Murra Warra Wind Farm

Hydrocarbon and Hazardous Substances Management Plan

Final

Author: Kevin Garthwaite **Date:** 29 March 2017 **Ref:** 02418-006356

PLANNING AND ENVIRONMENT ACT
YARRIAMBIACK PLANNING SCHEME
PERMIT NO. PA1600128
ENDORSED PLAN
SHEET 1 OF 13
SIGNED FOR
MINISTER FOR PLANNING
DATE: 15/8/17

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HORSHAM PLANNING SCHEME
PERMIT NO. PA1600127
ENDORSED PLAN
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ENDORSED TO COMPLY
WITH CONDITION
47
OF PLANNING PERMIT
PA1600127 + PA160012-8

Revision History

Issue	Date	Author	Nature And Location Of Change
01	29 Mar 2017	Kevin Garthwaite	Final

The drawings and/or site plans included in this plan are based on layouts submitted by MWWF as part of its planning application for the Murra Warra Wind Farm project. The wind farm permits, (HRCC: PA1600127, YSC: PA1600128 and YSC PA1600129) allow actual locations of wind turbines to be subject to final micro siting up to 100 m and/or minor changes to access track locations and associated plant, equipment and construction facilities, within the boundary of existing constraints and as defined by the permits. The project could be built in stages

CONTENTS

1 INTRODUCTION

The Hydrocarbon and Hazardous Substances Management Plan (HHSMP) has been prepared for the Murra Warra Wind Farm (MWWF) as part of the overall Environmental Management Plan (EMP) in response to planning permit conditions issued by the Minster for Planning PA1600127, PA1600128 and PA1600129.

In accordance with the planning permit condition 47, the EMP must include a HHSMP.

The requirements for the HHSMP are set out in the planning permit conditions presented in Table 1, which also includes references to sections in this plan.

Table 1: Relevant planning permit conditions from Permit No. PA1600127 (HRCC) and PA160129 (YSC).

Condition Number	Abbreviated condition details	Plan Section/s
47.a.	Procedures for any on-site, permanent post-construction storage of fuels, lubricants, waste oil or other hazardous substances or potential contaminants to be in bunded areas.	Section 5 5.1.2 5.2
47.b.	Contingency measures to ensure that any chemical or oil spills are contained on-site and cleaned up in accordance with EPA requirements.	5.2

In meeting the requirements of this plan it is taken that the requirements of Condition 16 of PA1600129 have also been met.

This document does not replace management plans that may be required to meet statutory and other regulatory requirements.

1.1. Objectives

The objectives of this HHSMP are to:

- Provide a framework of requirements for the storage and handling of hydrocarbons and hazardous chemicals during the construction and operation of MWWF, and for associated corrective actions
- Address specific requirements in the event of a loss of containment of such a substance, to be undertaken in conjunction with the requirements of the EMP and other relevant sub-plans.

2 POLICY AND STATUTORY CONTEXT

2.1 State legislation

This management plan has been developed in accordance with the following legislation:

- *Planning and Environment Act 1987* (Vic)
- *State Environment Protection Policy (SEPP) (Prevention and Management of Contamination of Land)*
- *SEPP (Groundwaters of Victoria).*

2.2 Relevant standards and guidelines

There are several guidelines that are used in Victoria to assist in determining the level of management necessary to meet SEPP requirements. These include:

- Environment Protection Authority (EPA) Victoria, 1996, Environmental Guidelines for Major Construction Sites, Publication 480
- Environment Protection Authority (EPA) Victoria, 2015, Bunding, Publication 347.1
- National Transport Commission (NTC), 2017, Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.5
- Standards Australia, 2004, Australian Standard 1940:2004 - The storage and handling of flammable and combustible liquids
- Standards Australia, 2007, Australian Standard 3833:2007 - The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers.

2.3 Licenses, approvals and permits

- Horsham Rural City Council Permit No: PA1600127
- Yarriambiack Shire Permit No: PA 1600128
- Yarriambiack Shire Permit No: PA 1600129

2.4 Liaison with key stakeholders

Relevant agencies and stakeholders have been consulted with regard to any specific approval requirements in relation to this plan.

3 METHODOLOGY

The content of this plan was developed in three steps:

1. Identification of potential Hydrocarbon and Hazardous Substances (HHS) incidents
2. Prevention of HHS incidents
3. Mitigation of HHS incidents.

3.1 Identification of potential hydrocarbons and hazardous substance incidents

A top-down approach was adopted for identification of potential HHS incidents. This involved identifying, firstly, the project stages which would involve the storage, handling and usage of HHS. The stages identified were:

- construction
- operation and maintenance.

The geographic areas in which these activities would take place were then identified. The areas identified were:

- transport routes of HHS to and from site
- turbine locations
- associated infrastructure.

For each combination of project stage and geographic area, potential HHS incidents were identified.

Potential HHS incidents identified are outlined below, grouped into project stages:

Construction

- Release of HHS stored on site. It is planned that fuel and lubricants will be stored on site temporarily during construction
- Release of HHS during transport operations
- Release of construction waste.

Operation and Maintenance

- Release of HHS from nacelle or transformer
- Release of HHS during transport
- Release of site wastes
- Release of other HHS (e.g. minor quantities stored in maintenance room).

Following the identification of these potential HHS incidents, the receptors of the incidents were identified. The HHS incidents identified for the three project phases have the potential to impact on:

- soil, groundwater and waterways
- flora and Fauna.

Each combination of identified HHS incidents and receptors was then used to identify reasonable precautions and controls to put in place.

3.2 Prevention of HHS incidents

Measures required to prevent the release of HHS are set out in the following documents:

- NTC, 2017 - transport of HHS to and from site
- Standards Australia, 2004 (AS1940:2004) - storage and usage of HHS
- Standards Australia, 2007 (AS3833:2007) - storage of chemicals.

Material Safety Data Sheets (MSDS) will also provide guidance for the handling of specific HHS materials.

Prevention measures are further discussed in Section 5.1.

3.3 Mitigation of HHS incidents

In the event of loss of containment of HHS, general mitigation measures are set out in AS1940:2004 and AS3833:2007 including:

- physical containment
- clean-up.

Material Safety Data Sheets (MSDS) will also provide guidance for the clean-up of specific HHS materials.

Mitigation measures are further discussed in Section 5.2.

4 KEY ISSUES

4.1 Wind farm facility

HHS to be kept on site includes fuels and lubricants necessary for the operation of turbines.

The key issues include:

- loss of containment of chemicals on or off site, e.g. fuels and lubricants, potentially leading to ignition/fire
- loss of containment of site wastes, e.g. wastewater and sewage.

These issues have the potential to impact on:

- soil, groundwater and waterways
- flora and fauna.

Smaller quantities of fuels and lubricants will be kept on site during operation compared to the construction phase.

5 MANAGEMENT AND MITIGATION

A series of management measures have been identified in order to minimize the impacts on the known environmental values. Any requirements for use of specialised equipment have also been highlighted.

5.1 Prevention of HHS incidents

5.1.1 *Transport to and from site*

Construction

All HHS will be appropriately transported and stored during construction in accordance with relevant guidelines and regulations, to avoid release or impact to the environment. These guidelines primarily include NTC (2007), AS1940:2004 and AS3833:2007.

It is noted that during construction the risk of an incident will be higher than the operational phase due to increased vehicle movements and the temporary storage of substances. Special care will be taken to ensure that:

- HHS storage areas are clearly labelled
- site inductions will clearly inform contractors and visitors of HHS storage areas.

Operations and Maintenance

All HHS will be appropriately transported and stored during construction in accordance with relevant guidelines and regulations, to avoid release or impact to the environment. These guidelines primarily include NTC (2007), AS1940:2004 and AS3833:2007.

5.1.2 *Storage, usage and handling*

Construction

During construction, the storage, usage and handling of HHS will be managed according to AS1940:2004 and AS3833:2007. HHS brought onto site will have a known classification and incompatible materials will be segregated for storage.

HHS will be labelled according to signage designated by the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

The volumes defined as 'Minor Storage' quantities for flammable liquids and combustible liquid under AS1940:2004 for commercial buildings, factories, workshops, hospitals and warehouses are presented in Table 2. Flammable liquids are separated into Packing Group (PGI or PGII, PGIII) and combustible liquid into Class (C1, C2).

Table 2: Storage standards - AS1940:2004

Location	Flammable Liquids		Combustible liquid
	PGI or PGII	PG III	C1, C2
Indoors	10 L per 50 m^2 of floor space, but 5 L for any tenancy of less than 50 m^2 area	25 L per 50 m^2 of floor space, but 25 L for any tenancy less than 50 m^2 area	500 L total C1 and C2 per 50 m^2 of floor space but 500 L for any tenancy less than 50 m^2 area
Outside the building (a) in attached outhouses or sheds if separated by a partition having an FRL of 60/60/60; or	250 L	1 L per 1 m^2 of floor space with no more than 500 L in any 500 m^2 area	2,500 L
(b) outside, or in a detached shed or outhouse separated from the factory or workshop by at least 1 m	1 L per 2 m^2 of floor space with no more than 250 L in any 500 m^2 area	1,400 L in tanks not over 700 L each, or in packages	5,000 L

Minor storage on open land will adhere to the following:

- liquid will be kept at least 1 m from any boundary, workshop, dwelling or protected place, body of water, watercourse or environmentally sensitive area
- the ground around the store will be kept clear of combustible vegetation or refuse for a distance of a least 3 m
- any potential flow of spillage will be prevented from reaching a protected place, drainage line or property boundary by such means as the use of natural ground slope, or the provision of a diversion channel, kerb or bund.

All site personnel will be expected to wear appropriate personal protective equipment in accordance with the protective measures identified on the MSDS when dealing with HHS, including:

- safety glasses
- coveralls
- safety boots
- gloves (where necessary).

MSDS will be required for all hazardous substances kept on site. These will provide specific guidance on handling.

Operations and Maintenance

The storage, usage and handling will be conducted in accordance with AS1940:2004 and AS3833:2007. Under these standards, HHS brought onto site will have a known classification and incompatible materials will be segregated for storage.

HHS will be labelled according to signage designated by the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

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Site personnel will wear appropriate personal protective equipment in accordance with the protective measures identified on the MSDS when dealing with hydrocarbons and hazardous chemicals, including:

- safety glasses
- coveralls
- safety boots
- gloves (where necessary).

MSDS will be required for all hazardous substances kept on site. These will provide specific guidance on handling.

5.2 Mitigation of HHS incidents

The general procedures for mitigating HHS incidents will be similar for the construction phase and operation and maintenance phase. The contingency measures will be in accordance with EPA Victoria requirements, in particular:

- EPA Victoria (1996) Environmental Guidelines for Major Construction Sites, Publication 480
- EPA Victoria (2015) Bunding, Publication 347.1.

Mitigation procedures specific to materials will be governed by the appropriate MSDS.

Incidents or accidents involving the mishandling, transportation or inadequate storage of hazardous substances will be investigated and appropriate remedial action implemented including the following key steps:

1. Identify incident or non-conformance
2. Immediately rectify if safe to do so, based on MSDS instructions for the material/s in question
3. Inform appropriate persons, including internal and external stakeholders
4. Complete incident register and determine appropriate corrective actions
5. Implement corrective actions.

Rectification actions will involve physical containment and spill clean-up, as described in sections 6.2.1 and 6.2.2, and should take into account the contents of the MSDS of the substance involved.

Loss of containment and associated ignition risk will be managed through the Fire Prevention and Emergency Response Plan (FPERP) (see Table 3). This includes ignition and fuel source management.

Table 3: Ignition risk

Ignition Risk	Risk management
Wind turbine (Nacelle)	FPEMRP Section 6.2 - Construction Section 6.3 - Operation and Maintenance
Internal overhead lines	FPEMRP Section 6.2 - Construction Section 6.3 - Operation and Maintenance
On site substation	FPEMRP Section 6.2 - Construction Section 6.3 - Operation and Maintenance
Associated infrastructure	FPEMRP Section 6.2 - Construction Section 6.3 - Operation and Maintenance
Procedural controls (Smoking areas, fire risk awareness)	FPEMRP Section 6.2 - Construction Section 6.3 - Operation and Maintenance

5.2.1 *Physical containment*

A loss of containment of HHS will initially be controlled by bunding.

Bunding and compound requirements are defined in Section 5.8 of AS1940:2004. Bunding will be adequate to contain leakage or spillage and prevent it from contaminating soil or drainage systems.

Specifically, capacity will be the size of the largest storage vessel plus any fire water over a 20 minute period.

To prevent the movement of HHS into drainage lines, turbine positions and tracks have been located to avoid water storage dam on-site.

5.2.2 *Clean up*

The project will have specific procedures for dealing with the potential release of specific HHS on-site. These procedures will be guided by information contained in the relevant MSDS. Employees handling, transporting or utilising hazardous materials will be trained in emergency response procedures for spill events.

Spill cleanup kits will be kept within the vicinity of the worksite where such hazardous materials are used and stored. A spillage kit will consist of:
(a) a metal bin with a tightly-fitting lid
(b) broom, shovel, face shield, chemically-resistant boots and gloves
(c) a suitable respirator.

Appropriate persons should be contacted as soon as practicable following detection of any release or non-conformance. Emergency contact details are provided in Table 4.

Table 4: Emergency contact details

Contact	Phone number
Police	000
Country Fire Authority	000
Ambulance	000
Horsham Rural City Council	03 5382 9777
Yarriambiack Shire Council	03 5398 0100

6 CONCLUSION

The HHSMP should be implemented, monitored reviewed and audited under the project's quality processes.

7 GLOSSARY AND ABBREVIATIONS

EMP	Environmental Management Plan
EPA Victoria	Environment Protection Authority Victoria
HHS	Hydrocarbon and Hazardous Substances
HHSMP	Hydrocarbon and Hazardous Substances Plan
HRCC	Horsham Rural City Council
MSDS	Material Safety Data Sheet
MWWF	Murra Warra Wind Farm
SEPP	State Environment Protection Policy
YSC	Yarriambiack Shire Council

8 REFERENCES

EPA Victoria, 2015, Bunding, Publication 347.1.

EPA Victoria, 1996, Environmental Guidelines for Major Construction Sites, Publication 480.

National Transport Commission, 2017, Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.5.

Standards Australia, 2004, Australian Standard 1940:2004 - The storage and handling of flammable and combustible liquids.

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