



AUSTRALIAN RAIL TRACK CORPORATION LTD

Southern Sydney Freight Line

Operational Environmental Management Plan

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		Hunter Valley			
		Southern Sydney Freight Line	✓		
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CoA & EPL Reference

Glossary/abbreviations

ARTC	Australian Rail Track Corporation
BTEX	Benzene, Toluene, Ethylbenzene & Xylenes
CoA	Conditions of Approval
CLG	Community Liaison Group
CLM	Community Liaison Manager
dBA	dB is the abbreviation for decibel — a unit of sound measurement. It is equivalent to 10 times the logarithm (to base 10) of the ratio of a given sound pressure to a reference pressure. The human ear is not equally sensitive to sound at different frequencies. People are more sensitive to sound in the range of 1 to 4 kHz (1000 – 4000 vibrations per second) and less sensitive to lower and higher frequency sound. During noise measurement an electronic 'A-weighting' frequency filter is applied to the measured sound level dB(A) to account for these sensitivities
DECCW	Department of Environment, Climate Change, and Water (now the EPA)
DIPNR	Department of Infrastructure, Planning and Natural Resources
DoPI	Department of Planning & Infrastructure (formerly DoP)
EMS	Environmental Management System
EMP	Environmental Management Plan
EPA	Environment Protection Authority
EP&A	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection & Biodiversity Conservation Act 1999
EPL	Environment Protection Licence
EIA	Environmental Impact Assessment
ICLR	Independent Community Liaison Representative
L _{Aeq}	The equivalent continuous sound level. This is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment. This measure is also a common measure of environmental noise and road traffic noise
L _{Amax}	Maximum Noise Level. The maximum noise level over a sample period is the maximum level, measured on a fast response, during the sample period
LGA	Local Government Area
OAQMP	Operational Air Quality Management Plan
OEMP	Operational Environmental Management Plan [this document]
OHRMP	Operational Hazards and Risk Management Plan
ONVMP	Operational Noise and Vibration Management Plan
PCB	Poly Chlorinated Bi-phenyls
pH	Power of Hydrogen. pH is a measure of how acidic or basic a substance is
PM ₁₀	Particulate Matter of 10 micrometres or less
POEO Act	Protection of the Environment Operations Act 1997
REP	Regional Environmental Plan
RMC	Rail Management Centre
SEPP	State Environmental Planning Policy
SSFL	Southern Sydney Freight Line
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbon
TSP	Total Suspended Particulates

1. Introduction

This Operational Environmental Management Plan (OEMP) has been prepared by the Australian Rail Track Corporation (ARTC) for the operation of the Southern Sydney Freight Line (SSFL), a 36-kilometre section of track located in southern Sydney. The OEMP forms part of ARTC's Environmental Management System, which provides the framework for environmental assessment and management across the ARTC rail network.

The OEMP has been prepared in accordance with the Conditions of Approval issued for the construction and operation of the SSFL. Relevant approvals and documents that have governed the OEMP's development include:

- Department of Planning's (DoP) Conditions of Approval (CoA), dated 21 December, 2006.
- Environmental Assessment (EA) for the Southern Sydney Freight Line, prepared by Parsons Brinckerhoff, dated August 2006.
- Statement of Commitments (SoC) made in the Submissions Report.

This OEMP includes the following three sub-plans as per the Conditions of Approval.

- Operational Noise and Vibration Management Plan (ONVMP).
- Operational Air Quality Management Plan (OAQMP).
- Operational Hazards and Risk Management Plan (OHRMP).

The SSFL will become operational on 23 December 2012. In accordance with the Conditions of Approval, the OEMP will be submitted to the Director-General of the Department of Planning and Infrastructure (DoPI) for approval at least four weeks prior to commencement of operation.

This OEMP builds on an earlier OEMP (now superseded) for the operation of the first 5 km section of track (from Sefton Park Junction to Leightonfield and associated signalling from Enfield West) of the SSFL, which was prepared for ARTC by Parsons Brinckerhoff. This section of track became operational on 24 June 2012.

1.1 Background to project

ARTC is a Commonwealth Government-owned company responsible for operating the interstate rail freight network that links Australia's major mainland capital cities. A major bottleneck in the rail freight network has existed in southern Sydney, where freight trains share existing rail lines with the Sydney metropolitan passenger services operated by RailCorp. To address the rail network bottleneck in Sydney, ARTC constructed the SSFL, providing a dedicated freight line for a distance of 36 km between Macarthur and Sefton in southern Sydney. The SSFL provides a third track in the rail corridor specifically for freight services, allowing passenger and freight services to operate independently. The freight rail track system will be non-electrified and will operate in a bi-directional mode.

1.2 Scope

The scope of the OEMP is the SSFL, as per the premises defined by Environment Protection Licence 3142 (EPL 3142). The OEMP excludes all other sections of rail network operated and maintained by ARTC. The OEMP applies to all operational activities undertaken by ARTC and its contractors.

1.3 Purpose and objectives

The purpose of the OEMP is to detail the environmental management framework that applies to the SSFL.

The objectives of the OEMP are to:

- Provide an operational framework demonstrating ARTC's commitment to conduct all operational activities in a manner that minimises impacts to the environment;
- Outline the legislative requirements applicable to SSFL operations;
- Detail the environmental responsibilities of ARTC staff and contractors;
- Provide the public with suitable information on the environmental impact that applies to the SSFL. To address this the OEMP, once approved, will be made publicly available on ARTC's website.

1.4 OEMP format

The format of the OEMP has been developed to be consistent with the elements of AS/NZS ISO 14001 as well as complying with the general requirements and objectives stipulated within the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004).

The OEMP comprises the following sections:

Section 1	Describes the layout of the OEMP and its purpose, and provides information on project background, and targets and key indicators for the operations covered within the OEMP.
Section 2	Contains a brief summary of statutory planning requirements and associated environmental legislation and regulations.
Section 3	Establishes the administrative functions and procedures for implementing the OEMP in relation to Australian Rail Track Corporation's Environmental Management System (EMS).
Section 4	Summarises the environmental aspects, likely impacts and the operational management responsibility checklist during the operational phase as well as outlining the risk assessment process to be undertaken for any additional work activities or locations.
Section 5	Outlines auditing and reporting requirements.
Section 6	Provides the process for amending, updating and making variations to the OEMP.
Section 7	Provides a list of documents referred to throughout the OEMP.
Appendix A	ARTC Environmental Policy.
Appendix B	Contains the ONVMP.
Appendix C	Contains the OAQMP.
Appendix D	Contains the OHRMP.
Appendix E	Provides a reference table of where each CoA and EPL condition is addressed within the OEMP.

1.5 Performance targets and key indicators

The environmental performance targets and key indicators for SSFL operations are detailed in **Table 1-1**. The targets are addressed and indicators monitored and reported on either as part of ARTC's network wide operations (for example, closing out complaints) or specifically as part of the operation of the SSFL (for example, reviewing the results of noise monitoring data obtained from the sensitive receiver locations outlined in Section 10.2 of the ONVMP).

Table 1-1 Environmental performance targets and key indicators

Environmental issue	Performance targets	Performance indicators
Operational noise and vibration	<ul style="list-style-type: none"> Aim for zero non-compliance with the noise levels as outlined in Section 10 of the ONVMP. Consider reasonable and feasible principles to reduce noise emissions. Adherence to noise mitigation measures including the adaptation where necessary of engineering measures on the implementation of operating techniques. 	<ul style="list-style-type: none"> Review results of noise monitoring data obtained from the sensitive receiver locations outlined in Section 10.2 of the ONVMP. Site inspections/audits to demonstrate compliance with engineering and operational requirements respectively. Noise complaints received are closed out.
Operational air quality	<ul style="list-style-type: none"> Compliance with air quality ambient goals stated in Section 3.1.4 of the OAQMP. Minimal complaints due to operation 	<ul style="list-style-type: none"> Relevant targets achieved. Environmental complaints closed out. Incident notification to regulatory

	<p>and maintenance activities.</p> <ul style="list-style-type: none"> Where there is a dust event, this should be recorded by relevant personnel. Any complaints received are to be addressed in accordance with the EPL and ARTC's EMP. 	<p>authorities.</p> <ul style="list-style-type: none"> Visible emissions minimised.
Operational hazard and risk	<p>Zero incidents and zero non-compliance to legislation and industry standards, ARTC and RailCorp's requirements, including the OHRMP (Appendix D).</p>	<ul style="list-style-type: none"> Formal internal audits of procedural systems and physical assets within appropriate intervals. Regular observation of rail safety workers undertaking activities on the job. Prompt exchange of information between affected organisations when serious non-compliance is detected. The maintenance of safety compliance monitoring records.

2. Regulatory and Licensing Requirements

2.1 Statutory requirements

Statutory requirements that are applicable to the SSFL works include:

- The Environmental Assessment (EA) prepared for the project (Section 2.1.1).
- General legislative requirements which apply to the Project (Section 2.1.2).
- Specific approvals, licences and permits required as part of the implementation of the operational phase (Section 2.1.3).

2.1.1 Planning approval

Environmental Assessment

ARTC determined that construction of the SSFL required an environmental assessment to be prepared under Part 3A (now repealed) of the EP&A Act. A planning focus meeting was held with Government agencies on 10 February 2005.

An Environmental Assessment (EA) was prepared and lodged with DoP (now DoPI) in August 2006 for review prior to a 6 week public review period.

A submissions report detailing ARTC's response to public submissions was then submitted and the project was approved by the Minister for Planning on 21 December 2006.

The Minister then provided Conditions of Approval that define, in conjunction with ARTC's own Statement of Commitments, the environmental management and mitigation measures that ARTC must undertake in relation to the project. Appendix E summarises the Conditions of Approval applicable to SSFL operations and provides a reference as to where they are addressed throughout the OEMP.

2.1.2 Legislative requirements

Table 2-1 Relevant legislation

Relevant legislation (Administering Authority)	Summary of legislation requirements	Relevance for SSFL operations
<i>Contaminated Land Management Act, 1997</i> (EPA)	Establishes a process for investigating, and where appropriate, remediating land where contamination presents a significant risk of harm to the environment.	There are no existing known contaminated sites within the SSFL corridor and none listed on EPA's contaminated sites register.
<i>Environmental Planning and Assessment Act, 1979</i> (DoPI)	Establishes a framework to control development in NSW by prohibiting, permitting, or placing conditions on activities. The legislation also details the process by which approval can be gained, and the relevant authority.	Project Approval, under Section 75J of the EP&A Act, was granted on 21 December 2006 and five modifications have since been granted. An environmental assessment will be undertaken for operational activities that constitute development for the purposes of rail infrastructure. As per clause 277(b) of the EP&A Regulation, ARTC is a determining authority within the meaning of Part 5 of the EP&A Act.
<i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Department of Sustainability, Environment, Water, Population and Communities)	The Commonwealth EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined under the Act as matters of National Environmental Significance (NES). The NES matters under this Act are: <ul style="list-style-type: none"> ▪ World Heritage properties. ▪ National heritage places. ▪ Wetlands of international importance (Ramsar wetlands). ▪ Listed threatened species and ecological communities. ▪ Migratory species. ▪ Commonwealth marine areas. ▪ Nuclear actions (including uranium mining). 	<i>Acacia pubescens</i> exists in patches within the SSFL corridor. The species is listed as a nationally threatened species under the Act and will be protected during operational activities through exclusion fencing and signage. Operational activities subject to environmental assessment will consider their impact on matters of NES.

Relevant legislation (Administering Authority)	Summary of legislation requirements	Relevance for SSFL operations
<i>Environmentally Hazardous Chemicals Act, 1985</i> (EPA)	<ul style="list-style-type: none"> Regulates the disposal of wastes issued with a 'chemical control order' and designates chemical wastes. Sets disposal requirements for designated hazardous waste are identified under the POEO Act. <p>Chemical wastes designated under this Act include:</p> <ul style="list-style-type: none"> PCBs. Pesticide wastes including used pesticide containers. Copper/chrome/arsenic (CCA) wastes. 	If hazardous chemicals, as defined by this Act, are used during SSFL operations, they will be managed in accordance with the requirements of this Act.
<i>Heritage Act 1977</i> (NSW Heritage Branch)	Approval must be gained from the Heritage Council Office when making changes to a heritage place listed on the State Heritage Register, or when excavating any land in NSW where an archaeological relic may be disturbed.	25 heritage items are listed under RailCorp's Section 170 Heritage and Conservation Register. These heritage items will not be impacted as a result of SSFL operations. In the event that operational activities may impact these heritage items, the Heritage Branch will be contacted and appropriate assessment and approval sought.
<i>Local Government Act, 1993</i> (Bankstown, Fairfield, Liverpool and Campbelltown City Councils)	<p>Controls environmental impacts, pollution and nuisance not controlled under the POEO Act.</p> <p>Provides for infrastructure under the control of council, such as the stormwater drainage network which accepts rail intertrack drainage, and overbridges over the rail corridor.</p>	The Act gives the four councils a role in the management, improvement and development of the resources in their LGAs.
<i>Noxious Weeds Act 1995</i> (Department of Trade & Investment, Regional Infrastructure & Services)	<p>The Act aims to reduce the negative impact of weeds by establishing control mechanisms to prevent the establishment of new weeds.</p> <p>Public authorities have obligations to control noxious weeds on land they own.</p> <p>A public authority that is an occupier of land to which a weed control order applies must control noxious weeds on the land as required under the order, to the extent necessary to prevent the weeds from spreading to adjoining land.</p>	ARTC has responsibility for noxious weed control within the SSFL corridor. Appropriate weed management will be undertaken in the event noxious weeds are identified.

Relevant legislation (Administering Authority)	Summary of legislation requirements	Relevance for SSFL operations
<i>Pesticides Act 1999</i> & <i>Pesticides Regulation 2009</i> (EPA)	<p>This Act controls and regulates the use of pesticides in NSW. It is an offence under the Act to:</p> <ul style="list-style-type: none"> ▪ use a pesticide in a manner that injures or is likely to injure another person (section 10) ▪ use a pesticide in a manner that damages or is likely to damage any property of another person (section 10); ▪ use a pesticide in a manner that harms any non-target animal or plant, or harms any animal or plant if there is no approved label or permit for the pesticide (section 11) ▪ wilfully or negligently use a pesticide in a manner that causes material harm to threatened species or protected animals (section 9) ▪ possess or use an unregistered pesticide without a permit (sections 12,13) ▪ fail to read an approved label or permit before using a registered pesticide (section 14) ▪ use a registered pesticide contrary to the approved label (section 15) ▪ keep registered pesticides in a container without an approved label (section 16) ▪ possess or use a restricted pesticide without being authorised by a certificate of competency or a pesticide control order (section 17). 	<p>In the event of pesticide application during SSFL operations, pesticides will only be used by qualified persons.</p>

Relevant legislation (Administering Authority)	Summary of legislation requirements	Relevance for SSFL operations
<i>Protection of the Environment Operations Act, 1997</i> (EPA)	<p>This Act controls how activities should be undertaken in consideration of environmental protection on all aspects, including air and noise pollution, and waste.</p> <p>Scheduled activities are required to obtain an Environmental Protection Licence (EPL) from the EPA to operate.</p>	<p>ARTC holds EPL 3142 (SSFL operations) and EPL 12971 (SSFL construction) for the scheduled activity of Railway Systems Activities.</p> <p>The EPA is the regulatory authority for ARTC's EPL.</p> <p>All operational activities will comply with EPL 3142, particularly with consideration of noise impacts on sensitive receivers. In the event that scheduled activities are required to be undertaken outside the SSFL corridor, a variation to EPL 3142 will be required.</p> <p>ARTC will also notify the EPA of any pollution incidents resulting in material harm in accordance with this Act.</p>
<i>Threatened Species Conservation Act 1995</i> (OEH)	<p>Schedules 1 and 2 of the Act lists species, populations and ecological communities of native flora and fauna considered to be threatened in NSW.</p>	<p><i>Acacia pubescens</i> occurs within the SSFL corridor and is listed as vulnerable under the Act.</p> <p>This species will be protected during operations through exclusion fencing and signage.</p> <p>Environmental assessments will be undertaken for operational activities, and as required, the likelihood of significant impact on threatened species will be considered.</p>
<i>Waste Avoidance and Resource Recovery Act 2001</i> and <i>Waste Classification Guidelines 2009</i> (EPA)	<p>This Act:</p> <ul style="list-style-type: none"> promotes waste avoidance and resource recovery establishes a scheme to promote extended producer responsibility in place of industry waste reduction plans; and continues the Waste Fund for the purposes of funding relevant programs. <p>These guidelines aid in the classification, assessment, storage and management of wastes should there be any.</p>	<p>Any Liquid and Non-liquid wastes should be managed in accordance with these guidelines.</p>

2.1.3 Licences, permits and approvals

In addition to legislative requirements, a number of approvals, consultation requirements and licence/permits will be required for operation of the SSFL. These licences and approvals are listed in Table 2-2.

Table 2-2 Licences, permits and approvals required for project

Licence, permits and approvals required	Reporting and/or administering authority	Timeframe	Requirement	Implementer
Written notification of the start of operation	Director – General, DoPI EPA Councils	At least 4 weeks before relevant start date.	CoA 7	ARTC Project
OEMP and sub plans (ONVMP, OAQMP, OHRMP) submitted for approval	Director – General, DoPI	At least 4 weeks prior to commencement of Operation.	CoAs 14 (and 51, 70, 76)	Drafted by ARTC Project. ARTC's Corridor representative, Environment staff, Heritage staff and contractor to implement
Environmental Protection Licence (EPL 12971) ¹	EPA	Construction	Clause 33 of Schedule 1 of the POEO Act.	ARTC Project
Environmental Protection Licence (EPL 3142) ¹	EPA	Operation	Clause 33 of Schedule 1 of the POEO Act.	ARTC Environment staff
Commonwealth Government Approval under Section 133 of EPBC Act granted to ARTC on 13 August 2008. ARTC's Community Amenity Offset Plan, dated 24 October 2008, will be completed with the completion of a 12 month maintenance period following construction ²	Minister for Sustainability, Environment, Water, Population and Communities	Pre-construction and construction	Section 133 of EPBC Act	ARTC Project to construct. Part of a 12 month contract reporting to a senior ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting

Notes:

1. EPL 3142 is applicable during the operation of trains on the SSFL track (the subject of this OEMP). Following the operation of the track, EPL 12971 would still be applicable due to construction works being undertaken including to complete the landscaping.
2. ARTC's Community Amenity Offset Plan details ARTC's commitment, in response to community requests, to carry out maintenance of landscape, plantings, and remove graffiti from noise walls for a period of 12 months.

3. Environmental Management Framework

3.1 Environmental management system

ARTC has established an Environmental Management System (EMS) which was developed in accordance with AS/NZS ISO14001. The EMS provides a framework for environmental management of the rail network as operated and maintained by ARTC. It also supports ARTC's compliance with environmental legislation as well as commitment to improvement in environmental performance.

The key component of the EMS is ARTC's Environmental Policy, provided in Appendix A.

3.2 Environmental responsibilities

ARTC is responsible for the implementation of this OEMP. The OEMP will be progressively integrated into ARTC's EMS.

The following key positions have environmental responsibilities under the EMS and this OEMP. The key personnel involved in the operational phase of the SSFL and their responsibilities are outlined in Table 3-1 below.

Table 3-1 Responsibilities

Position	Key Environmental Responsibilities
Chief Executive Officer	<ul style="list-style-type: none"> Approve the OEMP. The Chief Executive Officer shall authorise communication with media representatives and the general public on all matters concerning the Environmental Management System including but not limited to; environmental incidents and emergencies, environmental complaints and, very high/high environmental risks.
Executive Committee	<ul style="list-style-type: none"> Approve SSFL environmental objectives and targets. Receive and review environmental audit reports produced by ARTC's Internal Auditors and be satisfied that appropriate, timely corrective action is being taken to address issues arising.
Safety and Environment Committee	<ul style="list-style-type: none"> Monitor and review the performance and effectiveness of all elements of the EMS. Identify existing and emerging environmental risks. Ensure compliance with legal and statutory requirements. Ensure compliance with internal policies and procedures. Advise the CEO on environmental issues that may impact upon ARTC's environmental performance. Review the occurrence of major environmental incidents and the corrective action taken. Regularly review environmental risks on the Corporate Risk Register and recommend appropriate changes as necessary.
Executive General Manager- Technical Services/General Manager Technical Standards and	<ul style="list-style-type: none"> Provide advice to the Safety and Environment Committee to enable the above objectives of the Committee to be fulfilled. Oversee the impact and responses to legislative and policy developments in the environmental field, which may have material impact on ARTC.

Position	Key Environmental Responsibilities
Environment	<ul style="list-style-type: none"> Manage the development and annual review of the EMS. Report breaches and non-conformances of the EMS to the Executive. Ensure that ARTC's purchasing and contract management policies and procedures, where applicable, are in accordance with the Environmental Management System and incorporate appropriate environmental clauses.
Operations, Safety & Environment Review Group	<ul style="list-style-type: none"> Review and recommend changes and approve amendments to EMS Operational Procedures and associated documents. Review environmental incidents, breaches and issues. Advise the Executive Safety and Environment Committee on any significant environmental issues that may impact upon ARTC's environmental performance.
Executive General Managers/General Managers	<ul style="list-style-type: none"> Initiate any preventative measures to mitigate, rectify or prevent environmental harm arising from activities, incidents, breaches or audits. Implement the EMS to the extent that it impacts on their Division. Ensure that alliance partners and contractors who are engaged to undertake activities on property managed by ARTC warrant to have the systems in place to meet the requirements of the Environmental Management System. Ensure that the environmental aspects of projects are assessed and managed in accordance with ARTC's requirements. Ensure that ARTC policies and procedures include appropriate environmental provisions.
GM – Strategy and Growth	<ul style="list-style-type: none"> Ensure that all rail operators are aware of the ARTC EMS and that they comply with the system, when and where appropriate in accordance with EP-06 Environmental Management Plan for Operators on the ARTC Network. Ensure that all appropriate environmental references are contained in the Access Agreements.
General Counsel	<ul style="list-style-type: none"> Oversee and coordinate responses to statutory notices. Advise with respect to serious breaches and corrective actions.
Environmental Manager	<ul style="list-style-type: none"> Maintain high level liaison with GM - Technical Standards and Environment to ensure the necessary environmental compliance. Ensure all Property leases and licenses include appropriate environmental clauses. Ensure appropriate risks and environmental matters are assessed and maintained in the ARTC Risk Register. Keep the GM – Technical Standards and Environment (and others as appropriate) up to date on all material environmental matters and any significant environmental incidents. Manage, review, and recommend amendments as necessary, to ARTC's Environmental Management System and all supporting documents. Liaise with regulatory authorities, industry bodies and GM – Technical Standards and Environment as required and ensuring compliance with all laws and regulations as appropriate. Promptly advise EGM – Technical Services upon receipt of any statutory notice and take appropriate action in support of responding to that notice. Oversee the preparation of environmental reports to Operational

Position	Key Environmental Responsibilities
Environmental Officers	<p>Safety and Environment Review Group and Safety and Environment Committee.</p> <ul style="list-style-type: none"> Develop and promote the Environmental Management System. Monitor and report on the environmental performance of ARTC. Promptly report all reportable environmental incidents, as defined in EP-02, to the Environmental Manager. Maintain records in accordance with the Environmental Management System and HP TRIM. Prepare an Executive level report for submission to the Operational Safety and Environment Review Group or Safety and Environment Committee. Ensure that the environmental accidents, incidents and complaints within ARTC are reported, investigated and corrective actions are managed (and monitored) and implemented, by the respective ARTC division or business unit. Provide technical expertise, advice and appropriate training in environmental management matters to enable ARTC employees to satisfactorily comply with the Environmental Management System. Liaison with Environmental Protection Authorities as required and ensuring licensing conditions are appropriate and informing parties of their responsibilities.
Managers	<ul style="list-style-type: none"> Ensure that new employees, alliance partners and contractors inducted to their place of work are aware of their responsibilities as outlined in the Environmental Management System and specific to their position and training. Ensure that employees with environmental responsibilities have appropriate training as identified in their personal development plans. Ensure systems are in place and/or followed and functioning to comply with relevant legislation.
Employees	<ul style="list-style-type: none"> Adhering to procedures developed by ARTC as detailed in this Environmental Management System and maintaining awareness of the policy. Identifying, assessing and avoiding or mitigating any adverse environmental impact that may result from carrying out activities including the construction and maintenance of ARTC infrastructure. Reporting any environmental incident or breach to the appropriate Environmental Officer and respective Corridor Manager and providing any support necessary to facilitate the investigation and reporting of any environmental incident or breach.
Alliance Partners or Contractors	<ul style="list-style-type: none"> Prepare and submit an Environmental Management Plan specific to the scope of works and contract. Comply with all applicable environmental legislation. Report promptly to ARTC any environmental incident or complaint. Ensure their employees, contractors and sub-contractors comply with applicable legislation and align with ARTC's Environmental Management System. Be duly diligent in environmental management of all activities.

As specified in the Project Approval, the ongoing maintenance and operational costs of urban design and landscaping (CoA 27 in Appendix E), and the proper and efficient operation of environmental equipment and works under the Project Approval (CoA 66 in Appendix E) are

the responsibility of ARTC until arrangements have been put in place for the transfer of the assets of the Project. The transfer must be to the satisfaction of the Director – General of the DoPI.

In accordance with Statement of Commitment 66, where liable, ARTC shall rectify any property damage caused directly or indirectly by activities associated with the Project, unless alternative arrangements have been made with the owner of the damaged property.

ARTC shall ensure local access and emergency vehicle access is not adversely impacted throughout the SSFL, in accordance with Statement of Commitment 73.

3.3 Environmental training and inductions

ARTC and contractors are required to perform their duties in compliance with the relevant legislation and using a proactive approach that minimises the risk of environmental harm. In accordance with ARTC's Environmental Management System Procedure EP-01, environmental awareness and training is provided to ARTC staff and contractors. Environmental training and induction is delivered in accordance with EP-01.

Training documents specific to the SSFL include:

- Sefton Dive Pump Station Monitoring Protocol for Network Controllers;
- Sefton Dive Pump Station Water Disposal Protocol for Corridor Staff;
- Procedure to Manage Environmental Spills in Sefton Dive (in development).

3.3.1 Operational safety, hazards and risk

Refer to Appendix C for the Operational Hazards and Risk Management Plan (OHRMP). The OHRMP consists of the Emergency Management Plan (EMP), the Safety Management System (SMS), and monitoring of records of dangerous goods movements.

The tools which form part of the Emergency Management Plan include:

- Emergency Management Structure;
- ARTC Incident Management Manual TA 44 Version 4.6;
- ARTC Incident Management process;
- Annexure J Sefton-Macarthur (SSFL Shared Corridor).

Key tools which form part of the Safety Management System include:

- ARTC Safety Management Policy;
- ARTC Safety Management Plan V1.0;
- Interface Agreement – RailCorp Operations on the ARTC Network – Between Rail Corporation New South Wales and Australian Rail Track Corporation Limited;
- ARTC Risk Management Policy;

- ARTC Risk Management Procedure RM-01 Version 6.1.

The above documents, collectively referred to as the OHRMP, set out procedures to manage hazards, risk, safety and emergency situations.

3.4 Communication and complaints

Environmental communications at ARTC consists of internal communications between staff members and external communications to/from external stakeholders.

Internal environmental communications include 'In the Loop', intranet posts, inductions and annual performance reviews, toolbox talks, environmental team meetings, written reports and environmental memos.

External environmental communications at ARTC include internet posts, community information packages and liaison with government authorities as required.

External communications at ARTC involves the management of environmental complaints from the community and the regulators. Conditions M4 and M5 of the Environmental Protection Licence (EPL) 3142 requires that ARTC records pollution complaints and operate a telephone complaints line.

4. Environmental Assessment and Management

Environmental aspects and potential adverse environmental impacts and their management relevant to the operational phase of the SSFL were identified during the environmental impact assessment and approval phases of this project, and are described in this section. The Project Conditions of Approval also detail operational issues to be managed via specific sub-plans including the Operational Noise and Vibration Management Plan (Appendix B), the Operational Air Quality Management Plan (Appendix C) and the Operational Hazards and Risk Management Plan (Appendix D).

4.1 Noise and vibration

4.1.1 Potential noise and vibration environmental impacts

As described in Section 2 of the ONVMP (Appendix B), the SSFL has the potential for nuisance or disruption to sensitive receivers and property damage as a result of generation of noise and vibration from:

- Train pass-by;
- Routine maintenance activities (including rail maintenance vehicles);
- Train horns (e.g. as they depart);
- Noise from trains at idle locations; and
- Noise from crossovers and turnouts.

Section 6 of the ONVMP details predicted operational noise levels and Section 7 details operational vibration levels.

4.1.2 Noise and vibration management measures

Noise management measures described in the ONVMP in Sections 5, 8, 9 and 10, and include:

- Track design considerations such as track alignment, bridge design, flyover location, vertical geometry design to limit locomotive and rolling stock noise, achieved as part of the SSFL construction;
- The construction of 6022 metres of noise barriers;
- Investigation of architectural treatment for 25 houses and units, for the northern and southern ends of the Casula Arts Centre and for Warwick Farm stables, which is being completed as part of the SSFL construction;
- Development and implementation of a Source Control Plan (SCP) to minimise noise emissions at source. ARTC Environment staff will oversee the licensing, compliance and

reporting requirements of the SCP under the EPL. ARTC's Corridor representative will be responsible for the railway maintenance and construction activities of the SCP;

- Operational noise monitoring, review and reporting program as described in Table 5-1. The program, including the purchase of equipment, is being established by the SSFL Project. ARTC Environment staff will engage and facilitate noise monitoring, review and reporting at 1, 2, 5 and 10 years after operation commencement of the SSFL.

As described in Section 7 of the ONVMP, the SSFL will operate within acceptable vibration levels for the potential to cause building damage and for the potential for disturbance to human comfort.

4.2 Air quality

4.2.1 Potential air quality environmental impacts

As described in Section 3.1 of the OAQMP (Appendix C), potential air quality impacts from SSFL rail operations may include:

- Nuisance, most of which is related to dust events and smoke;
- Reduced amenity from the impact on visual character.

4.2.2 Air quality mitigation measures

Section 3.2 of the OAQMP describes the air quality mitigation measures, including:

- Minimise air pollution impacts on humans and surrounding environment during operation of SSFL by ARTC's Corridor representative. Dust emission controls, which will be the responsibility of the contractor, will include:
 - Revegetation of cleared land where possible;
 - Application of water sprays where applicable;
 - Appropriate maintenance of vehicles and equipment;
 - Importance of fugitive emissions and dust emissions to be included in site induction for new workers.
- Minimise emissions from engines of rolling stock and from SSFL operations activities by ARTC's Corridor representative, including fugitive emissions from operational areas that contain sumps, operations equipment, pumps and valves (eg Sefton Dive pump station). This includes ensuring the following operational controls are implemented:
 - Regular inspection of sumps;
 - Hydrocarbon spills within bunds to be cleaned using spill absorbent material rather than washing down Dissolved Air Flotation unit for treatment;
 - Regular inspections of operator areas;

- Scheduled plant maintenance and inspection;
- Advise contractors and operators to ensure regular maintenance of combustion engines to ensure parts like vehicle mufflers/exhaust systems are well maintained to minimise emissions.
- Prevention of exceedances of NO_x criteria in accordance with Project Approval Condition 76(b). Ensuring operational controls are implemented that include:
 - Positioning of plant and machinery away from boundaries or sensitive receptors where possible;
 - Limit number of operating plant and machinery at any one time where possible;
 - Use of engine size and classification fit for purpose to reduce excessive revving;
 - Routine and regular inspections of combustion engines to ensure optimal operating performance (including pre-start checklists and periodic maintenance checks);
 - Visual inspections of exhaust plumes from combustion engine exhausts;
 - Repair and maintenance on combustion engines prior to operation in the event of inadequate pre start check or observed emissions;
 - Implementation of routine service and maintenance regimes for all combustion engines with reference to manufacturer emission specifications.
- Review the air quality assessment to confirm NO₂ impacts of the SSFL as part of ARTC's working with rail operators on their improving emission controls for diesel locomotives. NO₂ audits are planned at 5 and 10 years after the commencement of operation of the SSFL, as per the modelling and assessment methodology used in Chapter 13 of the Environmental Assessment, and as described in Table 5-1.
- Operational air quality monitoring and reporting program as described in Table 5-1.

4.3 Hazards and risk

4.3.1 Potential hazards and risk environmental impacts

Based on the usual activities associated with the operation of a freight line, potential contaminated soils or hazardous materials impacts during operation of the proposed SSFL include:

- Spillage of lubricants and fuels from engines and carriages;
- Possibility of major spillages from trains and maintenance plant and vehicles;
- Use of herbicides to control weeds along the railway line;
- Atmospheric deposition of particulates generated by emissions from maintenance plant and vehicles;

- Travelling along the maintenance access road or travelling on the railway line;
- Metals contamination from abrasion of wheels on tracks;
- Possible lead dust emissions from refurbishment or deterioration of buildings and infrastructure.

ARTC's Risk Management Procedure RM-01 (Appendix D) provides a method of qualitatively identifying the likelihood and consequences of potential incidents. The procedure ensures that the following risks are considered and managed:

- Risks associated with contractors, visitors or other people that have been provided access to ARTC railway property;
- Security risks arising from trespass, vandalism, terrorism, criminal acts and violence to railway safety workers;
- Change management risks;
- Human factors risks;
- Risks associated with emergency response and occurrence management;
- Risks associated with Asset Management, Procurement, Communications, Fire prevention and control, and interfaces.

4.3.2 Hazards and risk mitigation measures

Hazards and risk mitigation measures are detailed in the OHRMP (Appendix D) which consists of the following:

The Emergency Management Plan including:

- Emergency Management Structure;
- ARTC Incident Management Manual TA 44 Version 4.6;
- ARTC Incident Management process;
- Annexure J Sefton-Macarthur (SSFL Shared Corridor).

The Safety Management System including:

- ARTC Safety Management Policy;
- ARTC Safety Management Plan V1.0;
- Interface Agreement – RailCorp Operations on the ARTC Network – Between Rail Corporation New South Wales and Australian Rail Track Corporation Limited;
- ARTC Risk Management Policy;
- ARTC Risk Management Procedure RM-01 Version 6.1.

The hazards and risk monitoring and reporting program is described in Table 5-1. Responsibilities for implementing safety related issues are identified in the SMS, while responsibilities for implementing environmental related issues are identified in the EMS.

ARTC records and stores the information for the Safety Management System electronically through its internet and intranet sites as described in Appendix D. Relevant records are available for inspection by the director-General for DoPI upon request.

ARTC proposes to conduct a periodic assessment at 2, 4, 6, 8 and 10 years from the commencement of operation of the SSFL, for a sample of train services, of dangerous goods movements by class (Appendix D and Table 5-1). As per the methodology used in the Environmental Assessment Technical Paper 1, it is proposed that the sample will consist of three diverse train services. ARTC will request and compile specific information from train operators that pertain to the classes of dangerous goods moved on the three sample train services to determine whether the actual dangerous goods movements are to exceed the maximum (2018) quantities assumed in the preliminary hazard analysis. Where results of monitoring indicate exceedances are likely to occur, ARTC will notify the Director-General within seven days and provide projected data for the following 10 years together with a Quantitative Risk Analysis to demonstrate that the NSW risk criteria will not be exceeded. ARTC will provide the required information to the Director General within 30 days of notification of monitoring results.

4.4 Surface water and groundwater

4.4.1 Potential surface water and groundwater environmental impacts

There would be no changed surface water impacts associated with the operation of the SSFL as:

- The hydraulic capacity of all transverse waterway openings would not be altered and the intertrack drainage in areas where the track crosses major waterways including Prospect, Cabramatta, Glenfield, Bunburry and Bow Bowing Creeks is away from the waterway, or enters the waterways via rip-rap dissipators;
- The quality of intertrack drainage surface water originating from subcatchments within the rail corridor post construction would be very similar to the quality of surface water originating from the same subcatchments pre-construction.

The construction of Sefton Dive has had a small impact on the local groundwater aquiclude.

For the remainder of the SSFL there are no expected adverse impacts of the construction of structures on groundwater, such as:

- Contamination of soil and water;
- Modification of groundwater flows to groundwater dependent ecosystems and aquatic habitats in areas of groundwater seepage;
- Changes to groundwater levels or quality that could result in subsidence, or rising standing water levels that might contribute to salinisation or water-logging and potentially causing corrosion to near-by structures.

As no stockpiles or deposits of steam train boiler ash were detected or disturbed, no monitoring of analyte selenium is required (CoA 14 (d)).

4.4.2 Surface water and groundwater mitigation measures

No monitoring of surface water flows or quality is required, as there are no residual surface water impacts associated with the operation of the SSFL. However, as described in Table 5-1, ARTC will conduct a visual inspection of rip rap dissipators where intertrack drainage enters the waterways, and of the realigned sections of Glenfield and Bow Bowing Creeks at least once, until suitable flows have occurred to test the design of the rip rap dissipators, and of the realigned sections of Glenfield and Bow Bowing Creeks, and that a suitably qualified person has certified that the works are stable after such flow events. This will be carried out as part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting. Once the works are certified as stable, no further monitoring is required.

The groundwater monitoring and reporting program is described in Table 5-1 and includes:

- A continuation of the quarterly monitoring of groundwater levels and quality for an additional two monitoring events after construction is completed to assess post construction conditions. . This will be carried out as part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting. Should the report indicate that there are no expected adverse impacts of the construction of structures on groundwater, then no further regional groundwater monitoring will be required.
- As described in Section 7 of the Technical Maintenance Plan Sefton Dive Drainage Pumping Station - Volume 1, the 'Frog Pond' and the inverted siphon at Sefton Dive will be inspected regularly and desilted at maintenance ongoing intervals of 6 months and 12 months respectively by ARTC's Corridor representative.
- At Sefton Dive, monitor groundwater and first flush surface water extraction (quantity and quality) being discharged to the sewer. The SSFL Project has already established this program. ARTC's Corridor representative has engaged a laboratory to conduct ongoing water sampling and analysis, with ARTC Environment staff to provide advice and review analytical reports.

ARTC is required to maintain and operate all environmental control equipment installed or used for the project in proper and efficient manner (e.g. to minimise risks of spills and wastes to environment, or carry out maintenance works within designated areas and/or offsite).

4.5 Biodiversity

4.5.1 Potential biodiversity environmental impacts

Potential biodiversity impacts include:

- Degradation of flora habitat. *Acacia pubescens* is a plant that is listed as vulnerable under both the Threatened Species Conservation Act 1995 and Environment Protection and Biodiversity Conservation Act 1999.

Acacia pubescens occurs within a narrow strip of regrowth vegetation approximately 4 metres wide along the rail corridor fence adjoining Birrong Girls High School, on the southern side of the track immediately east of Cooper Road, and within a narrow strip along the rail corridor fence south east of Warwick Farm Station (refer to Figure 4-1 for the location of *Acacia pubescens*);

- Exposure of the ground surface or soil stability resulting from poorly maintained landscaping established as part of the implementation of the SSFL Urban Design & Landscape Plan (UDLP);
- Reduced aesthetic and intrinsic values in the rail corridor or in Leacock Regional Park resulting from poorly maintained landscaping.

4.5.2 Biodiversity management measures

Detrimental impacts on *Acacia Pubescens* would be minimised through fencing and signage already in place to prevent access of workers and equipment to these areas. All contractors would be informed of the conservation significance of *Acacia pubescens* and the legal protection afforded to this species as part of general environmental inductions by ARTC's Corridor representative. The Management Plan for *Acacia pubescens* in Rail Access Corporation managed land (Rail Services Australia, 2000) may be used to mitigate any potential impacts on the species.

The Landscape Management Plan within the UDLP describes landscape maintenance and weed management requirements to be carried out for 12 months after planting. This will be carried out as part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting. Beyond the 12 months, ARTC's Corridor representative has an ongoing responsibility for removing rubbish and vegetation management and weed control within its side of the Shared (rail) Corridor. Monitoring requirements are described in Table 5-1.

Prior to asset transfer ARTC, in conjunction with RailCorp, will maintain items and works to the design standards established in the UDLP and associated Landscape Management Plans for a period of 12 months after planting. This will be carried out as part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting. This includes:

- Location and identification of landscaped areas and elements;
- A schedule of species used in landscaping;
- Procedures and methods to maintain, weed and monitor landscaped or rehabilitated areas both inside and outside the Project. The monitoring and reporting program is described in Table 5-1.

Beyond the 12 months and following handover of relevant landscaped areas to Councils and RailCorp, ARTC's Corridor representative is responsible for vegetation management and weed control for the remaining areas.

ARTC Environment staff are to review the OEH-prepared annual reports of the native vegetation enhancement program to be carried out in Leacock Regional Park by OEH and funded by the SSFL Project. The program was agreed by OEH and DoPI to offset an equivalent area of all EEC cleared. Monitoring and reporting requirements of OEH, and ARTC's review requirements are described in Table 5-1.

4.6 Heritage

4.6.1 Potential heritage environmental impacts

The following are identified heritage items and their reference numbers within the SSFL under RailCorp's Section 170 Heritage and Conservation Register:

- 10: Campbelltown Railway Station
- 15: Minto Footbridge (modified during construction);
- 25: Casula Footbridge (modified during construction);
- 28: Liverpool Railway Viaduct;
- 35: Liverpool Railway Station Group;
- 42: Warwick Farm Railway Station (modified during construction);
- 43: Cabramatta Railway Viaduct;
- 48: Cabramatta Footbridge (modified during construction);
- 50: Carramar Pedestrian Footbridge;
- 51: Carramar Bridge/Viaduct;
- 52: Carramar Railway Station;
- 53: Villawood Railway Station;
- 56: Leightonfield Footbridge (modified during construction);
- 58: Sefton Railway Station (modified during construction);
- 59: Sefton Footbridge (modified during construction);
- 62: Glenfield Creek Viaduct;
- 63: Casula Railway Viaduct;
- 64: Liverpool Town Layout;
- Timber Culvert adjacent to SSFL at Miller Road (modified during construction);
- Concrete Footing, Old Liverpool Rail Bridge (modified during construction);
- Brick and Concrete Drain, east of Cooper Road, Birrong (modified during construction);
- Campbelltown Engine Shed Pits, Campbelltown (modified during construction);
- Campbelltown Turntable, Campbelltown (modified during construction);
- Brick Arch Culvert, Minto (modified during construction);

- Bridge Footing Structure, Villawood (modified during construction);
- Timber Structure, Fraser Road, Canley Vale (modified during construction);
- Former Bridge Abutments, Bow Bowing Creek, Narellan Road, Campbelltown (modified during construction).

4.6.2 Heritage management measures

ARTC's Heritage Branch is to deliver an awareness program for Corridor representative staff on their obligations for management of both heritage items and the importance of their protection.

ARTC's Heritage Manager would be contacted by ARTC staff and contractors should there be any risk of damage.

Records regarding any works conducted in proximity to built heritage items will be maintained by ARTC's Heritage Branch.

4.7 Assets

4.7.1 Potential asset environmental impacts

The SSFL has a number of environmental and other assets for which it has responsibility for maintenance and monitoring before and after any asset transfer to the relevant authority.

4.7.2 Asset management measures

Ongoing maintenance and operation costs of assets including urban design and landscaping items and works remain ARTC's responsibility until satisfactory arrangements have been put in place for the transfer of the asset to the relevant authority. This includes graffiti management for the SSFL assets which ARTC owns and maintains.

This maintenance will be carried out as part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project. Beyond the 12 months, ARTC's Corridor representative has ongoing responsibility for maintenance of its assets, including graffiti management.

Monitoring and reporting requirements for assets are described in Table 5-1.



— SSFL track
 ■ Acacia pubescens

Figure 4-1 SSFL *Acacia pubescens* Sites A, C, D and E

5. Monitoring and Reporting

5.1 Monitoring and reporting program

Refer to Table 5-1 for the monitoring and reporting program, addressing the requirements from all approvals, licences, and permits.

Table 5-1 Monitoring and Reporting Program

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
Noise and vibration						
Monitor operational noise levels at 1, 2, 5 and 10 years after operation commencement of the SSFL.	SSFL line, and specific locations as per Table 10-1 of ONVMP: <ul style="list-style-type: none"> 22 Kulgoa Street, Leumeah 16 Somerset Street, Minto 24 Railway Parade, Glenfield 21 Slessor Road, Casula 86/3 Riverpark Drive, Liverpool 150 Broomfield Street, Cabramatta 18 Fraser Road, Canley Vale 75 Wattle Avenue, Carramar Unit 1/113 Wellington Rd, Sefton 33 Wellington Road, Birrong Casula x3 locations. 	Unattended continuous noise monitors.	Unattended noise monitors left in the field for running 7 day averages (short term) at the 13 locations listed in column 2, as per ONVMP Section 10.2. Continuous monitoring for running 8 week averages (long term) at 1 or 2 permanent locations, as per ONVMP Section 10.3. Where monitoring indicates exceedances, undertake further monitoring to determine extent of exceedance, and investigate noise mitigation measures to rectify situation.	Submit report of monitoring results to Director-General DoPI within 4 months of relevant monitoring period.	ARTC Environment staff will engage and facilitate noise monitoring, review and reporting. Verification of report to be provided by an independent expert approved by Director-General DoPI.	CoA 54 (a) ONVMP Appendix B
Review, and revise if required, the Source Control Plan at 1, 2, 5 and 10 years after	SSFL line			Submit report of review to Director-General DoPI within 4 months of	ARTC Environment staff will oversee the licensing, compliance and	CoA 54 (b) ONVMP Appendix B

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
operation commencement of the SSFL.				relevant monitoring period.	reporting requirements of the SCP. Verification of report to be provided by an independent expert approved by Director-General DoPI.	
Review advances in noise standards and best practice noise mitigation technology as well as any State or Federal Government initiatives to manage rail noise at 1, 2, 5 and 10 years after operation commencement of the SSFL.	SSFL line			Submit report of review to Director-General DoPI within 4 months of relevant monitoring period.	Review and reporting by ARTC Environment staff. Verification of report to be provided by an independent expert approved by Director-General DoPI.	CoA 54 (c) ONVMP Appendix B
Air quality						
Air quality through dust impacts	Dependent on activity location	Visual during dust generating activities	As required	As required	ARTC's Corridor representative	CoA 76 (c), (d) OAQMP Appendix C
Air quality through dust impacts if directed by EPA as per EPL 3142 (Condition E9) Additional reporting to be triggered where reasonable community complaints have been received.	No locations for monitoring/discharge points and areas have been required by the EPL for the SSFL project. If monitoring is required as a result of community complaints or a direct request by the EPA then appropriate site(s) for sampling will be selected as per the	Monitor dust deposition in event of community complaints or if directed by EPA.	Monthly (dust deposition) if triggered by complaints or regulatory directive.	Where EPA expressly requests a Dust Control report or there has been a community complaint, ARTC will provide a report concerning dust control and management practices at the premises.	Review and reporting by ARTC Environment staff.	CoA 76 (c) EPL 3142 Condition E9 OAQMP Appendix C

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
	<i>Approved Methods for Sampling and Analysis of Air Pollutants in NSW</i>					
Review the air quality assessment to confirm NO ₂ impacts of the SSFL with NO ₂ audits at 5 and 10 years after commencement of operation of SSFL.		As per modelling and assessment methodology in Chapter 13 of Environmental Assessment.		Notify Director-General DoPI of audit results within 7 days.	ARTC Environment staff will oversee audit	CoA 76 (b) OAQMP Appendix C
Hazard and risk						
Refer to OHRMP (Appendix D). System inspection and testing activities as a component of a contract. Procedures for inspecting and testing of safety related systems are specified in the relevant ARTC Standards, on both a scheduled basis and on a basis of defined events.	As per ARTC standards and procedures.	As per ARTC standards and procedures.	As per ARTC standards and procedures.	As per ARTC standards and procedures.	Refer to Sections 3 & 7 of <i>Incident Management Manual TA 44</i> within Appendix C for specific roles and descriptions pertaining to hazards, risks and incident management.	OHRMP Appendix D
Environmental incident	Location of incident.	On site inspection.	Immediately following incident.	As required.	ARTC, contractor or operator depending on the nature of the incident. Responsibilities identified in the EMS.	OHRMP Appendix D

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
Assessment of dangerous goods movements at 2, 4, 6, 8 and 10 years after operation commencement of the SSFL.	SSFL line	Compile specific information from train operators on classes of dangerous goods as per methodology in Environmental Assessment Tech Paper 1.	Two yearly intervals for first 10 years of operation of SSFL.	Where results indicate exceedances likely to occur, ARTC to notify Director-General DoPI within 7 days and provide projected data for following 10 years together with Quantitative Risk Analysis to demonstrate that NSW risk criteria will not be exceeded. ARTC to provide required information to Director General DoPI within 30 days notification of monitoring results	ARTC Customer Development	CoA 70 OHRMP Appendix D
Surface Water and Groundwater						
Monitor silt levels in the 'Frog Pond' and inverted siphon.	At Tewinga Rd, Birrong.	'Frog Pond' - visual inspection as part of maintenance inspection. Inverted siphon - electronic weekly monitoring of status of scour valve.	Ongoing as per inspection method.	Following inspection	ARTC's Corridor representative	
Monitor residual impacts of the project on surface water (eg where alterations to waterways	Prospect, Cabramatta, Glenfield, Bunburry and Bow Bowing Creeks.	Visual inspection of rip rap dissipators where intertrack	At least once, until suitable flows have occurred to test the design of the rip rap dissipators, and of the	Following inspection.	Part of a 12 month contract managed by an ARTC Manager, funded by	CoA 14 (d)

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
may be required). No other monitoring of surface water is required, as described in Section 4.		drainage enters these waterways, and of the realigned sections of Glenfield and Bow Bowling Creeks during the 12 month defects period.	realigned sections of Glenfield and Bow Bowling Creeks, and that a suitably qualified person has certified that the works are stable after such flow events. Once the works are certified as stable, no further monitoring is required.		the SSFL Project, with ARTC Environment staff to provide advice and review reporting.	
Monitor groundwater after construction is completed to assess post construction conditions, and to ensure there are no residual impacts of the construction of structures on groundwater.	Bore monitoring in rail corridor at Tewinga Rd, Birrong; near old Liverpool golf course; two locations of Leacock Lane, Leacock Regional Park; and under Narellan Rd overbridge, as per current practices.	ARTC Bores RepMW1-5 groundwater monitoring for the following parameters or as agreed: <ul style="list-style-type: none"> water level pH Electrical conductivity TDS redox major ions metals As, Cd, Cr, Cu, Ni, Pb, Zn) TPH BTEX corrosivity to concrete. 	Quarterly monitoring of groundwater is required for an additional two monitoring events after construction is completed to assess post construction conditions, and to ensure there are no residual impacts of the construction of structures on groundwater. Should the report indicate that there are no expected adverse impacts of the construction of structures on groundwater, then no further regional groundwater monitoring will be required.	Quarterly reporting after each monitoring event, with a final assessment in late 2013 after the second monitoring event post-construction.	Part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting.	CoA 14 (d)
Monitor residual impacts of the Project on groundwater as described in Section 4.	Sefton Dive, Birrong.	Monitor groundwater and first flush surface water extraction (quantity and quality) being discharged to	Initially 8 composite samples for the first 4 months, and then ongoing composite sampling every 22 days thereafter.	Within 21 days of sampling, to Sydney Water.	ARTC's Corridor representative has engaged a laboratory to conduct water sampling and	CoA 14 (d)

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
		sewer. Water quality parameters as specified by Sydney Water in Conditional Consent 35767.			analysis, with ARTC Environment staff to provide advice and review analytical reports.	
Biodiversity						
Monitor performance and effectiveness of measures implemented for <i>Acacia pubescens</i> as part of the Biodiversity Management Sub-plan (as per CoA 60) as required by CoA 14 (e).	Refer to Figure 4-1 for location of <i>Acacia pubescens</i> .	Visual.	As specified in the Biodiversity Management Sub-plan.		ARTC's Corridor representative.	CoA 60 and CoA 14 (e) & (f)
Review the native vegetation enhancement program carried out in Leacock Regional Park by OEH and funded by the SSFL Project. The program was agreed by OEH and DoPI to offset an equivalent area of all EEC cleared.	Leacock Regional Park.	OEH to produce an annual report on the vegetation enhancement program and forward to ARTC. ARTC to review the report to ensure OEH is delivering the vegetation enhancement program.	Annually for eight years.	Annually.	ARTC Environment staff to review the OEH-prepared annual reports.	CoA 60 (e) and CoA 14 (e) & (f)

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
Landscaping for first 12 months of maintenance.	Length of the SSFL	Visual.	Sites visited at intervals not exceeding 14 days during the contract maintenance period of 12 months after landscaping, as described in ARTC Softworks Specification LA01-002 in the SSFL Landscape Management Plan. Maintenance periods will lessen as plants become more established.	As required.	Part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting.	.CoA 14 (e), (f) & (g)
Ongoing landscaping after first 12 months of maintenance.	Length of the SSFL	Visual	As part of regular Corridor inspections	As required	ARTC's Corridor representative	CoA 14 (e), (f) & (g).
Weed management for first 12 months of maintenance.	Length of the SSFL.		Sites visited at intervals not exceeding 14 days during the contract maintenance period of 12 months after landscaping, as described in ARTC Softworks Specification LA01-002 in the SSFL Landscape Management Plan. Maintenance periods will lessen as plants become more established.	As required.	Part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project, with ARTC Environment staff to provide advice and review reporting.	CoA 14 (e), (f) & (g).
Ongoing weed management after first 12 months of maintenance.	Length of the SSFL	Visual	As part of regular Corridor inspections	As required	ARTC's Corridor representative	CoA 14 (e), (f) & (g).
Handover of landscaping to RailCorp and Councils after 12 months maintenance period.	Project boundaries.	Upon final inspection, landscaping must be handed over to confirm termination of maintenance period.	Completion of maintenance works as described in ARTC Softworks Specification LA01-002 in the SSFL Landscape Management Plan.	Completion of maintenance works.	Part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project.	CoA 14 (e), (f) & (g).

Monitor/Review	Locations	Inspection method	Frequency during operation	Reporting frequency	Responsibility	Source of requirement
Assets						
ARTC Process Procedure PP166 Asset Maintenance Works Management details the process used for monitoring the assets, identification of defects and appropriate corrective actions.	SSFL Line, specifically: <ul style="list-style-type: none"> ▪ track and civil safety ▪ track infrastructure ▪ rolling stock interfaces ▪ signalling and communication systems ▪ operations and train control systems ▪ interfacing with other railway infrastructure, heritage and other transport modes. 	Based on external standards and internally established and maintained procedures.	As per inspection or test requirements in ARTC standards.	As per inspection or test requirements in ARTC standards and taking note of ARTC document control procedures.	SSFL Project and also part of a 12 month contract managed by an ARTC Manager, funded by the SSFL Project.	CoA 14 (e), (f) & (g).
Ongoing maintenance of ARTC's assets after first 12 months maintenance period, including graffiti management.	Length of the SSFL	Based on external standards and internally established and maintained procedures.	As per inspection or test requirements in ARTC standards.	As per inspection or test requirements in ARTC standards and taking note of ARTC document control procedures.	ARTC's Corridor representative	CoA 14 (g).

5.1.1 Environmental audits, non-compliances and reporting

Internal audit

ARTC undertakes internal audits in accordance with an approved Internal Audit Plan prepared by Internal Audit. The audit plan covers all functions with the exception of safety. All environmental audits undertaken will have an audit report prepared and approved by the Executive Committee. All corrective actions detailed in audit reports are recorded in the audit management system where they are tracked and closed out within a nominated timeframe.

External audit

ARTC may engage external resources to undertake audits as required.

Compliance reporting

In addition to the OEMP, a number of compliance and other reports are required as part of the SSFL Project's approvals, as listed in Table 5-2.

Table 5-2 Compliance and other reports required for project

Report required	Reporting and/or administering authority	Timeframe	Requirement	Implementer
Approvals/consultation				
Pre-Operation Compliance Report	Director – General, DoPI	At least 4 weeks before operation commences	CoA 9	ARTC Project
Six-monthly Construction Compliance Reports	Director – General, DoPI	Max of 6 weeks after 29 Nov and 29 May	CoA 10	ARTC Project
Environmental Impact Audit Report - Construction	Director – General, DoPI	Max of 3 months after construction is completed	CoA 11	ARTC Project
Environmental Impact Audit Report - Operation	Director – General, DoPI	Max of 12 months after operation commences	CoA 12	ARTC Environment staff
Annual Return Environmental Protection Licence (EPL) 3142 ¹ (Operation)	EPA	No later than 60 days after 5 Sep	Clause R1.5 of EPL.	ARTC Environment staff
Annual Return EPL 12971 ¹ (Construction)	EPA	No later than 60 days after 26 Nov	Clause R1.5 of EPL.	ARTC Project
Report of monitoring and review of the adequacy and effectiveness of noise and vibration measures, of the Source Control Plan, of advances in noise standards and best practice noise mitigation technology, and of governments' initiatives to manage rail noise	Director – General, DoPI Must be verified by an independent noise and vibration expert, approved by the Director-General	Within 4 months of relevant monitoring period, at 1, 2, 5 and 10 years from commencement of operations	CoA 54	ARTC Environment staff will engage and facilitate noise monitoring, review and reporting

5.1.2 Consultation

2011 OEMP

As per the Conditions of Approval, the OEMP has been prepared in consultation with relevant Government departments, Councils, stakeholders and CLGs.

In preparation of the earlier 2011 OEMP (now superseded) for the operation of the first 5 km section of track (from Sefton Park Junction to Leightonfield and associated signalling from Enfield West) of the SSFL, ARTC consulted with the following agencies and organisations:

- The ONVMP - DoPI, OEH and Department of Transport [through DoPI], Bankstown City Council and Bankstown CLG;
- The OAQMP - DoPI, OEH and RailCorp;
- Safety assurance and risk - RailCorp;
- Biodiversity management - DoPI and OEH;
- Assets - RailCorp and Bankstown City Council.

ARTC also informed these groups of the development of the 2011 OEMP and the accompanying Management Plans, and that it was made publicly available on the SSFL website as required by CoA14. ARTC wrote to RailCorp and the EPA inviting them to comment on the OEMP. No comments have been received from agencies or other stakeholders on the 2011 OEMP.

Final OEMP

In developing the final OEMP (this document), ARTC will consult with Project-nominated groups including:

- The OEMP - DoPI, EPA, OEH, RailCorp, Transport for NSW (TfNSW), NSW Office of Water (NOW); DSEWPC; Bankstown, Fairfield, Liverpool and Campbelltown City Councils and Fairfield CLG;
- The ONVMP – as this management plan was finalised and approved in October 2011 after an extensive consultation process, no further consultation will be carried out;
- The OAQMP - DoPI, EPA, TfNSW and RailCorp;
- The OHRMP – RailCorp and the Independent Safety Regulator. Annexure J Sefton-Macarthur (SSFL Shared Corridor) was developed and agreed by ARTC and RailCorp, and forms part of ARTC's agreement with the Independent Safety Regulator. It was finalised by ARTC and RailCorp in late 2012;
- Biodiversity management - DoPI and OEH;
- Assets - RailCorp and Bankstown, Fairfield, Liverpool and Campbelltown City Councils.

Upon OEMP approval by DoPI, the OEMP will be made publicly available on the ARTC website. There will be no further consultation on the OEMP once it is approved by DoPI.

5.1.3 Environmental incident management and response

In accordance with Condition R2 of EPL 3142, and the POEO Act, ARTC must notify the EPA of any incidents causing environmental harm or threatening the environment. ARTC must first contact the Environment Line Service (phone: 131 555) and is required to submit, in writing,

notification to the EPA within seven days of the date on which the incident occurred. The EPA may request further information from ARTC in the form of writing as per EPL Condition R3.

ARTC's *Environmental Management System Procedure EP-01* is specific to management of environmental incidents.

ARTC has developed a Pollution Incident Response Management Plan (PIRMP) for its operations to meet the requirements of the Protection of the Environment Legislation Amendment Act 2011 and Protection of the Environment Operations Act 1997 to prepare, keep, test and implement a PIRMP. The Plan contains the necessary details of the proposed incident response procedures in order to meet the following requirements of Section 153C of the Amendment Act:

- The procedures to be followed by the licence holder or occupier of the premises in notifying a pollution incident to certain persons;
- A detailed description of the action to be taken, immediately after a pollution incident, by the licence holder or occupier of the premises, to reduce or control any pollution;
- The procedures to be followed for co-ordinating, with the authorities or persons that have been notified, any action taken in combating the pollution caused by the incident and the persons through whom all communications are to be made;
- Any other matter required by the regulations.

The section of the PIRMP relevant to the community is publicly available on ARTC's website.

ARTC has an Incident Management Plan which provides a work procedure for managing recovery, investigation and reporting of incidents occurring on the ARTC track corridor. The Incident Management Plan complies with the requirements of *Australian Standard 4292- Rail Safety Management*. ARTC's *Incident Management Manual TA 44* identifies three levels of incidents; Levels 1 to 3. A Level 1 Incident is classified as an emergency requiring response by State Emergency Services. A Level 2 Incident includes an occurrence involving or affecting operations on the Network, which has resulted in, or has the potential to cause death, or serious injury, significant environmental impact, or significant disruption to train services. External resources and control would be required on site. A Level 3 Incident is an occurrence involving minor injury, disruption or damage to the network. Level 3 incidents are to be reported to the Network controller who ensures that a Level 3 Response has been implemented.

The level of response that is to be triggered is determined by the Train Transit Manager in accordance with ARTC's *Incident Management Manual TA 44* (refer Appendix D).

Figure 5-1, extracted from ARTC's Incident Management Manual, illustrates the incident management structure. Incidents may be reported directly by the public to Network Control, the nearest Operator, Service Provider, Maintenance Provider / ARTC Engineering or Emergency Service. In the case of an incident reported by a member of the public, all relevant information, including full details of the incident, name, address and contact phone number of the person reporting the incident is to be recorded. The employee informed of the incident is responsible for advising Network Control of the incident details. The Network Controller would, on receipt of this advice take immediate action to notify, in order, any approaching trains which may impact on the incident including trains on parallel lines under another Network Control Centre, Emergency Services if required, and the Train Transit Manager or nominee. The Train Transit Manager is responsible for advising other Network control locations.

If an employee of ARTC, Operator, Service Provider or Maintenance Provider/ARTC Engineering becomes aware of an actual or potential incident, that employee is to take all necessary steps to ensure that the incident site is protected and that Emergency Services are contacted where required. The employee is to immediately advise the Network Controller of the nature and location of the incident and provide all relevant details. The Network Controller shall immediately advise the Train Transit Manager or nominee. The Train Transit Manager or nominee shall be responsible for advising other Network Control Centres. The employee is to immediately implement any directions given by the Network Controller and take all necessary steps to lessen the impact of the incident and to protect the incident site.

Refer to Sections 3 and 7 of ARTC's *Incident Management Manual TA 44* within Appendix D for specific roles and descriptions pertaining to hazards, risks and incident management.

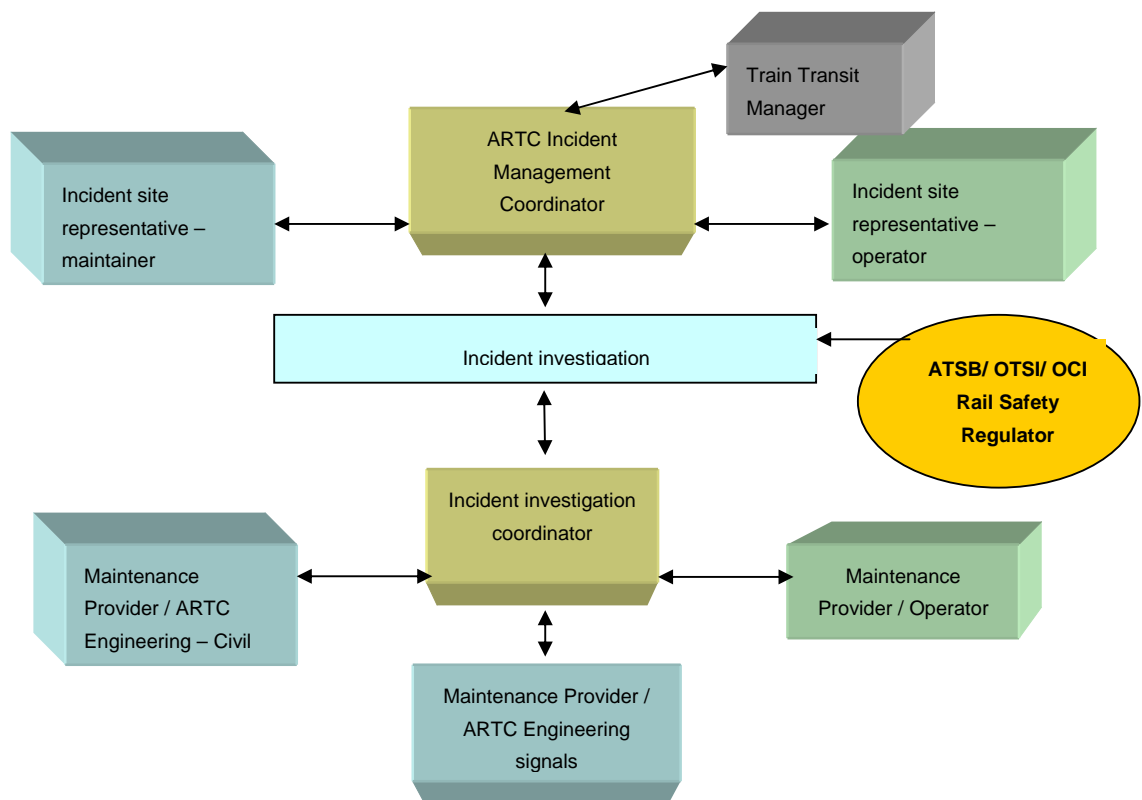


Figure 5-1 Incident Management Structure as per ARTC Incident Management Procedure

5.1.4 Document control

Documents and records will be kept in accordance with the *Environmental Management System Procedure EP-01*.

Records will be filed, stored and maintained in accordance with ARTC's document control procedure. Project records, including contractor records, will be maintained to provide evidence of the effective operation of this OEMP. The records will be identifiable as to the item/area concerned. Such records include, but are not limited to:

- Correspondence to/from stakeholders and relevant parties;
- Any relevant permits, licences and approvals;
- Induction training records;
- Environmental complaints/enquiries registers;
- Non-compliance reports;
- Environmental incident reports;
- Environmental inspection checklist and audit reports.

Records must be stored in accordance with EPL 3142 Condition M1.

6. Amendments and Variations to the OEMP

It is possible that some of the operational procedures described in this OEMP may change over time. In the event that this occurs, ARTC will review as necessary to ensure that this OEMP adequately manages environmental issues and any amendments to the laws, policies, and guidelines. The OEMP will be progressively integrated into ARTC's EMS.

7. List of References

- Annexure J Sefton-Macarthur (SSFL Shared Corridor).
- ARTC Environmental Management System Procedure EP-01 Version 2.1, dated 4 April 2012.
- ARTC Incident Management Manual Document TA 44 Version 4.6, dated November 2012.
- ARTC Incident Management Safety Procedure (SP-03-08) Issue 2 Revision 2, dated 11 May 2009.
- ARTC Pollution Incident Response Management Plan, dated August 2012
- ARTC Procedure to Manage Environmental Spills in Sefton Dive (in development).
- ARTC Risk Management Policy, dated 22 November 2011.
- ARTC Risk Management Procedure RM-01 Version 6.1, dated July 2010.
- ARTC Safety Management Plan V1.0, dated 9 August 2012.
- ARTC Safety Management Policy S-SP-01-001, dated May 2012.
- ARTC Sefton Dive Pump Station Monitoring Protocol for Network Controllers, 2012.
- ARTC Sefton Dive Pump Station Water Disposal Protocol for Corridor Staff, 2012.
- Department of Infrastructure, Planning and Natural Resources (2004) *Guidelines for the Preparation of Environmental Management Plans*.
- Department of Planning & Infrastructure (DoPI) Project Approval, dated 21 December, 2006.
- Environmental Assessment (EA), *EA for the Southern Sydney Freight Line*, prepared by Parsons Brinckerhoff, dated August 2006.
- Environment Protection Licence 3142 & 12971 (EPL) issued by DECCW (now EPA).
- Interface Agreement – RailCorp Operations on the ARTC Network – Between Rail Corporation New South Wales and Australian Rail Track Corporation Limited, dated 2011.
- Southern Sydney Freight Line Landscape Management Plan, Softworks Specification LA01-002.
- Southern Sydney Freight Line Operational Noise and Vibration Management Plan, report number 05032-NM Version J, prepared by Wilkinson Murray, dated October 2011.
- Southern Sydney Freight Line Operational Air Quality Management Plan (OAQMP).
- Southern Sydney Freight Line Urban Design & Landscape Plan (UDLP), June 2010.
- Technical Maintenance Plan Sefton Dive Drainage Pumping Station – Volume 1, 4 July 2012.



Appendix A

ARTC Environmental Policy

Appendix B

Operational Noise and Vibration
Management Plan (ONVMP)

Appendix C

Operational Air Quality Management
Plan (OAQMP)

Appendix D

Operational Hazards and Risk
Management Plan (OHRMP)

Appendix E

CoA & EPL Reference

CoA/EPL number	Condition	Relevant Section of OEMP
CoA 9	<p>The Proponent must submit a Pre-Operation Compliance Report to the Director-General at least four weeks before Operation commences (or within any other time agreed to by the Director-General). The Pre-Operation Compliance Report must include:</p> <ul style="list-style-type: none"> (a) details of how the CoA and SoC required to be addressed before Operation were complied with; (b) the time when each relevant CoA and SoC was complied with, including dates of submission of any required reports and/or approval dates; and (c) details of any approvals or licences issued by Relevant Government Departments for the Project's Operation. <p>The Pre-Operation Compliance Report must be made Publicly Available.</p>	OEMP Section 5.2.1
CoA 11	<p>An Environmental Impact Audit Report - Construction must be prepared and submitted to the Director-General a maximum three months after Construction is complete (or at any other time interval agreed to by the Director-General). The Environmental Impact Audit Report – Construction must also be submitted to Relevant Government Departments upon the request of the Director-General. The Environmental Impact Audit Report – Construction must:</p> <ul style="list-style-type: none"> (a) identify the major environmental controls used during Construction and assess their effectiveness (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP); (b) identify any innovations in Construction methodology used to improve environmental management; and (c) discuss the lessons learnt during Construction, including recommendations for future Projects. <p>The Environmental Impact Audit Report – Construction must be made Publicly Available.</p>	OEMP Section 5.2.1
CoA 12	<p>An Environmental Impact Audit Report - Operation must be submitted to the Director-General a maximum 12 months after the Project begins Operation and at any additional periods that the Director-General may require. The Environmental Impact Audit Report - Operation must also be submitted to Relevant Government Departments at the request of the Director-General.</p> <p>The Environmental Impact Audit Report - Operation must:</p> <ul style="list-style-type: none"> (a) compare the Operation impact predictions made in the EA, Submissions Report and any supplementary studies with the actual impacts; (b) assess the effectiveness of implemented mitigation measures and safeguards; (c) assess compliance with the systems for operation maintenance and monitoring (as required by this approval); (d) discuss the results of consultation with the local community particularly any feedback or complaints; and (e) be certified by an independent person at the Proponent's expense. The certifier must be advised to the Director-General before the Environmental Impact Audit Report – Operation is prepared. 	OEMP Section 5.2.1

	The Environmental Impact Audit Report – Operation must be made Publicly Available.	
CoA 14	<p>An Operational Environmental Management Plan (OEMP) must be prepared in accordance with the Department of Infrastructure, Planning and Natural Resources (2004) Guidelines for the Preparation of Environmental Management Plans, and submitted for the Director-General's Approval at least 4 weeks prior to the commencement of Operation or as otherwise agreed to by the Director-General.</p> <p>If the Proponent has an OEMP for its other projects which is applicable to this Project (for example a certified and operating environmental management system) then that system may be proposed as the OEMP. Details of the existing system must be provided to the Director-General demonstrating its application to this Project.</p> <p>The OEMP must be prepared and implemented in accordance with the procedures, safeguards and mitigation measures identified in the EA, Submissions Report, SoC and CoA and all relevant Acts and Regulations, and in consultation with Relevant Government Departments, Councils, Stakeholders and the CLG(s).</p> <p>The OEMP must incorporate the Operational requirements detailed in the CoA and SoC and include a monitoring and review program which contains (but is not limited to):</p> <ul style="list-style-type: none"> (a) an Operation Noise and Vibration Management Plan; (b) an Operation Air Quality Management Plan; (c) an Operation Hazard and Risk Management Plan; (d) a program to monitor any residual impacts of the Project on surface and groundwater including requirements for the monitoring of analyte selenium if any disturbed stockpiles or deposits of steam train boiler ash are proposed to be retained on the Project site; (e) a program to monitor the performance and effectiveness of measures implemented as part of the Biodiversity Management Sub Plan (CoA 60); (f) details of performance and completion criteria, monitoring frequency and duration; and (g) details of responsibility for monitoring and maintenance before and after any asset transfer to the relevant authority. <p>The approved OEMP must be made Publicly Available.</p>	<p>This OEMP</p> <p>OEMP Section 4</p> <p>OEMP Section 5.2.3</p> <p>ONVMP in Append B OAQMP in Append C OHRMP in Append D OEMP Section 5</p> <p>OEMP Section 5</p> <p>OEMP Sections 4 and 5</p> <p>OEMP Sections 4 and 5</p> <p>OEMP Section 5.2.3</p>
CoA 27	The ongoing maintenance and operation costs of urban design and landscaping items and works implemented as part of this Approval must remain the Proponent's responsibility until satisfactory arrangements have been put in place for the transfer of the asset to the relevant authority to the satisfaction of the Director-General. Prior to the transfer of assets the Proponent, in conjunction with RailCorp, will maintain items and works to the design standards established in the UDLP, including the engagement of a landscape specialist and the removal of graffiti within performance standards specified in the UDLP.	OEMP Sections 4 and 5
CoA 51	The Proponent must prepare an Operation Noise and Vibration Management Plan (ONVMP) no later than 6 months from the commencement of construction (or as otherwise agreed by the Director-General). The Plan must confirm noise and vibration control measures in	ONVMP in Appendix B

	<p>order to achieve the Director-General's Requirements for Environmental Assessment. The Plan must be prepared in consultation with Relevant Government Departments, Relevant Councils, Stakeholders and the CLG(s) and approved by the Director-General.</p> <p>The ONVMP must include details of noise and vibration control measures to be implemented during the Operation stages including:</p> <ul style="list-style-type: none"> (a) identification of sensitive receivers (including those outside residential areas); (b) identification of the appropriate operational noise and vibration objectives and levels for sensitive receivers; (c) predictions of operational noise and vibration impacts at sensitive receivers; (d) examination of all Reasonable and Feasible noise and/or vibration mitigation measures; (e) identification of specific physical and managerial measures for controlling noise and vibration including location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures demonstrating best practice; (f) a Source Control Plan which identifies strategies for source controls including: <ul style="list-style-type: none"> i a program of condition monitoring for the purpose of minimising noise emissions from freight rolling stock and maintenance activities; ii targets, assessment, action and review processes for incorporation and implementation of best practice measures; (g) procedures for complaints management, including investigation and monitoring (subject to complainant agreement); and (h) procedures for reviewing the adequacy of operational noise and vibration mitigation measures. <p>If the Director-General considers that the ONVMP does not adequately confirm noise and vibration control measures commensurate with the Director-General's Requirements for Environmental Assessment, the Director-General may direct the Proponent to have the adequacy of noise and vibration control measures identified in the ONVMP independently verified by a noise and vibration expert. The verification will be undertaken at the Proponent's expense and the independent expert must be approved by the Director-General.</p> <p>The Proponent is to implement the identified noise and vibration control measures and make the ONVMP publicly available.</p>	
CoA 52	<p>Where required, the Proponent must install physical noise and vibration mitigation measures, subject to:</p> <ul style="list-style-type: none"> (a) consultation with directly affected property owners, Relevant Councils and the CLG(s); and (b) detailed design taking into consideration: <ul style="list-style-type: none"> i shadow analysis for north facing sites in residential areas; ii assessment of local flooding impacts; and iii assessment of potential for graffiti and other forms of vandalism. 	ONVMP in Appendix B

CoA 53	All noise barriers installed must have absorptive surfaces on the rail side to minimise the impacts of noise reflection.	ONVMP in Appendix B
CoA 54	<p>At 1, 2, 5 and 10 years from commencement of Project operations the Proponent must:</p> <p>(a) monitor and review the adequacy and effectiveness of noise and vibration mitigation measures against noise and vibration objectives stated in the Operation Noise and Vibration Management Plan; and</p> <p>(b) review, and revise if required, the Source Control Plan; and</p> <p>(c) review advances in noise standards and best practice noise mitigation technology as well as any State or Federal Government initiatives to manage rail noise.</p> <p>If monitoring indicates any substantial exceedance of stated or emerging noise and vibration objectives, as a result of the Project, the Proponent must identify and implement any additional Reasonable and Feasible mitigation measures.</p> <p>A report of the monitoring and review must be submitted to the Director-General within 4 months of the relevant monitoring period, unless otherwise agreed to by the Director-General. Additional Reasonable and Feasible mitigation measures identified must be installed or implemented to the satisfaction of the Director-General in consultation with DECCW and affected receivers.</p> <p>The monitoring and review, and any subsequent mitigation measures must be verified by an independent noise and vibration expert at the Proponent's expense. The independent expert must be approved by the Director-General prior to the relevant review period.</p> <p>For the purposes of this condition, a substantial exceedance is considered to be an exceedance of the LAeq objective by 2dBA, as measured or assessed over a one week period, or exceedance of the LAmax objective by 2dBA, measured or assessed as the energy-mean maximum noise.</p>	ONVMP in Appendix B
CoA 66	The Proponent shall maintain and operate all environmental control equipment installed or used for the Project in proper and efficient manner.	OEMP Section 5
CoA 70	<p>The Proponent must prepare an Operation Hazards and Risk Management Plan (OHRMP) no later than two months prior to the commencement of commissioning of the Project (or as otherwise agreed by the Director-General). As part of the OHRMP the Proponent shall develop, submit for the approval of the Director-General and implement the plans and systems set out as follows:</p> <p>(a) A comprehensive Emergency Plan and detailed emergency procedures for the proposed project. This plan will include detailed procedures for the safety of all people outside of the project who may be at risk from the project. The plan shall be in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 1, "Industry Emergency Planning Guidelines. Alternatively the Proponent may submit a report of a peer review prepared by an independent person, approved by the Director General, confirming that the Emergency Plan adopted by the Proponent has adequately addressed the principles and objectives detailed in the Department's guideline.</p> <p>(b) A document setting out a comprehensive Safety Management System, covering all operations associated with the Project including the</p>	OHRMP in Appendix D

	<p>interfaces with the existing system. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to procedures. Records shall be kept on-site and shall be available for inspection by the Director-General upon request. The Safety Management System shall be developed in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 9, "Safety Management". Alternatively the Proponent may submit a report of a peer review prepared by an independent person, approved by the Director General, confirming that the documented safety management systems to be used by the Proponent have adequately included the principles and objectives detailed in the Department's guideline.</p> <p>Commissioning shall not commence until approval has been given by the Director -General.</p> <p>The proponent shall obtain and monitor records of dangerous goods movements by class. If this monitoring indicates that actual dangerous goods movements are to exceed maximum (year 2018) quantities assumed in the preliminary hazard analysis, the Proponent should notify the Director-General giving projected data for the following 10 years together with a Quantitative Risk Analysis to demonstrate that the NSW risk criteria will not be exceeded. This notification should be submitted to the Director-General as soon as the monitoring indicates that an exceedance is likely to occur.</p>	
CoA 71	<p>The Proponent shall comply with all reasonable requirements of the Director -General in respect of the implementation of any measures arising from the reports submitted in respect of CoA 68 - 70, within such time as the Director- General may agree.</p>	OHRMP in Appendix D
CoA 76	<p>Prior to the Commencement of Operations, or as otherwise agreed to by the Director-General, the Proponent must prepare an Operation Air Quality Management Plan (OAQMP) as part of the OEMP to the satisfaction of the Director-General. The OAQMP would identify:</p> <ul style="list-style-type: none"> a) emission criteria, including long term emission standards; b) strategies and management measures to minimise air quality impacts, including the identification of options for preventing any exceedance of NO2 criteria; c) monitoring and assessment procedures; d) auditing and reporting requirements; and e) community consultation. <p>The OAQMP is to be prepared in consultation with RailCorp, the DECCW and other freight rail operators (as required) as part of the OEMP.</p> <p>Should any monitoring indicate substantial exceedance of identified emission criteria, the Proponent must implement Reasonable and Feasible mitigation measures.</p>	OAQMP in Appendix C
EPL 3142 Condition M4	<p>M4 Recording of pollution complaints</p> <p>M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.</p> <p>M4.2 The record must include details of the following:</p> <ul style="list-style-type: none"> a) the date and time of the complaint 	OEMP Section 3.5

	<p>b) the method by which the complaint was made</p> <p>c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect</p> <p>d) the nature of the complaint</p> <p>e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant and,</p> <p>f) if no action was taken by the licensee, the reasons why no action was taken.</p> <p>M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.</p> <p>M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.</p>	
EPL 3142 Condition M5	<p>M5 Telephone complaints line</p> <p>M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.</p> <p>M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.</p>	OEMP Section 3.5
EPL 3142 Condition E8	<p>Noise monitoring must be carried out:</p> <p>a) <i>In accordance with Australian Standards AS 2659.1-1998: Guide to the use of sound measuring equipment= Part 1- Portable sound level meters, and the compliance monitoring guidance provided in the NSW Industrial Noise Policy.</i></p>	OEMP Section 5.1
EPL 3142 Condition E9	The licensee must undertake dust monitoring as directed by an authorised officer of the EPA.	OEMP Section 5.1
EPL 3142 Condition M1	<p>M1 Monitoring records</p> <p>M1.1: The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.</p> <p>M1.2 All records required to be kept by this licence must be:</p> <p>a) in a legible form, or in a form that can readily be reduced to a legible form;</p> <p>b) kept for at least 4 years after the monitoring or event to which they relate took place; and</p> <p>c) produced in a legible form to any authorised officer of the EPA who asks to see them.</p> <p>M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <p>d) the date(s) on which the sample was taken</p> <p>e) the time(s) at which the sample was collected</p> <p>f) the point at which the sample was taken and,</p> <p>g) the name of the person who collected the sample.</p>	OEMP Section 5.2.5

<p>EPL 3142 Condition R1</p>	<p>R1 Annual return documents</p> <p>What documents must an Annual Return contain?</p> <p>R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:</p> <ul style="list-style-type: none"> a) a Statement of Compliance and, b) a Monitoring and Complaints Summary. <p>A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.</p> <p>Period covered by Annual Return</p> <p>R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.</p> <p>Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.</p> <p>R1.3 Where this licence is transferred from the licensee to a new licensee:</p> <ul style="list-style-type: none"> a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. <p>Note: An application to transfer a licence must be made in the approved form for this purpose.</p> <p>R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:</p> <ul style="list-style-type: none"> a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or f) in relation to the revocation of the licence - the date from which notice revoking the licence operates. <p>Deadline for Annual Return</p> <p>R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').</p> <p>Notification where actual load cannot be calculated</p> <p>R1.6 Not applicable.</p> <p>Licensee must retain copy of Annual Return</p> <p>R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.</p> <p>Certifying of Statement of Compliance and signing of Monitoring and</p>	<p>OEMP Section 5.2.1</p>
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	<p>Complaints Summary</p> <p>R1.8 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:</p> <ul style="list-style-type: none"> a) the licence holder or, b) by a person approved in writing by the EPA to sign on behalf of the licence holder. <p>R1.9 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.</p>	
EPL 3142 Condition R2	<p>R2 Notification of environmental harm</p> <p>Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.</p> <p>R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.</p> <p>R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.</p>	OEMP Section 5.2.2 and 5.2.4
EPL 3142 Condition R3	<p>R3 Written report</p> <p>R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:</p> <ul style="list-style-type: none"> a) where this licence applies to premises, an event has occurred at the premises or, b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event. <p>R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.</p> <p>R3.3 The request may require a report which includes any or all of the following information:</p> <ul style="list-style-type: none"> a) the cause, time and duration of the event b) the type, volume and concentration of every pollutant discharged as a result of the event c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants 	OEMP Section 5.2.2 and 5.2.4

	<p>f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and</p> <p>g) any other relevant matters:</p> <p>R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.</p>	
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