Environmental Planning Policy No.33, Hazardous and Offensive Developments (SEPP33). Hence, Worth has engaged AECOM to review the application of SEPP33 to the recycling facility site and to report on the findings of the review.

This document reports on the review of the SEPP33 assessment conducted for the Worth Recycling facility at St Marys, NSW.

#### 2. Objectives

The objective of the SEPP33 review is to determine whether the policy applies to the proposed Worth Recycling facility development at St Marys, NSW, and to identify whether it is necessary to provide a Preliminary Hazard Analysis (PHA) to support the Development Application (DA).

#### 3. Scope of Work

The scope of work is for a SEPP33 review of the proposed Worth Recycling facility, St Marys, NSW, following the approach recommended in the document "Applying SEPP33 – Hazardous and Offensive Development Guideline (NSW Department of Planning & Infrastructure)" (Ref.2).

#### 4. Brief Description of the DGs Stored & Handled at the Proposed Recycling Facility

The proposed Worth Recycling facility will be located in St Marys, NSW. The facility will be used predominantly for the recycling of wastes, however, chemicals may be used for the treatment of process water on site and a number of waste materials delivered to the site may be classified as DGs under the Australian Dangerous Goods Code or ADG (Ref.1). Based on existing operations, Table 1 has been developed to lists the type and maximum quantity of DGs that would be stored and handled at the recycling facility.

**Table 1: Type & Maximum Quantity of DGs Stored at the Worth Recycling Facility, St Marys, NSW**

Dangerous Good	DG Class & PG*	Treatment Process	Description of Purpose	Volume (Litres) /Mass (tonnes)	
Hydrochloric Acid	8 – II	Water Treatment	Adjust pH of water down	1000 L / 1.25 t	Total Class 8 = 6.3 t
Sodium hydroxide	8 – II	Water Treatment	Adjust pH of water up	3000L / 3.75 t	
Sodium hypochlorite	8 – II	Water Treatment	Destruction of micro-organisms	1000L / 1 t	
Nitric Acid	8 – II	Cleaning	Chem-clean of membranes	200L / 0.3 t	
Hydrogen peroxide	5.1	Water Treatment	Destruction of micro-organisms	4,800 L / 4.8 t	
Packaged Waste – paint, etc. (flammable)	3	Disposal offsite	Collected for disposal offsite	10,000 L / 9 t	

\* Goods assumed to be Packaging group (PG) II (more conservative assumption)

The DGs proposed for storage at the Worth Recycling facility will be located in two main areas; water treatment chemicals will be held in the water treatment plant area and chemicals delivered to site as part of the waste stream will be held in a dedicated DG storage area located more than 5m from the site boundary.

## 5. SEPP33 Review

### 5.1 SEPP33 Application to the Worth Recycling Facility

The document "Applying SEPP33 – Hazardous and Offensive Development Guideline", published by the NSW Department of Planning & Infrastructure (Ref.2), provides a number of tables and graphs listing the maximum permissible threshold level of DGs that may be stored at a facility before SEPP33 applies. A copy of the specific table has been extracted from the SEPP33 guideline and included at **Attachment 1** to this document.

From the details in this attachment, additional columns have been included to the details provided in **Table 1** to indicate the maximum threshold levels for comparison with the quantities of materials stored (**Table 2**). It can be seen from **Table 2** that of those materials where SEPP33 applies, none of the quantities of materials stored at the proposed Worth recycling facility exceed the maximum permissible threshold level and therefore SEPP33 does not apply to the proposed Worth Recycling facility at St Marys, NSW.

**Table 2: DG Stored at the Worth Recycling Facility vs SEPP33 Threshold Levels**

Dangerous Good	DG Class & PG*	Treatment Process	Description of Purpose	Volume (Litres) /Mass (tonnes)	SEPP33 Threshold (tonnes) <sup>#</sup>
Hydrochloric Acid	8 – II	Water Treatment	Adjust pH of water down	1000 L /1.25 t	Total Class 8 = 6.3 t 25 t
Sodium hydroxide	8 – II	Water Treatment	Adjust pH of water up	3000L / 3.75 t	
Sodium hypochlorite	8 – II	Water Treatment	Destruction of micro-organisms	1000L / 1 t	
Nitric Acid	8 – II	Cleaning	Chem-clean of membranes	200L / 0.3 t	
Hydrogen peroxide	5.1 - II	Water Treatment	Destruction of micro-organisms	4800 L/ 4.8 t	5 t
Packaged Waste – paint, etc. (flammable)	3	Disposal offsite	Collected for disposal offsite	10,000 L/ 9 t	5 t

\* Goods assumed to be Packaging Group (PG) II

# Threshold levels listed in Table 3 of "Applying SEPP33 – Hazardous and Offensive Development, published by Department of planning and Infrastructure, NSW – 2011.

## 5.2 Application of SEPP33 – Corrosive Substances

The SEPP33 threshold level for corrosive substances (Class 8 PGII) is 25,000 kg/L or 25 tonnes for Packaging Group (PG) II materials. It is noted that PGII materials have been selected in this study as the threshold quantities for these materials are less than PGIII substances, hence, a more conservative result would be achieved in the assessment using the PGII substances. It is noted that none of the corrosive substances listed for water treatment use in Table 2 would be PGI as water treatment chemicals are not produced in the PGI category.

The Worth recycling facility will hold a maximum of 6.3 tonnes of corrosive substances, hence, the 25 tonne threshold (Class 8 PGII) is not exceeded and SEPP33 does not apply to the storage of corrosive substances at the site.

## 5.3 Hydrogen Peroxide

The SEPP33 threshold level for oxidising agents (Class 5.1 PGII) is 5,000 kg/L or 5 tonnes for Packaging Group (PG) II & III materials. In discussion with the suppliers of Hydrogen Peroxide (Solvay Interlox, Ref.3), it was identified that Hydrogen Peroxide water treatment chemicals are supplied as UN2014, which is Hydrogen Peroxide, Aqueous Solution with not less than 20% and not more than 60% of hydrogen peroxide. This material is classified by the ADG (Ref.1) as Class 5.1 PGII.

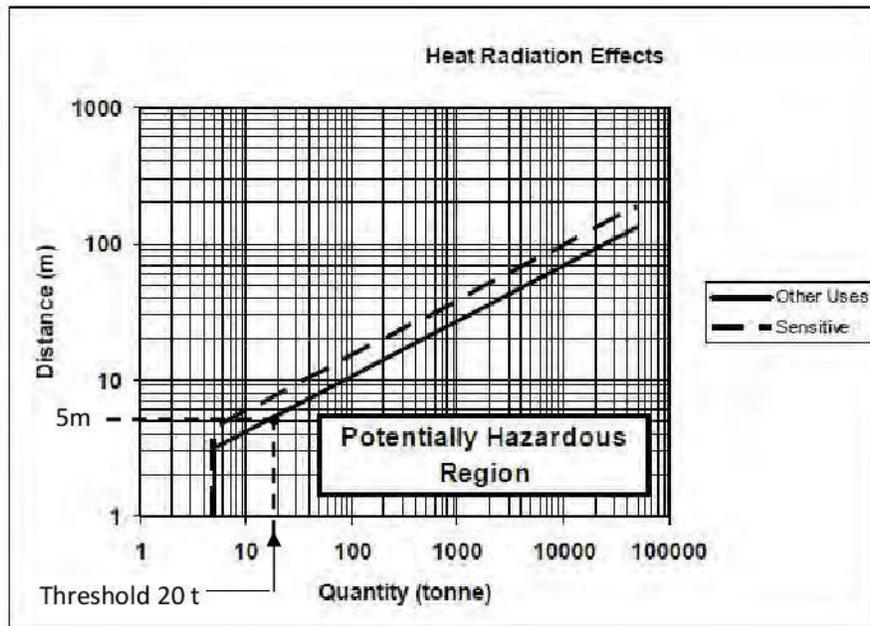
The Worth recycling facility will hold a maximum of 4.8 tonnes of oxidising agent. hence, the 5 tonne threshold for oxidising agents (Class 5.1 PGII) is not exceeded and SEPP33 does not apply to the storage of oxidising agents at the site.

## 5.4 Flammable Liquids

The application of SEPP33 for the storage of flammable liquids is based on the quantity stored and its separation from the site boundary. As the quantity of flammable liquids increases, it is necessary to provide an increased separation from the site boundary. **Figure 1** shows the graph for calculating the required separation from the site boundary based on quantity.

The storage area for flammable liquids at the Worth recycling facility would be located a minimum of 5m from the site boundary. At this distance, the maximum permissible quantity of flammable liquids (Class 3 PGII & III) is 20 tonnes or 22,000 L. As the facility would only store a maximum of 10,000 L or 9 tonnes, SEPP33 does not apply to the flammable liquids storage.

**Figure 1: SEPP33 Application – Class 3 PGII & III Flammable Liquids (Ref.2)**



## 6. Conclusion & Recommendation

Based on the above analysis, it is concluded that SEPP33 does not apply to the proposed Worth Recycling facility at St Marys, NSW.

Notwithstanding the above assessment, it is noted that the facility will need to comply with the full requirements of the Regulation (Ref.4). Whilst it is understood that the storage facilities will comply with the requirements of the Regulation, it will also be necessary to provide the appropriate documentation at the site to meet the full requirements of the Regulation.

It is therefore recommended that Worth prepare the appropriate documentation in accordance with the requirements of Section 7 of the WHS Regulation-2011 (Ref.4).

## 7. Qualifications of the Assessor

This SEPP33 assessment was conducted by Mr. Steve Sylvester, Associate Director at AECOM. Steve is a mechanical engineer with over 40 years engineering experience, including 20 years in plant operations and over 20 years in risk engineering consultancy. Steve is a member of the Australasian Institute of Dangerous Goods Consultants (AIDGC) and is an accredited HAZOP leader and hazard Auditor with the NSW Department of Planning & Infrastructure. He is an internationally accredited Functional Safety Engineer (FSE) with the

International Society of Automation and TÜV Rhineland (TÜV 2203/10). He has also completed the accredited competency training for preparation of Hazardous Areas Classification assessments and inspection of hazardous area facilities. Based on these qualifications, his training and experience, he can be classified as a "Competent Person" to undertake this assessment under the WHS Act (Ref.5).

## **8. References**

1. The Australian Dangerous Goods Code (ADG) (2007), 7<sup>th</sup> ed., "The Australian Code for the Transport of Dangerous Goods by Road and Rail", Federal Office of Road Safety, Canberra, ACT
2. Applying SEPP 33 (2011), "Hazardous and Offensive Development Application Guidelines", NSW Department of Planning and Industry.
3. Private Conversation – A.Malanos-Solvay Intercox, Banksmeadow / S.Sylvester, AECOM – 4 Apr 13.
4. NSW Work Health and Safety Regulation – 2011, under the Work Health and Safety Act 2011, administered by WorkCover, Lisarow, NSW.
5. NSW Work Health and Safety Act, administered by WorkCover, Lisarow, NSW.

# ATTACHMENT 1

## SEPP 33 THRESHOLD LEVELS

Applying SEPP 33 | January 2011

**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 <sup>1</sup> )	
	10 tonne or 16 m <sup>3</sup>	if stored above ground
	40 tonne or 64 m <sup>3</sup>	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

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