12. Environmental management

12.1 Overview

This section summarises the framework for managing environmental risks associated with construction, commissioning and operation of the Project. It also includes AP's approach to develop a commissioning plan (and/or approval under Section 30A) and an amendment to the existing EPA Licence, to facilitate commissioning and operations of the EfW plant.

The primary management framework for delivery of the Project is the AP integrated Maryvale Operations Management System (OMS), which is described briefly in this chapter. Site or phase specific management plans will also be developed to describe how significant impacts will be addressed during specific phases of Project development (i.e. construction, commissioning and operation), including development of a Construction Environmental Management Plan (CEMP) and Operations Environmental Management Plan (OEMP). It should be noted that these documents are yet to be developed (they will be developed during the detailed design phase) and are not a requirement of the WAA based on the results of the environmental risk assessment (refer to Chapter 3: Risk Assessment for further details). However, this chapter addresses the scope of these documents and the responsibilities for developing and updating them.

This chapter should be read in conjunction with 3: Risk Assessment, which identifies the significant environmental risks that need to be addressed in the various management plans described below.

12.2 EPA requirements

The EPA's Works Approval Application Guidelines – Publication 1658 (EPA, 2017) require the following:

- Section 13.1 (Risk assessment of non-routine operations) – Explain the following:
  - How your process could be affected under upset or non-routine operation conditions?
  - What could be environmental impacts?
  - What are the methods to reduce the likelihood of the upsets occurring?

  Explain the following:
  - Steps taken to identify potential process upsets or failures
  - Approaches to identifying best practice in managing these environmental risks
  - Credible and likely to occur scenarios.

  Where applicable:
  - Indicate the potential impacts of climate change that might affect the site or the proposed activity. Refer to Chapter 7: Energy use and greenhouse gas emissions
  - Describe the additional provisions that have been made to address these. For example, increases in the frequency and intensity of storm events may require better bunding and stormwater management systems or improved flood protection. Refer to Chapter 7: Energy use and greenhouse gas emissions.
- Section 13.2 (Management System) - Explain how operations will be managed to maintain a high standard of environmental performance, if relevant. Identify key environmental management systems, tools or procedures you will use
- Section 13.3 (Construction Impact Management) - Identify any environmental risks, for example, construction noise, dust, sediment run-off and spills. Indicate if there is, or is likely to be, any site contamination. Explain how you will manage construction with consideration of these identified environmental impacts
- Section 14.1 and 14.2 (Other EPA Approvals) – Require the proponent to identify if they need a commissioning plan and EPA licence (or amendment) and if yes, to provide details.

12.3 Non-routine operations and emergency management

The OEMP will address the potential risks occurring during non-routine or emergency events. A number of significant risks specific to non-routine and emergency scenarios were identified in the environmental risk assessment.

For details of the risks identified, potential environmental impacts and management controls (either in place or proposed), refer to the results of the Risk Assessment (3: Risk assessment and Appendix C) and relevant chapters of this WAA, in particular, Chapter 6 regarding air quality, Chapter 7 regarding greenhouse gas emissions and climate change and Chapter 8 regarding noise emissions.

The process to identify potential upsets or failures which may have environmental impacts has included:

- Qualitative environmental risk assessment undertaken prior to completion of the design
- Project, technical and environmental risk assessment workshops with the wider Project team culminating in development of a quantitative Environment Risk Register
- Completion of technical assessments in support of this this Works Approval Application (WAA) which provide greater detail on individual risk items (e.g. air quality modelling, engineering processes for the EfW plant and waste management).

However, it is acknowledged that identifying and developing controls for risks will be an iterative process as the project progresses. Further work will be undertaken during the detailed design phase of the project, which will look to capitalise on the knowledge and expertise of the Engineer, Procure and Construct (EPC) contractor appointed to identify and minimise risks posed by non-routine operations or emergency events.

The approach to identify best practice in managing these environmental risks has included:

- Employing the hierarchy of control – that is, prevention is the best option
- Control procedures will be integrated into the OEMS to ensure a consistent approach to control, management and measurement of risk to the environment
- Leveraging the expertise of the EPC contractor to identify best practice in other parts of the world.

12.4 Environmental management system

The AP Maryvale Environmental Management System is part of an integrated Operations Management System (OMS) covering Quality, Safety, and Major Hazardous Facilities (MHF) regulations.

The AP integrated Operations Management System (OMS) provides a structured framework for effective environmental, health and safety practices and performance across all of APs' activities and operations, the structure of the system is shown in Figure 12.1.

It is designed to ensure a consistent company-wide approach to implement, achieve, review and maintain priorities set out in the Australian Paper Safety, Health, Environment and Quality Policy (AP SHE&Q). The AP SHE&Q policy includes nine strategic environmental priorities targeted at zero harm to the people, environment, property and to sustain the business into the future.

The Maryvale site holds Quality Systems certification to AS/NZS ISO 9001:2000, Safety Systems certification to AS/NZS 4801:2001, Environmental Management System AS/NZS 14001:2004 and a Major Hazardous Facilities licence.

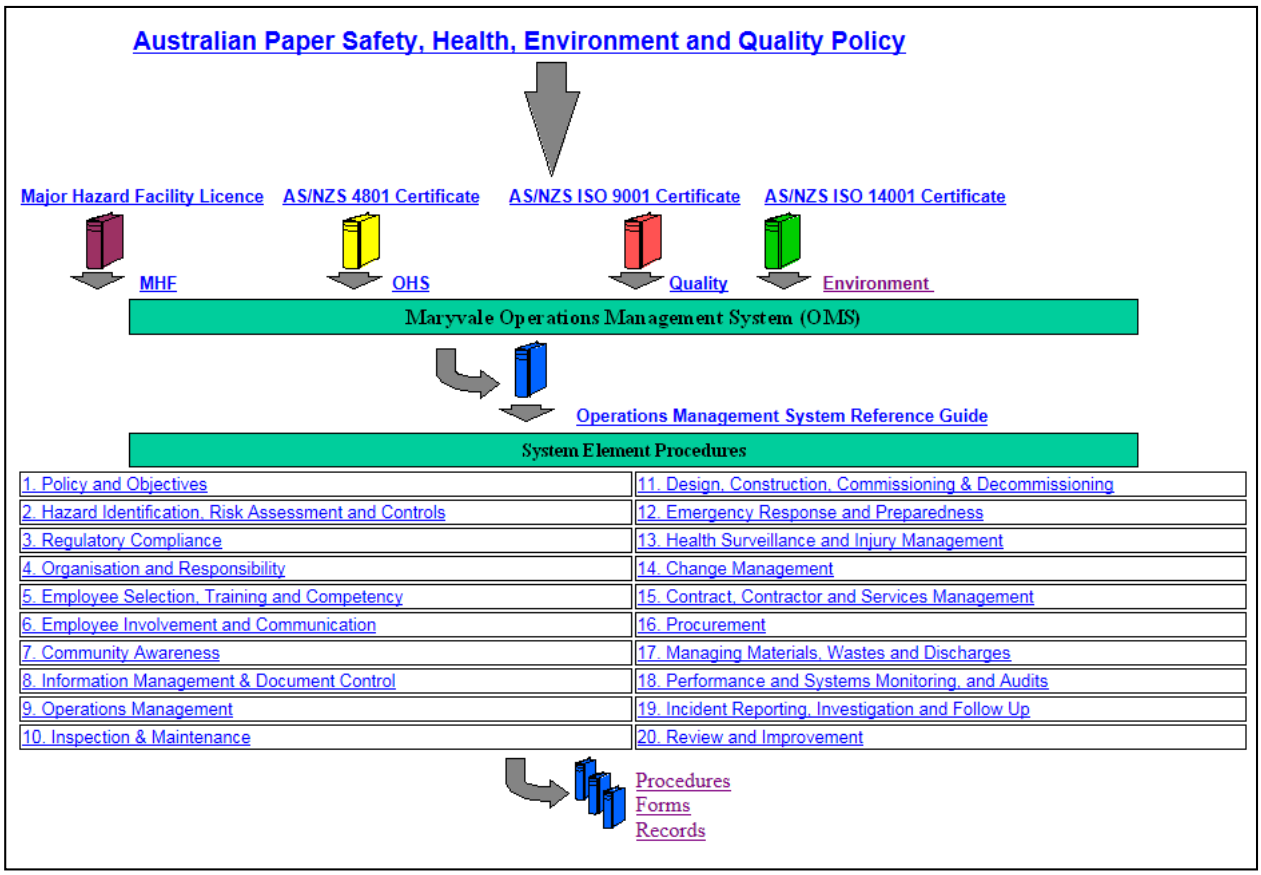

Figure 12.1 : AP's OMS framework

The OMS incorporates a range of company-wide and site specific environmental standards to manage environmental risks relevant to the Project. The overarching objective of these standards is to:

- Incorporate environmental considerations into operations, project design and decision making as early as possible and then on an ongoing basis
- Achieve continuous improvement in AP's environmental performance
- Ensure that contractors are undertaking work on AP's behalf to the acceptable standard.

Site and activity specific risk assessments will also be undertaken to reflect site operations and additional risk controls will be outlined in the relevant management plans (refer below).

It should be noted that the OMS system is a governing system that requires contractors to perform work in accordance to AP's standards, which are monitored and contractually linked. AP's pre-qualification process ensures that only contractors that adhere to, or better the standards are selected by AP to conduct work. AP and the selected EPC contractor will develop more vigorous and in depth standards regarding design and construction management. It will outline the requirements for the design and construction of new and modified facilities with the intent that facilities can be commissioned, started up and operated in compliance with applicable legislation and AP's OMS.

12.5 Operational management

The Operations Environmental Management Plan (OEMP) will be developed to establish procedures to identify environmental risks, manage impacts in accordance with agreed standards, objectives or targets, and monitor overall environmental performance during operation of the proposed EfW plant. AP will develop an OEMP that will be integrated with the existing site operation of the Maryvale Pulp and Paper Mill to reflect aspects of the

proposed EfW plant performance as well as any recent changes to the legislation governing the environmental performance of the plant. Some of the key areas to be included in the OEMP are:

- Air emissions
- Odour emissions
- Noise emissions
- Traffic management
- EfW waste residues handling and management practices.

The Project Environment Risk Register identifies six low level environmental risks that will need to be managed. Please refer to Chapter 3: Risk assessment and Appendix C for detailed risk descriptions.

This and other environmental risks will be addressed during the detailed design phase of the project, when an EPC contractor has been appointed. The OEMP will be finalised prior to the completion of construction and provided to the EPA for review if required.

12.6 Construction Environmental Management Plan (CEMP)

A Construction Environmental Management Plan (CEMP) will be developed by the EPC contractor and approved by AP prior to implementation. The CEMP will be used to manage environmental risks associated with constructing the EfW plant (refer to Chapter 3: Risk assessment for more details on risks).

A number of potential environmental risks may be associated with construction activities including site preparation; demolition of existing infrastructure; plant and equipment operation; earthworks; piling; drainage; stockpiling; landscaping; and waste transport, storage and disposal. Based on the AP Project Environment Risk Register completed for the Project, several issues or activities have been identified as medium level risk during the construction phase (refer to Chapter 3: Risk assessment).

The CEMP will address all environmental risks identified in the Project Environment Risk Register, including low, medium and any high risks. Particular emphasis will be placed on managing higher risk activities, usually through adoption of best practice construction methods that remove or reduce the degree of risk to an acceptable level, and implementation of more intensive monitoring programs. The CEMP will also address risks and controls associated with environmental incident and emergency conditions.

The CEMP will include a comprehensive list of risk management measures and responsibilities for implementation. These measures will be developed in accordance with all relevant EPA Guidelines, in particular:

- EPA Publication 480, “Best Practice Environmental Management – Environmental Guidelines for Major Construction Sites” (EPA, 1996)
- EPA Publication 275, “Construction Techniques for Sediment Pollution Control”
- EPA Publication 1254, “Noise Control Guidelines”.

The CEMP will be developed by the selected EPC contractor with a proposed structure of the CEMP similar to details provided in Table 12.1. The construction contractor will be required to comply at a minimum with all AP OMS requirements and all conditions of the Works Approval including the structure outlined below. In addition, the CEMP will be finalised and reviewed by AP prior to construction and provided to the EPA for review if required.

Table 12.1 : Overview of CEMP

Element	Description
Background	An introduction to the CEMP and an overview of the key environmental issues requiring management
Legal and other requirements	The legislation, policies, standards and other requirements that apply to the key environmental issues
Values	The relevant environmental values requiring protection
Performance objectives	The performance objectives that the EMP is seeking to achieve in protecting the relevant environmental values
Performance indicators / targets	Identification of the required level of performance to meet environmental objectives, legislative compliance or project-specific requirements
Roles and responsibilities	A detailed description of the roles and responsibilities for managing environmental impacts and implementing management measures
Management strategies	An overview of the management measures that will be utilised to meet the performance objectives i.e. risk mitigation methods, risk treatments. Separate plans or procedures may need to be developed to manage particular risks such as flood and surface water management, in order to support existing (corporate) AP standards
Monitoring	Procedures to monitor, measure and record environmental performance
Reporting	Requirements to report to regulators, the community and/or other stakeholders on environmental performance
Non-conformance	Actions to be undertaken and procedures to be followed in the event that performance indicators are not met

12.7 Commissioning management

A Commissioning Management Plan will be developed before the end of construction that specifically addresses risks that are unique to plant start-up and which do not continue through to operation. The commissioning period is likely to cover the first 1-3 months of operation of the plant as various components of the plant come online and the site becomes fully operational.

The Commissioning Management Plan will be developed in alignment with AP's OMS which specifically addresses environmental risks associated with restarting plant and equipment following a period of significant maintenance or project work, and will also consider the interactions between the EfW plant and the existing Maryvale Mill. This requires a systematic EHS inspection and review of management documentation prior to facility start-up and implementation of any actions or monitoring to ensure that the facility is ready to be placed into operation safely and without environmental harm.

The Commissioning Management Plan will be developed by the EPC contractor in consultation with AP and will be provided to the EPA for review if required.

12.8 EPA licence amendment

AP currently operates the Maryvale Mill under an existing EPA Licence (# 46547). This licence allows for discharges to air, the discharge of treated wastewater to the Latrobe River and the deposit of solid wastes to land. It is subject to many conditions (refer to AP Licence Appendix A). AP will likely apply for an amendment to their existing EPA Licence prior to, or during early commissioning of the plant. The changes to the EPA Licence are likely to include new requirements for air emissions, waste acceptance and waste management.

At this stage, the results of modelling and other assessments contained within the WAA are based on highly conservative design criteria to allow for future design optimisation and the implementation of best practice in accordance with EPA requirements. That is, any minor changes in the design are expected to lead to an improvement in environmental performance.

12.9 Monitoring & reporting

AP has an existing site Monitoring and Reporting Program relevant to EPA Licence #46567. This program was developed to enable both AP and the EPA to determine compliance against the site licence and includes details of monitoring undertaken and reporting to EPA.

Monitoring environmental performance of the project will be conducted through online monitoring and regular sampling (air, water, noise and waste) and details of compliance with the EPA Licence will be reported annually via the Annual Performance Statements (which are published on EPA's website). There are likely to be changes to air quality, waste management and waste acceptance monitoring which will be discussed with the EPA close to issue of the amended EPA Licence. However, there is unlikely to be any changes in groundwater or surface water monitoring and reporting.

12.10 References

EPA, 2017. Works Approval Guidelines. Environment Protection Authority Publication 1658 issued in June 2017.

EPA, 2008. Noise Control Guidelines. Environment Protection Authority Publication 1254, 2008.

EPA, 1996. Best Practice Environmental Management – Environmental Guidelines for Major Construction Sites, Environment Protection Authority Publication 480, 1996

EPA 1991, Construction Techniques for Sediment Pollution Control, Environment Protection Authority Publication 275, 1991.