

Appendix D

Air Quality Management Plan

D1 INTRODUCTION

The Secretary's Environmental Assessment Requirements (SEARs) for air quality include a requirement for an air quality management plan (AQMP) to be included as part of the air quality assessment. The SEARs for air quality are listed in **Section 1.2** and the specific requirements for the AQMP are presented again in **Table 35**.

The following proposed air quality management measures are outlined based on the predicted risk presented in the AQA and linked, where appropriate, to the recommended outcomes from the best practice review. A summary of each SEARs and how they are addressed is provided in **Table 35**.

Table 35. SEARs for AQMP	
SEARs	Response
Explicit linkage of proposed emission controls to the site specific best practice determination assessment and assessed emissions;	The proposed emissions controls listed in Section D3.1 are taken from the best practice determination and are informed by the AQA.
Explicit linkage of assumed engine standards and operational management systems;	The proposed emissions controls listed in Section D3.1 are consistent with engine standards and operational management systems recommended in the best practice determination and assumed in the AQA.
The timeframe for implementation of all identified emission controls;	Timeframes for emissions controls are outlined in Section D3.1 .
Proposed key performance indicator(s) for emission controls;	Environmental inspection reports, response log and communities complaints log will be used to track environmental
Proposed means of air quality monitoring including location (on and off-site), frequency and duration;	The AQA indicates that the risks associated with the operation of Stage 1 proposal are low. The modelled increment concentrations for all pollutants are at a level that would be unlikely to be clearly distinguishable from background. Air quality monitoring is therefore not proposed for Stage 1 but will be reviewed for subsequent stages.
Poor air quality response mechanisms;	Similar to the comment above, there is little SIMTA can do to respond to poor air quality, which based on the modelling presented in the AQA will be primarily driven by background.
Responsibilities for demonstrating and reporting achievement of key performance indicator(s);	Responsibilities outlined in the following AQMP
Record keeping and complaints response register; and	Record keeping, complaints management and reporting outlined in the following AQMP
Compliance reporting.	

D2 Construction Phase

D2.1 Dust Management Measures

The principal emissions during the construction of SIMTA Stage 1 will be dust from the following activities:

- Vegetation clearing / earthmoving during site preparation and road and rail construction.
- Handling (loading / unloading) of spoil/demolition material.
- Handling (loading / unloading) of fill material, soils, aggregate, ballast.
- Demolition of existing structures.
- Movement of heavy plant and machinery within the site on unsealed areas.
- Wind erosion from exposed surfaces.

Prior to commencement of construction work, the construction contractor will prepare a Construction Environmental Management Plan (CEMP). The air quality management measures for the CEMP are outlined below.

Clearing, site preparation and excavation

Emissions from site clearing, vegetation removal, topsoil clearing and excavation, particularly during dry and windy conditions, can be effectively controlled by increasing the moisture content of the soil / surface. The contractor would deploy water carts periodically during construction to ensure exposure areas and topsoils/subsoil are kept moist. Other controls that will be implemented as necessary are:

- Modifying working practices by limiting clearing, stripping and spoil handling during periods of adverse weather (hot, dry and windy conditions) and when dust is seen leaving the site.
- Limiting the extent of clearing of vegetation and topsoil to the designated footprint required for construction and appropriate staging of any clearing.

Construction of rail link and Georges River crossing

Dust generated during the construction of the rail link and Georges River railway bridge will be controlled as follows:

- Modifying working practices by limiting clearing, stripping and spoil handling during periods of adverse weather (hot, dry and windy conditions) and when dust is seen leaving the site.
- Limiting the extent of vegetation removal and topsoil to the designated footprint required for the rail corridor.
- Using water sprays during rail construction for dusty activities such as scraper/grader operations, ballast dumping and compacting.

Demolition of existing structures

Where possible, materials and structures will be dampened using water sprays prior to demolition. During adverse weather (hot, dry and windy conditions), consideration will be given to modify demolition activities when dust is seen leaving the site. Special

consideration, including boundary monitoring will need to be given to the demolition of buildings containing asbestos in accordance with relevant guidelines and legislation.

Haulage and heavy plant and equipment movements

Vehicles travelling over paved or unpaved surfaces produce wheel generated dust and can result in dirt track-out on paved surfaces surrounding the work areas. Mitigation measures implemented for construction include:

- Operation of a water cart on all unsealed internal roadways and travel routes.
- All vehicles on-site should be confined to a designated route with a speed limit of 30km/hr enforced.
- Trips and trip distances should be controlled and reduced where possible, for example by coordinating delivery and removal of materials to avoid unnecessary trips.
- Dirt track-out should be managed using shaker grids and / or wheel cleaning. Dirt that has been tracked onto public roads should be cleaned as soon as practicable.
- All trucks delivering fill or leaving the site with spoil material will have their load covered.

Wind erosion

Wind erosion from exposed ground should be limited by avoiding unnecessary vegetation and topsoil clearing and limiting to the minimum footprint required. Wind erosion from temporary stockpiles will be limited by minimising the number of work faces on stockpiles and through temporary stabilisation (compaction of surface, water sprays, seeding, veneering).

D2.2 Site Environmental Responsibility

During construction, environmental management will be the responsibility of the construction contractor. The Construction Manager (CM) will be responsible for the day to day operation of the site, including the implementation of dust controls. The CM will:

- Oversee the implementation of environmental management plans and policies.
- Consider and advise senior management on compliance obligations.
- Have the authority to recommend reasonable steps to manage adverse impacts.
- Have the authority to recommend cessation of activities on-site.

The management and reporting of environmental aspects will be the responsibility of the CM, with specific tasks delegated to on-site personnel. All site personnel will undergo appropriate induction training and individual responsibilities for ensuring that procedures are adhered to will be clearly identified. The relevant roles and responsibility should be outlined in the Construction Environmental Management Plan.

D2.3 Construction dust monitoring

Visual checks would be made and reported on an environmental inspection report. The daily visual checks will:

- Inspect and report on excessive dust being generated at source (wheel generated dust, scrapers/graders, dozers, excavators, wind erosion).
- Inspect and report on water cart activity and effectiveness.
- Inspect and report on dust leaving the site.

Non-conformance (dust leaving the site) would be reported immediately to the CM or management.

D3 Site operations

D3.1 Air Quality Management Measures

The principal emissions during the operation of SIMTA Stage 1 will be diesel vehicle exhaust from the following sources:

- Diesel locomotives travelling from the SSFL to the site and rail siding.
- Diesel locomotives idling on-site during unloading / loading.
- Contained handling equipment (reach stackers or forklifts) moving containers from trains to trucks.
- Trucks travelling through the site to pick up / drop off containers.
- Truck idling while being processed, loaded or unloaded.

The Best Practice Review considered all potential emission reduction and management options for the Stage 1 Proposal and recommended the following feasible and reasonable air quality management measures. The measures and timing for implementation are outlined in **Table 36**, **Table 37** and **Table 38**.

Table 36. Emission management measures for Locomotives	
Measure	Timing
Electrically powered locomotive shifter to eliminate the need for a shunting locomotive and reduce the need for locomotive idling.	Commencement of Stage 1 operations
Development of an idle reduction policy and communication / training for locomotive operators.	Developed prior to commencement of Stage 1 operations and training delivered on an on-going basis.
Un-necessary idling avoided through driver training and site idle reduction policy.	As above
Ensure locomotives are well maintained in accordance with the manufacturer's specification or relevant operational plan. Update maintenance plans to include a requirement to consider air emissions and where possible improve air emission performance at next overhaul/upgrade.	Ongoing from commencement of Stage 1 operations.
Driver training for fuel efficiency.	Ongoing from commencement of Stage 1 operations.

Table 37. Emission management measures for Container Handling Equipment	
Measure	Timing
New reach stackers to achieve best practice emissions performance to meet US EPA Tier 3 / Euro Stage IIIA standards.	Commencement of Stage 1 operations
Development of an idle reduction policy and communication / training for operators.	Developed prior to commencement of Stage 1 operations and training delivered on an on-going basis.
Un-necessary idling avoided through operator training and site idle reduction policy.	As above
Ensure equipment is well maintained in accordance with the manufacturer's specifications or relevant operational plan. Equipment with smoky exhausts (more than 10 seconds) should be inspected for maintenance/repair.	Ongoing from commencement of Stage 1 operations.
Electric gantry cranes to replace diesel powered equipment in the long term.	Initially the unloading and loading process would be undertaken using reach stackers or container forklifts. In the long term, the overhead gantry cranes would be installed to undertake the unloading and loading process.

Table 38. Emission management measures for Trucks	
Measure	Timing
Gate appointment system, truck marshalling lanes and rejection of trucks that arrive excessively early to minimise wait times and queuing.	Commencement of Stage 1 operations
Development of an idle reduction policy and communication through the provision of information signs.	Developed prior to commencement of Stage 1 operations and training delivered on an on-going basis.
Un-necessary idling avoided through communication through, provision of information signs and site idle reduction policy.	As above
Trucks with smoky exhausts (more than 10 seconds) shall be rejected from the site	Ongoing from commencement of Stage 1 operations.
Loading and unloading coordinated to minimise truck trip distances as they travel through site	Ongoing from commencement of Stage 1 operations.

D3.2 Site Environmental Responsibility

Designated operations personnel (such as Project Manager (PM) or Environmental Representative (ER) will be responsible for the day to day operation of the site, including air quality management. The PM or ER will:

- Oversee the implementation of environmental management plans and policies.
- Consider and advise management on compliance obligations.
- Have the authority to recommend reasonable steps to manage adverse impacts.
- Have the authority to recommend cessation of activities on-site.

The purpose of this structure is to ensure that the roles, responsibilities, and the tasks to be performed are clearly defined. The intended outcome is that minimal off-site impacts are

experienced due to adverse air quality impacts. The management and reporting of environmental aspects will be the responsibility of the PM, with specific tasks delegated to on-site personnel. All site personnel will undergo appropriate induction training and individual responsibilities for ensuring that procedures are adhered to will be clearly identified.

D3.3 Monitoring

The modelling predictions presented in the report indicate that the risk of adverse air quality impacts from the Stage 1 Proposal are low. The incremental increase in key pollutants at the surrounding residential areas would be largely indistinguishable from the existing background and project specific air quality monitoring is therefore not considered necessary.

Visual checks would be made by on-site personnel and reported on a regular environmental inspection report. The visual checks will:

- Inspect and report on smoky vehicles.
- Inspect and report on long-duration idling.

Any non-conformance would be reported immediately to the PM or management.

D3.4 Complaints Management

SIMTA will establish a toll free complaints line where the community can report long duration idling and smoky vehicles operating within the Stage 1 site. Following receipt of a complaint, an investigation shall determine the likely cause of the complaint and appropriate corrective action. The corrective action might include standing down of smoky vehicles or determining the reasons for long duration idling, of SIMTA control vehicles.

Complaints would also trigger a review/update of policies and procedures relevant to the investigation.

D3.5 Record Keeping and Reporting

The results of the regular visual inspections will be documented in an environmental inspection report, including any identified non-compliance. A response log will document the actions taken in response to non-complaints.

A record of community complaints will be maintained, including results of the investigation into the complaint and action taken.