



**Review of regulation
of 'railway systems
activities' under the
*Protection of the
Environment Operations
Act 1997***

Position paper

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You are invited to provide a submission on this position paper. Your feedback on any specific issues is welcome, together with any other matters relevant to the scope of the review.

This position paper is available at: www.epa.nsw.gov.au/licensing/railindustry.htm/

Please provide your comments to the EPA by:

- emailing rail.review@epa.nsw.gov.au, or
- posting your submission to: POEO Rail Sector Regulatory Review, Reform and Compliance Branch, Environment Protection Authority, PO Box A290, Sydney South NSW 1232.

Submissions close at 5 pm on Wednesday 8 October 2014

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Published by:

Environment Protection Authority
59 Goulburn Street, Sydney NSW 2000
PO Box A290, Sydney South NSW 1232
Phone: (02) 9995 5000 (switchboard)
Phone: 131 555 (environment information and publications requests)
Fax: (02) 9995 5999
TTY users: phone 133 677, then ask for 131 555
Speak and listen users: phone 1300 555 727, then ask for 131 555
Email: info@environment.nsw.gov.au
Website: www.epa.nsw.gov.au

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Definitions and abbreviations

Term	Definition
ARTC	Australian Rail Track Corporation
EPA	NSW Environment Protection Authority
EPL	environment protection licence
Metropolitan area	the area of Sydney, Newcastle, Central Coast and Wollongong bounded by and including the local government areas of Newcastle, Lake Macquarie, Wyong, Gosford, Hawkesbury, Blue Mountains, Penrith, Liverpool, Camden, Campbelltown, Wollongong and Shellharbour
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PRP	pollution reduction program
rolling stock	railway vehicles used to transport passengers or freight, or railway vehicles used to maintain railway track and equipment
TfNSW	Transport for NSW

Executive summary

The NSW Environment Protection Authority (EPA) has reviewed the current regulatory framework for the NSW operational rail sector to determine if there is an alternative regulatory framework that would enable environmental impacts of rail activities on the NSW environment and community to be more effectively regulated. The proposals arising from this process form the basis of this position paper.

As part of this process the EPA has consulted with Transport for NSW (TfNSW) and the railway system operators Sydney Trains, the Australian Rail Track Corporation (ARTC) and John Holland Rail.

The review focused on the major regulatory challenges arising from the current licensing approach to the rail sector and considered how these issues will be best managed in the future as the operational rail sector in NSW grows. The main environmental challenge involved in regulating the operational rail sector is to ensure that entities with direct responsibility for the major environmental issues, which are air quality and noise, are held accountable for managing those impacts.

This review did not consider environmental issues arising from rail operations at intermodal hubs and ports as a separate EPA project is considering these matters.

The review established a set of objectives for a regulatory framework for the operational rail sector (see Part 1 section 3). Guided by these objectives, ten alternative regulatory options including the current framework were considered (see Appendix B) to determine which was most effective.

Firstly, the EPA reviewed the effectiveness of the current scheduled activity of 'railway systems activities' in the *Protection of the Environment Operations Act 1997* (POEO Act). This is the scheduled activity used by the EPA to regulate the NSW operational rail sector. This current approach places primary responsibility for operation of track and rolling stock on the network operators. The full details of this review are included in Part 1.

In summary, the review concluded that regulation of the operational rail sector should involve licensing both railway system operators and rolling stock operators under the POEO Act. This is primarily because the current approach to licensing does not make rolling stock operators directly responsible for the environmental performance of rolling stock. This fact has inhibited the EPA from adequately addressing noise and air emissions in the NSW operational rail sector. This regulatory challenge needs to be addressed as a matter of priority, as issues will only be exacerbated in the coming decades with the predicted growth of rail operations in NSW (see Part 1 section 1.1).

Secondly, the EPA reviewed the current approach to regulating construction activities of the NSW rail sector. The full details of this review are included in Part 2 of the paper.

In summary, the review concluded that railway construction activities would be better regulated as a separate scheduled activity to the operational rail network under the POEO Act. It is also concluded that changes should be made so the type of construction work licensed under the POEO Act is determined by the degree of impact of the activity rather than the nature of the rail being constructed. In other words, a project should be licensed based on the construction of track that is more than a certain length rather than having to be associated with operating a rail network of more than 30 kilometres.

The EPA seeks feedback from all interested stakeholders on the proposed changes to the regulatory framework outlined in the position paper.

The EPA will carefully consider all feedback on the position paper and will refine the proposed alternative regulatory framework where necessary in response to issues raised during stakeholder consultation. This process will be completed prior to drafting any amendment regulation to implement the proposed changes.

This position paper is presented in two separate parts with each part addressing a component of the review:

- Part 1: Railway systems operation and operation of rolling stock
- Part 2: Railway systems construction.

Purpose and structure of this position paper

The NSW Environment Protection Authority (EPA) has reviewed the current regulatory framework for the construction and operational aspects of the NSW rail sector, to determine if there is an alternative regulatory framework that would more effectively regulate the environmental impacts of rail activities on the NSW environment and community. The proposals arising from this process are the basis of this position paper.

As a result of this review, this position paper proposes changes to the environmental licensing framework for the NSW rail network under the *Protection of the Environment Operations Act 1997* (POEO Act) to improve the effectiveness of the environmental regulation of all aspects of the rail sector.

This position paper is presented in two separate parts, with each part addressing the following component of the review:

- Part 1: Railway systems operation and operation of rolling stock
- Part 2: Railway systems construction

The EPA seeks feedback from all interested stakeholders on the proposed changes to the regulatory framework outlined in the position paper.

The EPA will carefully consider all feedback and will refine the proposed alternative regulatory framework where necessary in response to issues raised. This process will be completed before an amendment to the regulation to implement the proposed changes is drafted.

Part 1: Railway systems operation and operation of rolling stock

1 Introduction

1.1 The NSW operational rail industry

The NSW rail network consists of approximately 6,400 kilometres of operational rail track. This network is operated by three railway system operators:

- Sydney Trains (metropolitan areas)
- the Australian Rail Track Corporation (ARTC) (interstate rail network, metropolitan freight network and the Hunter Valley network)
- John Holland Rail Pty Ltd (on behalf of Transport for NSW (TfNSW)) (country regional network).

Under the *Border Railways Act 1922*, sections of the Victorian rail network extend into NSW. V/Line holds an environment protection licence (EPL) for 'railway systems activities' as three of the railway lines it operates in Victoria extend a short distance into NSW to Tocumwal, Moulamein and Deniliquin.

There are also a number of small privately-owned and privately-operated railway systems, as well as railway systems operated for heritage-related purposes.

The railway system operators grant rolling stock operators access to their networks under contractual network access agreements. There are currently 29 rolling stock operators holding access agreements with the four railway system operators in NSW.

The rolling stock operators range from large corporations with several hundred locomotives to small operators with less than ten locomotives, and comprise a mix of state-owned and private corporations.

In NSW, rolling stock operators transport passengers and a wide range of freight: such as coal and other minerals, grain, cotton, meat, wine, wool, steel and steel products, and general containerised cargo. There are also a number of heritage-related rolling stock operators who are involved in:

- caring for, managing or preserving heritage rolling stock
- promoting railway heritage and educating the community about it
- operating railway heritage passenger services.

While most passenger services in the Sydney metropolitan area are powered by electric locomotives, much of the other rail activity in NSW is powered by diesel locomotives.

In 2012, the NSW Government released the *NSW Long Term Transport Master Plan* which identifies a clear direction for transport over the next 20 years and the role of each transport mode – rail, road, buses, ferries, cycling, and walking – in meeting future needs. The plan also identifies the need to:

- develop a freight network that maximises benefits to the NSW economy and addresses population growth
- increase productivity and significant growth in freight
- meet environmental and sustainability challenges.

Rail freight plays a critical role in transporting bulk commodities and containerised freight in NSW. As part of *NSW 2021*, the Government is committed to enhancing rail

freight movement and specifically to doubling the proportion of container freight movement by rail through NSW ports by 2020. In 2011, freight and logistics contributed \$58 billion, or 13.8%, to the NSW Gross State Product and freight volumes are expected to nearly double by 2031. As a result, the efficient, effective, and environmentally sound movement of freight is vital to the performance and growth of the state's economy.

The NSW Freight and Ports Strategy seeks to deliver a freight network that efficiently supports NSW's economic growth and balances freight needs with those of the broader community and the environment. Capital is being committed to projects that will increase the efficiency and competitiveness of rail freight transport. Such projects include the Northern Sydney Freight Corridor, Lower Hunter Freight Corridor, Western Sydney Freight Line, Outer Sydney Orbital Corridor and the development of intermodal terminals at Enfield, Moorebank and Western Sydney.

In June 2012, the NSW Government released Sydney's Rail Future which is a long-term plan to increase the capacity of Sydney's passenger rail network by investing in new services and upgrading existing infrastructure. Projects achieving these outcomes include the South West Rail Link, North West Rail Link, Rapid Transit Network and expansion of light rail into new areas. The NSW Government also announced an integrated transport solution for Newcastle, including the replacement of heavy rail with light rail, to transform and revitalise its city centre.

The growth of the NSW rail freight and passenger transport network brings many benefits to the environment and the wider community compared to road transport. These benefits include reduced fuel use and air pollution, lower greenhouse gas emissions¹, less road congestion and better safety. Rail transport is a vital component for achieving sustainable cities and preserving the environment. However, there are adverse impacts that need to be appropriately managed by the rail industry to protect the environment and the health and amenity of the community. These are addressed in section 1.2.

1.2 Environmental issues associated with rail operation

The environmental issues associated with the operation of a rail system, as opposed to the construction of a rail system, include:

- noise and vibration from locomotives
- noise from the wheel/rail interface, such as 'wheel squeal'
- noise from trains idling for excessive periods
- noise from wagons, particularly from the 'bunching and stretching' of wagons
- noise from locomotive brake use
- noise from excessive horn use
- air emissions from diesel locomotives
- noise and dust from track maintenance
- coal loss during rail transport
- leaks and spills of fuel and other substances from locomotives and wagons.

Noise is the primary environmental issue associated with the rail network in NSW. A study undertaken in 2013 by SLR Consulting for TfNSW estimated that

¹ Rail freight greenhouse gas emissions are estimated to be less than half those of road transport for the same quantity of goods moved.

approximately 4,500 residences adjacent to Sydney Trains' network were acutely impacted on by rail noise. The study also indicated that approximately 80% of these residences were exposed to noise from freight operations or a mixture of freight operations and passenger services. While most of the noise issues are associated with the operation of the rolling stock (i.e. excessive idling), some issues (i.e. wheel squeal) arise from the interaction between rolling stock and the railway track.

Air emissions associated with the operation of the rail network have been an emerging issue in recent years. They can be a significant source of particle emissions at the local level. However, there are no air emission standards for locomotives in Australia, nor are there any substantive programs in Australia addressing air emissions from in-service locomotives.² As part of its Non-road Diesel Strategy, the EPA is reviewing management options for reducing diesel emissions from new and in-service locomotives in NSW.

Noise and air pollution impacts on the community from rail are likely to increase in the future as a result of:

- investment in improving the efficiency and capacity of rail and port infrastructure, which will lead to increased movements of freight and passenger trains along the metropolitan and country networks
- expansion of the passenger and freight rail networks into new areas
- increased coal mine outputs, particularly in the northern part of NSW, which will result in substantially increased train movements
- increasing the length and load of freight trains
- the ageing locomotive fleet³
- the development of higher density housing adjacent to public transport hubs, including rail corridors.

1.3 Current environmental regulation of operational rail in NSW

Under the *Protection of the Environment Operations Act 1997* (POEO Act), the occupier of any premises on which a scheduled activity is carried out (as per Schedule 1 of the POEO Act) must hold an EPL under Chapter 3 of the POEO Act.

The EPL regime is a well-established, effective mechanism by which the EPA regulates industrial activities to avoid, minimise and manage the potential localised, widespread, cumulative and acute impacts of pollution in NSW. It provides flexibility and a range of tools to respond proactively and reactively to industry-specific environmental issues. An EPL may include emission and noise limits, pollution reduction programs (PRPs) and monitoring requirements which can drive improvements in the environmental performance of industry more effectively than through the general provisions of the POEO Act.

'Railway systems activities' is identified under Clause 33 of Schedule 1 of the POEO Act as a scheduled activity requiring an EPL. The definition of 'railway systems activities' under Schedule 1 provides that 'rolling stock that is operated on track is

² The European Union and the United States have created and implemented emission standards for their locomotive fleets to reduce air emissions. These emission standards have achieved large reductions in allowable emissions from locomotives. The rail industry in these regions has responded positively to the introduction of these standards by developing locomotives that meet the emission standards and retrofit kits to bring older locomotives into compliance with the standards.

³ The average age of locomotives in Australia is about 21 years compared to eight years in the United States.

taken to be operated by the occupier of the land on which the track is situated' (see Appendix A for full definition including the list of activities exempted from the licensed activity of 'railway systems activities'). Therefore, only the railway system operators (Sydney Trains, ARTC, John Holland Rail Pty Ltd and V/Line) (the occupier of the land) and not rolling stock operators are required to hold EPLs for the operational elements of 'railway systems activities'. Under the current licensing framework, the railway system operators are responsible for the environmental performance and impacts of the rolling stock operating on their railway systems, regardless of the nature of the management or controls they have on that rolling stock. This responsibility is allocated on the basis that the railway system operators can pass on their EPL obligations to third party rolling stock operators through the network access agreements granted to each operator.

The current railway system operator EPLs are available on the EPA's public register – www.epa.nsw.gov.au/prpoeoapp/

Details of the various EPL conditions and non-licence mechanisms the EPA relies on to regulate the environmental impact of rail operations set out above are outlined in the following subsections.

1.3.1 Regulation of noise impacts through current environment protection licences

The two principal means of reducing the noise impact of the rail system through the existing EPLs are:

- Condition L2 of the EPLs, which sets noise criteria for new and substantially modified (as defined in the EPLs) locomotives being introduced to the NSW rail network
- pollution reduction programs (PRPs).

Each of these mechanisms is now addressed in turn.

Condition L2 – Locomotive noise criteria

Condition L2 of existing EPLs requires new or existing locomotives being introduced to the NSW rail network for the first time, or locomotives which have been substantially modified since last being used on the NSW rail network, to be approved by the EPA before they can operate on the NSW rail network. Approvals are based on specified noise criteria, to ensure that the overall noise performance of the NSW locomotive fleet improves over time.

More than 60% of the locomotives operating on the NSW network now meet these noise requirements. However, the legacy of older locomotives has not been reduced at the rate anticipated.

It was presumed that locomotives would require a major overhaul every 8–10 years, and therefore every locomotive operating in NSW would have been substantially modified and assessed against specified noise criteria within a decade. However, this has not been the case, either because many locomotives have not been 'substantially modified' (as defined in the EPLs) when overhauled or the EPA/railway system operator has not been notified when rolling stock operators have substantially modified locomotives.

Approval of a class or type of locomotive under Condition L2 requires only a representative sample of that class or type to undergo noise testing and comply with the criteria. This assumes the performance of locomotives is consistent across the class or type.

There is also no specific condition in the EPL requiring locomotives to be maintained at the noise criteria specified by Condition L2 following approval.

Other noise sources

The noise sources from railway networks also include:

- noise from wagons, particularly from the ‘bunching and stretching’ of wagons
- noise from the wheel/rail interface, such as ‘wheel squeal’
- noise from locomotive break use
- prolonged locomotive idling
- excessive horn use.

There are no specific conditions in the EPL that apply to these noise sources which arise from operation of the locomotive, from operation of other rolling stock or from the rolling stock–railway network interface.

The EPA’s ability to manage these issues is further complicated by the fact that the causes of these operational noise emissions are also often technically complex and poorly understood. Studies and testing have been necessary to develop the long-term solutions needed as the basis for regulatory requirements. The PRPs put in place for this work are described below.

Pollution reduction programs related to noise issues

The EPA can require environment protection licensees to develop and implement PRPs to improve their environmental performance and reduce pollution. PRPs are legally binding and generally require licensees to undertake studies before implementing steps to address environmental problems.

The standard PRPs relating to noise impacts from rail:

- establish a strategic approach to address long-term noise issues associated with the rail network
- address more immediate and discrete noise issues.

Previous or current PRPs imposed on railway system operators’ EPLs relating to rail noise include:

- a) Programs to audit the noise performance of freight locomotives to determine whether noise impacts of locomotives approved under Condition L2 are increasing. Pilot programs were undertaken on both Sydney Trains’ and ARTC’s networks and identified excessively noisy locomotives. A further PRP is being negotiated with ARTC to continue the locomotive noise monitoring program on their network at Metford.
- b) Mitigating the noise associated with train wheel squeal. The PRP required the installation of Top of Rail Friction Modifier Applicator (TORFMA)⁴ units across the RailCorp (now Sydney Trains) network. Thirty TORFMA devices were installed at known hotspots and have helped reduce the impacts of wheel squeal on the community. The PRP also required RailCorp to conduct a pilot locomotive and wagon axle alignment monitoring program to identify wagons and locomotives which had the capacity to cause wheel squeal from misaligned axles. The successful pilot program resulted in the repair of 400 defective wagons, providing benefits throughout the state. This monitoring program is continuing at Beecroft under a further PRP.

⁴ These devices apply a lubricant to curved sections of the track that are susceptible to the generation of wheel squeal.

- c) A review of safety related practices that cause a noise nuisance – specifically, sounding horns and using detonators⁵. This PRP resulted in a reduction of up to 45,000 horn soundings per weekday.

1.3.2 Regulation of air and other environmental impacts through environment protection licences

Current EPLs specify that all plant and equipment used on licensed premises must be properly and efficiently operated. Additionally, EPLs include a general requirement for licensees to minimise dust from their premises. However, EPL conditions do not specifically address issues associated with air emissions from locomotives. A completed PRP included investigating the impacts of RailCorp's (now Sydney Trains') diesel passenger locomotives on air quality, although the results of this program were inconclusive.

To enable the EPA to make informed consideration of the need to require train wagons carrying coal to be covered, the EPA required ARTC to undertake a PRP to investigate whether the movement of uncovered loaded coal trains is contributing appreciably more dust to ambient air quality than other train movements. The investigation found that there was no appreciable difference in dust levels from the movement of loaded coal trains compared with other types of freight trains. Therefore, it did not support the view that air quality would be significantly improved by covering coal wagons. However, the results of this monitoring indicate some other possible issues relating to coal trains and the rail industry in general such as air quality impacts from coal loss due to inadequate loading and unloading practices, and from exhaust emissions from locomotives.

Based on this information, the EPA is investigating coal handling and management practices during loading, transporting and unloading coal, as well as reviewing management options for reducing diesel emissions from new and in-service locomotives in NSW.

EPLs specify that the licensee must not pollute any waters and must carry out the movement of materials and substances in a competent manner. The EPLs otherwise do not specifically address issues associated with leaks of fuel and other substances from locomotives and wagons.

1.3.3 EPA regulation of environmental impacts through other means

In addition to using EPL conditions and PRPs to address immediate and site-specific issues or to drive environmental performance across the industry, the EPA works collaboratively with industry. This approach has been applied at Thirroul on the NSW south coast to address noise and air emissions caused by idling and at Tighes Hill in the Lower Hunter region to address noise from banging wagons (also known as bunching and stretching). In these instances, the EPA worked with all parties involved (e.g. the railway systems operator, rolling stock operators, and operators of other facilities) to negotiate solutions with lesser impacts. However, as rolling stock operators are currently not licensed, the EPA's influence on the management practices of these operators is limited and the success of this approach has largely depended on industry cooperation.

⁵ Detonators may be used as warning devices where work is being undertaken on or adjacent to railway tracks with running trains.

2. The problem – limitations of the current NSW regulatory framework

As discussed in section 1, the POEO Act states that rolling stock ‘operated on rail track’ is taken to be operated by the occupier of the land on which the track is situated (see Appendix A for full definition). This means that railway system operators, rather than rolling stock operators, must be licensed. As a result, railway system operators are held legally responsible for the activities of third party rolling stock operators regardless of whether they have management or control of that rolling stock.

The current model is based on the premise that railway system operators can pass on their EPL obligations to the third party rolling stock operators through the contractual network access agreements granted to each operator. It therefore tries to achieve environmental outcomes through what are essentially commercial arrangements.

In practice, the current regulatory framework has serious limitations. These have included contests over whether railway system operators can enforce their environmental obligations under EPLs through their contractual arrangements with third parties. As a result, the current regulatory framework has not achieved the level of on-the-ground benefits for the environment and the community that were intended, and has created a range of administrative inefficiencies and concerns regarding liability.

The crux of the problem is that as only railway system operators have EPLs, rolling stock operators are not directly accountable to the EPA for their environmental performance. Many environmental impacts associated with the operational rail network, including the primary issue of noise, arise from issues that are fully or partly the responsibility of rolling stock operators, such as locomotive engine performance, the interaction of rolling stock on rail tracks and driver behaviour.

As a result, administering the railway system operators’ EPLs is very complex and presents fundamental challenges in enforcing environmental responsibilities and achieving acceptable environmental performance by the rail industry.

The lack of direct environmental accountability for rolling stock operators means that environmental issues and community concerns are often difficult to resolve. This has resulted in increasing community concern and frustration regarding the rate of progress in resolving environmental issues associated with the rail network, particularly noise and air emissions from rolling stock.

Therefore, the EPA considers that the impacts of the operational rail network on the environment and community cannot be adequately addressed under the existing regulatory framework, that is, by licensing only railway system operators under the POEO Act.

3. The solution – considering an alternative to the current NSW regulatory framework

The EPA considers an alternative regulatory framework is required to effectively regulate the environmental impacts of the operational rail network and address the following limitations of the current approach as set out in section 2:

- lack of on-the-ground improvements for the environment and the community
- administrative inefficiencies
- concerns regarding liability resulting from only licensing railway operators.

In the absence of national legislation or suitable industry standards relating to the environmental performance of the rail industry, the NSW Government needs to consider ways of building an effective regulatory framework⁶.

The EPA, in consultation with TfNSW, Sydney Trains and ARTC, has undertaken a review of 10 regulatory options for the NSW operational rail sector, including the preferred proposal outlined in the executive summary. This review has involved identifying the key objectives of a regulatory framework for the NSW operational rail sector (see section 3.1) and, with reference to these objectives, assessing alternative regulatory frameworks (see section 3.2).

3.1 Objectives of an alternative NSW rail regulatory framework

The identified objectives were:

1. prevent unacceptable and avoidable environmental impacts of rail where Government action is needed
2. provide a consistent approach across industry participants
3. incorporate the polluter pays principle to apportion appropriate responsibility
4. provide up-front information and certainty to the industry about the level of environmental performance it needs to achieve
5. provide a reasonable assurance to the community that issues are being managed appropriately
6. provide flexible, effective, fit-for-purpose regulatory tools for the EPA to manage all industry participants
7. end the current impasse as to respective responsibilities of those in the rail industry
8. minimise red tape, costs and administrative burden for the industry
9. minimise costs and the administrative burden for the EPA.

3.2 Possible regulatory frameworks

The potential regulatory frameworks assessed were:

1. Continue with the current framework of only licensing railway system operators under the POEO Act, that is, no change.
2. Continue to only license railway system operators under the POEO Act and strengthen network access agreements.
3. License only rolling stock operators under the POEO Act.

⁶ The National Transport Commission has previously indicated it does not intend to develop national legislation to regulate the environmental impacts of rail and is instead focusing on rail safety.

4. Develop a new regulation under the POEO Act to manage the rail industry.
5. Continue to only license railway system operators under the POEO Act and actively regulate rolling stock operators under existing general powers in the POEO Act.
6. Improve the environmental performance of the rail industry using economic incentives.
7. Introduce issues-based regulation of the rail industry, e.g. measures to deal with wheel squeal.
8. Self-regulation by the rail industry
9. Pass responsibility for regulating the rail industry to the Australian Government.
10. License both railway system operators and rolling stock operators under the POEO Act.

The advantages and disadvantages of these options are discussed in more detail in Appendix B.

An assessment of these options concluded that the most effective and practical framework for regulating the environmental impacts of the operational rail industry is option 10. This option would involve issuing EPLs to:

- railway system operators for railway system-related issues such as the operation, repair, maintenance and upgrading of a railway system
- rolling stock operators for the operation of rolling stock.

This framework is expected to result in significantly better environmental outcomes than the current framework as it recognises that both rolling stock operators and railway system operators contribute to pollution impacts and therefore are responsible for resolving them. This framework also provides an effective mechanism for addressing environmental issues such as wheel squeal that require joint management from railway system operators and rolling stock operators.

4. The proposed alternative regulatory framework in detail

Implementation of the proposed alternative framework, i.e. the direct licensing of both railway system operators and rolling stock operators under Schedule 1 of the POEO Act, would require the legislation to be amended.

To give effect to the proposed framework, it is proposed that there would be two separate premises-based activities: 'railway systems operation' and 'rolling stock operation'. Both activities would require the person controlling them to have an EPL⁷

This would need to be given effect through an amendment regulation.

The intended detail of the proposed alternative regulatory framework is outlined below.

4.1 The scheduled activity

4.1.1 Railway system operator

1. The activities of railway system operators would require a licence when they operate a railway system that comprises a network of more than 30 kilometres of railway corridor (where railway corridor means the land on which a railway system is built, comprising all property between property fences, or, where there are no fences, 10 metres from the outside rail of the outside track). This maintains the status quo.
2. The activities of a railway system operator that would be licensed are the operation, on-site repair, on-site maintenance and on-site upgrading of a railway system.
3. The operation of light forms of rail (e.g. trams, mono rail and inclined rail) would not be required to be licensed. This exclusion does not exist under the current framework. However, there are currently no light rail networks that meet the definition of 'railway systems activities' and therefore require an EPL. The EPA considers that the operation of light rail does not have significant impacts on the environment and the community compared to heavy rail, so licensing is not warranted. This activity will continue to be regulated under the general provisions of the POEO Act. (Note: The construction of light rail systems is addressed in Part 2 of this paper.)
4. The current exemptions listed in the definition of the licensed activity of 'railway systems activities' (see Appendix A) would continue. These include:
 - an activity in a railway workshop, including the use of fuel burning equipment
 - repair, maintenance or upgrading of track away from the track site
 - an activity at a railway station building (including platforms and offices)
 - loading of freight into or onto, and unloading of freight from, rolling stock
 - an activity at a freight depot or centre⁸

⁷ Note: it is also proposed that rail construction activities, which also form part of the current definition of 'railway systems activities' under Clause 33 of Schedule 1 of the POEO Act would form a third standalone licensed activity relating to the rail industry (refer to Part 2 of the discussion paper).

⁸ This exemption includes intermodal freight terminals. The regulation of intermodal freight terminals are not within the scope of this review. The EPA intends to undertake a separate review of the POEO Act as it applies to intermodal terminals and other freight handling facilities

- operation of signalling, communication or train control systems
- an activity at a railway fuel depot
- refuelling of rolling stock.

Where the railway system operator does not require an EPL but is a public authority, the EPA would remain the appropriate regulatory authority under the POEO Act for that operator's activities. In all other cases where the railway system operator does not require an EPL, the local council would be the appropriate regulatory authority. This is consistent with the current regulatory framework where local councils regulate the activities undertaken on unlicensed private rail networks.

4.1.2 Rolling stock operator

1. The activities of rolling stock operators would require a licence when undertaken on a railway system that comprises a network of more than 30 kilometres of railway corridor operated by the same railway system operator.
2. The definition of rolling stock would include:
 - locomotives, with or without attached wagons
 - wagons, whether attached or unattached, empty or full
 - railway vehicles used to maintain railway track and equipment.
3. All rolling stock operators, other than heritage operators as outlined in Point 4 below, would require an EPL. The EPA considers this approach is more appropriate than setting a threshold of activity over which an EPL would be required, for two main reasons. Firstly, all rolling stock operators contribute to the environmental issues associated with the rail network, particularly noise and air emissions. Secondly, a threshold approach would create an uneven playing field for rolling stock operators. It would provide no incentive for smaller operators to improve their performance and might provide an incentive for larger rolling stock operators to divide into smaller units to avoid licensing.
4. The current exemptions for heritage operations would continue. That is, operators of rolling stock used solely for heritage purposes would be exempted from the requirement to hold an EPL. Any operator of heritage rolling stock which is used to haul freight or maintain railway track and equipment for commercial gain would lose this exemption and would therefore require an EPL if these activities were undertaken on a railway system that comprises a network of more than 30 kilometres of railway corridor operated by the same railway system operator.
5. Rolling stock (being the locomotive(s) and all attached wagons) would be considered to be operated by the entity which has management or control of the locomotive(s). That is, it would be the entity operating the locomotives who is responsible under their EPL for the environmental performance of these locomotives and attached wagons; even where the entity operating the locomotives is not the owner of the locomotives or wagons. This is consistent with the POEO Act which requires the occupiers of premises to hold EPLs and which defines 'occupier of premises' as the person who has the management or control of the premises. Further, the entity operating the locomotives would be responsible under their EPL for the environmental performance of unattached wagons (parked on a licensed railway system) when they were the last entity to have the wagon attached to their rolling stock, even where the entity operating the locomotives is not the owner of the unattached wagon.

The proposed framework would retain the ability for an entity which is both a railway system operator and a rolling stock operator to hold a single EPL covering both functions.

Where the rolling stock operator does not require an EPL but is a public authority, the EPA would remain the appropriate regulatory authority under the POEO Act for that operator's activities. In all other cases where the rolling stock operator does not require an EPL, the local council would be the appropriate regulatory authority. This is consistent with the current regulatory framework where local councils regulate the activities undertaken on unlicensed private rail networks.

4.2 Environment protection licences

4.2.1 Railway system operators

Under the proposed alternative regulatory framework, railway systems operators would continue to be required to hold EPLs.

Existing EPLs include general operational conditions relating to air, water and noise pollution, and waste. The EPLs cover operation, maintenance and some construction activities, and include conditions requiring notification of incidents, reporting and the operation of a complaints phone line. Conditions unique to 'railway systems activities' EPLs include:

- locomotive noise criteria and the associated requirement for EPA approval before new and substantially modified locomotives can operate on the network
- PRPs relating to key noise issues on the network.

The content and application of the railway system operators EPLs are not expected to significantly differ under the proposed alternative regulatory framework. The general conditions would remain unchanged although, as the railway system operators would not be responsible for the operation of third party rolling stock, the locomotive noise criteria and associated requirement for EPA approval would be removed from their EPLs if they do not operate rolling stock. PRPs relating to key noise issues on the network would continue to be included (see section 4.3 for more information).

Further, the railway system operators would still be expected to:

- play a key role in identifying rolling stock which is subject to pollution complaints made to the EPA to allow the EPA to effectively respond to such complaints
- make all reasonable inquiries to identify the operators of rolling stock which are subject to pollution complaints to allow the operators to take appropriate action to address the complaint.

It is intended that these roles would remain a requirement on the railway system operator EPLs under the proposed framework.

4.2.2 Rolling stock operators

Under the proposed alternative regulatory framework, there is a new requirement for rolling stock operators to hold an EPL for specified activities.

The initial rolling stock operator EPLs would contain similar requirements for operation of rolling stock to those in the existing railway system operator EPLs including:

- locomotive noise criteria and the associated requirement for EPA approval before new and substantially modified locomotives can operate on the network

- proper and effective maintenance of all plant and equipment, including rolling stock
- proper and effective operation of all plant and equipment, including rolling stock
- activities to be carried out competently
- dust to be minimised
- PRPs required for key noise issues on the network (see section 4.3 for more information).

Additionally, as part of its Non-road Diesel Strategy, the EPA is currently investigating imposing diesel emissions standards on new and existing locomotives operating in NSW. One possible mechanism for implementing such standards could be through EPL conditions.

It is intended that, at least initially, the same EPL requirements would apply to all rolling stock operators. Over time, individual conditions or PRPs relating to specific issues or locations might be applied to a particular rolling stock operator's EPL. Also, poor environmental performance by a particular rolling stock operator might require more stringent conditions to be imposed on its EPL to ensure ongoing protection of the environment and community.

4.2.3 Pollution reduction programs

To date, PRPs for the rail sector:

- establish a strategic framework to address long-term issues associated with the rail network
- address more immediate and discrete or localised issues.

It is envisaged that PRPs will continue to be used in this way to improve environmental performance of railway system operators, rolling stock operators and the industry as a whole.

PRPs regarding issues that relate to the operation of activities of both railway systems operators and rolling stock operators, or require the involvement of both parties, may be included as a requirement on EPLs of both railway system operators and rolling stock operators. For example, PRPs relating to angle-of-attack monitoring and locomotive noise monitoring under Sydney Trains' and ARTC's EPLs respectively (as discussed in section 1.3.1) would be likely to, under the alternative framework, still require the railway system operators, through a PRP, to operate and maintain the respective monitoring systems and provide the monitoring data to the relevant rolling stock operators. The rolling stock operator EPLs would have their own corresponding PRPs or licence conditions with requirements to undertake inspections of poorly performing rolling stock identified by the monitoring programs and to correct any faults or undertake any required maintenance.

Railway systems operators and rolling stock operators would be required to contribute financially to these programs.

5. Impacts of the proposed regulatory framework

The proposed alternative regulatory framework is not expected to have a significant economic impact on the operational rail industry as a whole, because the activities of rolling stock operators are already regulated under the current licensing framework through the railway system operators' EPLs. The proposed framework shifts accountability for meeting EPL requirements to the entity with effective management and control of the operation of rolling stock (i.e. from the railway system operators to the rolling stock operators). This will allow the environmental performance of the NSW rail sector to be better managed, benefiting the environment and community.

5.1 Impacts on rolling stock operators

The costs associated with holding an EPL include:

- the EPL fee

The annual licensing fee for a 'railway systems activities' EPL in any capacity is 50 administrative fee units (currently \$5,650). The current fee associated with railway systems activities does not adequately reflect the costs associated with regulating the operational rail network. The EPA will therefore be considering amending the annual licensing fee for 'railway systems activities.'

Currently, no load-based licensing fees would apply to rolling stock operators' EPLs as the operation does not produce any 'assessable pollutants under the EPA's load-based licensing scheme. However, the load-based licensing scheme is being reviewed, with a discussion paper for public consultation being released later in the year.

In accordance with the POEO (General) Amendment (Licensing Fees) Regulation 2014, the EPA is implementing a risk-based licensing system which aims to ensure that all environment protection licensees receive an appropriate level of regulation based on the level of risk their activities pose to human health and the environment. The EPA will assess the site-specific risks posed by each licensed premises and identify any environmental issues that a licensee needs to address, and where the EPA needs to focus its regulatory attention.

The calculation of licence administrative fees will incorporate a link between the environmental performance of a licensee and licence fees from 1 July 2016. Operators who perform well and minimise their environmental risk will be rewarded with a reduction in their licence fees, while operators who perform poorly will need to pay licence fees that provide them with an incentive to improve their performance.

- EPL administration costs

EPL administration costs include costs associated with preparing a pollution incident response management plan, annual returns, operating a telephone complaints line and recording pollution complaints.

Under the proposed framework, the EPA is committed to providing upfront and ongoing assistance to rolling stock operators in applying for and administering EPLs, including:

- a proposed 'grace', or transitional, period for rolling stock operators to apply for an EPL once an amendment regulation has commenced

- assisting individual rolling stock operators, as required, with the process of applying for an EPL and understanding the requirements of their EPL.

There is also a broad range of guidance material on the EPA's website relating to EPLs at www.epa.nsw.gov.au/licensing/index.htm.

- EPL compliance costs

The impact of this on any particular rolling stock operator would depend on the current environmental management practices employed by that organisation and the degree to which they align with licence requirements.

Currently, PRPs to investigate and address environmental issues on the rail network that involve both railway system operators and rolling stock operators are financed by the railway system operators. Under the proposed regulatory framework, both parties would be required to contribute financially to these programs and any additional programs that may be required.

The proposed alternative regulatory framework would provide rolling stock operators with clarity and consistency regarding the required level of environmental performance, due to being regulated directly under one licence rather than indirectly by up to four railway system operators. By holding an EPL, rolling stock operators will be able to liaise and negotiate directly with the EPA on EPL conditions, including PRPs and other regulatory matters that affect their business. That is, they would no longer be reliant on third party railway system operators to negotiate on issues that affect their operations.

By being licensed, rolling stock operators would improve their awareness of and focus on environmental management issues, leading to better environmental outcomes and enhanced community acceptance and support for the NSW rail industry.

Specific benefits for rolling stock operators as result of improved environmental performance may include:

- reduced operational, maintenance and energy costs from more efficient management practices such as implementing idling reduction strategies, driver education or driver assistance systems, and other fuel reduction strategies
- reduced waste clean-up and disposal costs from reduced risk of fuel and other substance spills
- reduced community, political and environmental risks and liabilities due to improved relations with the community and by meeting regulatory requirements
- enhanced company image and associated market edge, by being seen by potential customers as a progressive, well managed organisation which takes responsibility for and manages its impacts
- better employee morale such as improved management practices leading to increased operator job satisfaction due to reduced impacts on the community as a result of reducing prolonged idling or noise from the 'bunching and stretching' of wagons.

5.2 Impacts on railway system operators

Under the proposed regulatory framework, railway systems operators would continue to be required to hold EPLs. The costs associated with holding an EPL would include:

- the EPL fee

The annual licensing fee for a railway systems activities EPL in any capacity is 50 administrative fee units (currently \$5,650). The current fee associated with

railway systems activities does not adequately reflect the costs associated with regulating the operational rail network. The EPA will therefore be considering amending the annual licensing fee for railway systems activities.

Currently, no load-based licensing fees would apply to railway system operators' EPLs as the operation does not produce any assessable pollutants under the EPA's load-based licensing scheme. However, there may be an additional EPL administrative fee as a result of the POEO (General) Amendment (Licensing Fees) Regulation 2014 which introduces a link between the environmental performance of a licensee and licence fees. Operators who perform well and minimise their environmental risk will be rewarded with a reduction in their licence fees, while operators who perform poorly will need to pay licence fees that provide them with an incentive to improve their performance.

- EPL administration costs

These include costs associated with preparing a pollution incident response management plan, annual returns, operating a telephone complaints line and recording pollution complaints. These costs would be expected to remain similar to how they are now. As outlined in section 4.1.1, the railway system operators would still be expected to play a key role in identifying particular rolling stock subject to pollution complaints made to the EPA or themselves to assist in remedying the issue.

- EPL compliance costs

The proposed alternative regulatory framework recognises that both railway system operators and rolling stock operators have environmental responsibilities and makes them directly accountable for their respective environmental performance. It therefore relieves railway system operators of any role in ensuring compliance by third party rolling stock operators with environmental obligations. This would result in cost savings for the railway system operator.

Further, current PRPs to investigate and address environmental issues on the rail network that involve both railway system operators and rolling stock operators are currently financed by the railway system operators. Under the proposed regulatory framework, both parties would be required to contribute financially to these programs.

For railway systems operators, the overall impact of the proposed approach would result in lower costs, remove concerns regarding liability and reduce red tape.

5.3 Impacts on the environment and community

The EPL regime under the POEO Act is well established, a known effective regulatory mechanism for a range of industries and understood by the community. It provides flexibility and a range of tools to respond proactively and reactively to environmental issues associated with the rail network.

As the proposed alternative framework involves directly regulating both rolling stock operators and railway system operators through EPLs, the environmental performance of the rail industry can be better managed and issues impacting on the environment and community can be more effectively and directly addressed through direct licensing of the responsible party.

This approach is therefore expected to result in significantly better environmental outcomes than the current approach.

As discussed in section 4.1, under the proposed framework neither railway system operators nor rolling stock operators require an EPL for activities on a railway system that comprises a network of less than 30 kilometres of rail corridor. Where the railway system or rolling stock operator does not require an EPL but is a public authority, the EPA would remain the appropriate regulatory authority under the POEO Act for that operator's activities. In all other cases where the operator does not require an EPL, the local council would be the appropriate regulatory authority.

The involvement of two regulatory authorities in rail regulation may be confusing for the community. However, this arrangement is not different to the status quo. Currently the issue of identifying the appropriate regulatory authority is managed by liaison between the relevant authorities and where necessary, referrals between the EPA and the relevant local council and vice versa. This occurs on an ad hoc basis as issues arise, and the EPA's experience is that this process functions effectively given the cooperative relations between the relevant sections of each authority. The proposed regulatory framework is therefore not considered to increase the complexity of regulation for the community.

5.4 The impact on local government

As discussed in section 4.1, under the proposed alternative regulatory framework, local councils would continue to be the appropriate regulatory authority under the POEO Act for the activities of private sector rolling stock operators on a railway system that comprises a network of less than 30 kilometres of rail corridor. This is consistent with the current regulatory framework and therefore would not result in increased activity for local councils.

It is expected that the proposed alternative regulatory framework would reduce the regulatory demands on local government. The expected improved environmental performance of rolling stock operators achieved through the proposed regulatory framework would be expected to have a flow-on effect to all areas of the NSW railway system, resulting in fewer issues requiring local government intervention. For example, any improvements made to the noise and emissions performance of the rolling stock fleet as a result of direct licensing of rolling stock operators would result in benefits wherever they operate.

5.5 EPA's administration costs

The prescribed EPL administrative fees for rolling stock operators would only partially recover the EPA's costs of administering the EPLs as is the case for other licensed activities.

6. Next steps

This position paper can be downloaded on the EPA website at

www.epa.nsw.gov.au/licensing/railindustry.htm

The EPA seeks feedback from all interested stakeholders on the proposed alternative regulatory framework outlined in this position paper.

Stakeholders are invited to provide a written submission to the EPA on the proposal by:

- emailing rail.review@epa.nsw.gov.au, or
- posting the submission to POEO Rail Sector Regulatory Review, Reform and Compliance Branch, Environment Protection Authority, PO Box A290, Sydney South NSW 1232.

All submissions received by **5 p.m. on Wednesday 8 October 2014** will be considered.

Interested stakeholders are also invited to meet individually with the EPA if necessary during the exhibition period to discuss the proposal to amend the regulatory framework. Please email rail.review@epa.nsw.gov.au to arrange a meeting.

The EPA will carefully consider all feedback on the position paper and undertake further consultation as required based on issues identified in submissions.

The EPA will refine the proposed alternative regulatory framework where necessary in response to issues raised during stakeholder consultation.

A consultation draft of the proposed amendment regulation to implement the proposed changes to the Schedule 1 of the POEO Act will then be prepared and exhibited before the final amendment regulation is prepared.

Part 2: Railway systems construction

1 Introduction

This part examines the construction aspects of the scheduled activity: 'railway systems activities', and proposes separating regulation of the construction of major rail infrastructure from regulation of the operational network, as is currently the case under the POEO Act.

2. The role of rail in NSW

In 2012, the NSW Government released the *NSW Long Term Transport Master Plan* to identify a clear direction for transport over the next 20 years and the role of each transport mode – rail, road, buses, ferries, cycling, and walking – in meeting future needs. The plan also identifies the need to develop a freight network that maximises benefits to the NSW economy and addresses population growth, increases productivity and significant growth in freight, and meets environmental and sustainability challenges.

The movement of freight on the rail network in NSW is essential to the success of the NSW economy. Investment in the intermodal freight network, the construction of dedicated freight lines and numerous projects in the Hunter Region will facilitate this success.

The growth of the NSW rail transport network benefits the wider community by reducing fuel use, air pollution and greenhouse gas emissions⁹, producing less road congestion and being safer than road transport. Rail transport is a vital component for achieving economic growth, sustainable cities and preserving the environment.

Nevertheless, adverse effects on residents living adjacent to existing and future railway lines can occur from both the operational rail network and rail development projects. These impacts need to be managed to protect the amenity and wellbeing of affected local communities living near railway lines.

⁹ Rail freight greenhouse emissions are estimated to be less than half of those from road transport for the same quantity of goods moved.

3. The environmental issues associated with rail construction

The key environmental issues associated with both the operational rail network and railway construction are noise and air emissions.

Railway construction works typically create environmental concerns for local communities over long timeframes spanning months or even years. The main issues are noise and vibration, especially from works undertaken outside standard construction hours¹⁰, and air quality issues from dust and emissions from on-site construction equipment. The EPA and the community are also concerned about water quality impacts of construction projects.

In contrast, the operational rail network affects residents living adjacent to the entire length of the network over the lifetime of its operation although some issues have localised impacts. Issues of concern, discussed in detail in Part 1, include noise and vibration from locomotives, wheel squeal, noise from idling trains, shunting noise, noise from locomotive brake use and horn use, air emissions from locomotives, fugitive emissions from coal train wagons, and leaks and spills of fuel and other substances from locomotives and wagons.

The current investment in rail infrastructure to expand the passenger and freight networks and improve the efficiency of existing networks, coupled with the development of higher density housing adjacent to public transport hubs, including rail corridors, are likely to result in increased noise and air impacts on the community from rail construction and operation.

These impacts need to be managed to protect the environment and the health and amenity of local communities living near railway lines. Since 'operation of the railway network' and 'railway construction' are distinct activities with different impacts on the environment and community, it is appropriate that activity-specific regulatory approaches are adopted.

¹⁰ Standard construction hours recommended by the NSW Interim Construction Noise Guideline are Monday to Friday 7 am to 6 pm, Saturday 8 am to 1 pm and no work on Sundays or public holidays.

4. Current regulation of rail construction in NSW

Schedule 1 of the POEO Act specifies a list of activities (broadly, activities with potentially significant environmental impacts) that require an EPL and therefore regulation by the EPA. The schedule includes 'railway systems activities'. This scheduled activity covers both the operation of rolling stock on a track that forms part of a network greater than 30 kilometres in length and railway construction associated with that network (see Appendix A). With respect to the construction aspect of railway systems activities, a list of ancillary activities requiring an EPL is specified, but no threshold is provided to specify the scale of activities that are to be included under an EPL.

When the legislation was introduced, a single government entity was responsible for the NSW rail network and appropriately held an EPL that covered operation of the network and associated construction works. However, since then the number of railway systems operators in NSW has increased to four. The current NSW rail network is managed by Sydney Trains, the ARTC, John Holland Rail Pty Ltd and V/Line¹¹. Further, government investment in transport infrastructure over the last 15 years has resulted in the construction of a number of rail infrastructure projects in the Sydney metropolitan area and Hunter region by public and private entities apart from these railway system operators.

Without a threshold for licensing rail construction provided in the schedule, and given the potential significant environmental impacts of these projects and the need to regulate their specific localised impacts, further detail was included in the railway system operators' EPLs to specify when a rail construction project required a separate EPL: a qualitative trigger of 'significant noise impacts in residential areas' is specified in ARTC's EPL and a quantitative threshold of '1 km of new track in the metropolitan area¹² and 5 km of new track in rural areas' is specified in Sydney Trains and John Holland's EPLs.

¹¹ V/Line holds a NSW EPL for railway systems activities as three of the railway lines it operates in Victoria extend a short distance into NSW to Tocumwal, Moulamein and Deniliquin.

¹² "metropolitan area" means the area of Sydney, Newcastle, Central Coast and Wollongong bounded by and including the local government areas of Newcastle, Lake Macquarie, Wyong, Gosford, Hawkesbury, Blue Mountains, Penrith, Liverpool, Camden, Campbelltown, Wollongong and Shellharbour.

5. Limitations of the current regulation

The current regulatory framework for rail construction is unclear, administratively inefficient and inconsistent with the intent of the environment protection licensing provisions in the POEO Act.

A key intent of the environment protection licensing provisions of the POEO Act is for the EPA to regulate activities with potentially significant environmental impacts. A threshold above which licensing is required for activities is specified for each activity proportionate to its environmental risk. No threshold is provided for rail construction, meaning all railway construction associated with the network has to be licensed. Not all rail construction projects have equivalent environmental impacts in terms of sensitive receivers and the receiving environment, with scale, duration and location being contributing factors. In accordance with the intent of the environment protection licensing provisions of the POEO Act, the EPA should focus its regulatory effort on railway construction projects with potentially significant impacts.

The use of an undefined, qualitative trigger ('significant noise impacts in residential areas') to determine what rail construction is authorised under the railway systems operators' EPLs, however, has proved difficult. It provides no certainty for the regulator, licensee or community as to what is authorised under the EPL and has been administratively burdensome, requiring the EPA to divert resources from regulation of the environmental impacts of the projects to disputes about whether projects require individual licensing.

The quantitative threshold, recently introduced into Sydney Trains and John Holland's EPLs but not yet ARTC's EPL, provides clarity and certainty about what construction works are covered by their EPLs and to date, has resulted in few additional EPLs being issued.

As only rail construction associated with an operational network is licensable, any rail construction undertaken outside these parameters does not require an EPL. Rail construction on private lines that are less than 30 kilometres long and rail construction associated with light rail networks less than 30 kilometres long are therefore exempt from the requirement to hold an EPL. This produces an inequitable and inconsistent regulatory approach to rail construction in NSW, as the impacts of similar rail construction projects are comparable regardless of the size of the network to which they relate.

Indeed, the Sydney Light Rail Inner West Extension is the only 'rail and related transport' major project (other than intermodal terminals or support facilities) that has not required an EPL for construction¹³. The importance of light rail as a mode of transport, particularly in metropolitan areas, is anticipated to increase in the future with a number of light rail projects currently being proposed for Sydney and Newcastle.

In summary, the current regulatory approach is not ideal because:

- licensing of rail construction is linked with the operation of the rail network. These are distinct activities with different impacts on the environment and community, requiring activity-specific regulatory approaches;
- Contrary to the intent of the POEO Act environment protection licensing provisions, the scheduled activity: 'railway systems activities' captures all railway construction associated with the operation of the rail network and not just

¹³ The Sydney Light Rail Inner West extension did not require an EPL for construction as the current light rail network is less than 30 kilometres long.

construction with significant environmental impacts. Use of a qualitative trigger in the railway system operators' EPLs to clarify this issue has been confusing and administratively burdensome.

- Only rail construction associated with the operation of the rail network is licensable, resulting in an inequitable, inconsistent regulatory approach to rail construction in NSW.

6. Proposed alternative regulation for rail construction

The scheduled activity: 'railways systems activities' covers both the operation of the rail network and railway construction. Schedule 1 of the POEO Act lists 43 operational activities and one construction activity. No other scheduled activity covers both operations and construction. Construction works for other scheduled activities are captured by scheduled development work EPLs. The POEO Act requires an EPL to be held for scheduled development work (referred to hereafter as a 'scheduled development work EPL') which is defined as: 'work at any premises at which scheduled activities are not carried on that is designed to enable scheduled activities to be carried on at the premises'.

As outlined above, rail construction and the operation of the rail network are distinct activities with different impacts on the environment and community. Further, the impacts of a rail construction activity are not related to whether the construction is associated with an operational rail network or a private railway. This should therefore not be a determining factor for licensing.

A consistent regulatory approach should be applied across all rail construction undertaken in NSW.

It is therefore proposed that the construction of rail projects with potentially significant environmental impacts be separated from operation of the rail network and that the definition of 'railway systems activities' include a separate category, 'railway systems construction', for these projects.

It is further proposed that the quantitative threshold in Sydney Trains and John Holland's EPLs and the qualitative threshold in ARTC's EPL be removed and a threshold to trigger licensing for rail construction be included in the scheduled activity 'railway systems construction'. This would align 'railway systems construction' with the intent of the environment protection licensing provisions of the POEO Act and enable the EPA to focus its regulatory effort on activities with potentially significant environmental impacts.

To overcome difficulties experienced with the previous use of a qualitative trigger and for consistency with other activities in the schedule, a quantitative trigger of making construction projects that are more than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas subject to regulation under an EPL is proposed. The basis for this trigger is as follows:

- It aligns with the POEO Act scheduled activity 'road construction' for main roads¹⁴. This is deemed appropriate as road construction and rail construction have similar impacts on sensitive receivers and the receiving environment.
- All major projects including state significant infrastructure and developments that are rail construction projects and have triggered the requirements for an EPL under the existing regulatory framework would trigger a requirement for an EPL under the proposed framework.
- It should not result in a significant increase in the number of EPLs for 'railway systems activities'.

¹⁴ The POEO Act provides a different trigger for construction of a 'freeway or toll-road' of 1 kilometre in the metropolitan area. Rail construction projects 1–3 kilometres long largely comprise loops, junctions, turn backs and stabling yards. The environmental risk associated with these types of projects does not warrant individual EPLs.

Regardless of the introduction of a threshold, the EPA would remain the appropriate regulatory authority for most rail construction works because:

- the EPA is the appropriate regulatory authority for works undertaken by or on behalf of public authorities, and is therefore responsible for regulation of all the activities of Sydney Trains
- although rail construction projects less than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas would not require an EPL, where the projects are scheduled development work for railway system operator networks (using the terminology of the proposed alternative regulatory framework outlined in Part 1, being operations covered by the railway system operators EPLs), they would require a scheduled development work EPL. In accordance with section 44(1) of the POEO Act, an EPL can authorise both scheduled development work and scheduled activities. Therefore the railway system operators' EPLs could cover scheduled development work, provided that work was being undertaken by or on behalf of the railway system operator. Alternatively, a separate scheduled development work EPL could be applied for by the relevant entity.
- With the separation of rail construction projects from operational network projects, the EPA would become the appropriate regulatory authority for all rail construction projects more than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas. This change would mean the EPA would licence light rail projects and projects associated with private railways, which are currently not licensed.

While the impacts of construction of light rail projects are considered to be less than those for heavy rail projects, the EPA still considers the likely impacts significant enough to warrant regulation by the EPA through EPLs. (Note: the operation of light rail systems is addressed in Part 1 of this paper).

For all construction works, the EPA Interim Construction Noise Guideline (ICNG) provides a robust framework for proponents to manage noise arising from the construction works to protect residences and other sensitive land uses. The ICNG is currently under review and the revised guideline is anticipated to provide additional guidance on works that are undertaken outside standard construction hours.

In summary, the proposed regulatory framework comprises:

- introduction of rail construction as a standalone scheduled activity separate from rail operation
- a requirement for an EPL for all rail construction projects more than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas
- a requirement for a scheduled development work EPL for rail construction projects associated with the operational rail network of less than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas (this could be included in existing EPLs).

7. Fees

The fees for scheduled development work EPLs mirror those of scheduled activity EPLs.

The fee for railway systems activities in any capacity is 50 administrative fee units. The annual licensing fees are intended to allow EPA to recover the costs of environmental impacts and regulation of the scheduled activity. The current fee associated with 'railway systems activities' does not adequately reflect the costs associated with regulating rail construction activities.

A comparable scheduled activity type (for the construction aspect of 'railway systems activities') is road construction. The fee for road construction is scaled depending on the length of the road with lengths of:

- less than 10 kilometres being 50 units
- 10–30 kilometres being 135 units
- more than 30 kilometres being 335 units.

It is proposed that the fees for 'railway systems construction' mirror those for 'road construction'. This would ensure consistency across licence fees and that licence fees reflect the differing regulatory effort required to regulate activities depending on their degree of environmental impact.

Load-based licensing fees do not apply to 'railway systems activities' as the operation does not produce any currently assessable pollutants under the EPA's load-based licensing scheme. However, it should be noted that the load-based licensing scheme is being reviewed with a discussion paper for public consultation being released later in the year.

A potential further change in relation to fees for rail construction activities is for projects that involve earthworks, cutting and tunnelling. Similar to the current definition of 'railway systems activities', it is intended that the new activity would include any extractive activities that are incidental to the main activity. However, in contrast to the current approach, it is envisaged that the proposed approach would include extraction as a fee-based activity under the EPL and therefore a fee would apply. The intention is that the fees would be consistent with those for other extractive activities. The current fees for extractive activities are tonnage dependent and can be as low as 50 fee units (\$5,650) for extraction of between 30,000 and 100,000 tonnes of material per annum and as high as 600 fee units (\$67,800) for extraction of more than 2 million tonnes. This variation in fees based on tonnage ensures that activities with similar environmental impacts are treated consistently and that activities with a higher environmental impact pay higher fees.

In accordance with *the POEO (General) Amendment (Licensing Fees) Regulation 2014*, the EPA is implementing a risk-based licensing system which aims to ensure that all environment protection licensees receive an appropriate level of regulation based on the level of risk their activities pose to human health and the environment. The EPA will assess the site-specific risks posed by each licensed premises and identify any environmental issues that a licensee needs to address, and where the EPA needs to focus its regulatory attention.

The calculation of licence administrative fees will incorporate a link between the environmental performance of a licensee and licence fees from 1 July 2016. Operators who perform well and minimise their environmental risk will be rewarded with a reduction in their licence fees, while operators who perform poorly will need to pay licence fees that provide them with an incentive to improve their performance.

8. Impacts of proposed regulation for rail construction

8.1 Impacts on the rail construction industry

The proposed regulatory framework for rail construction provides clarity and consistency in regulating major rail construction projects and should not create an administrative burden for the rail construction industry. However, the proposal to align administration fees for rail construction with other activities with a similar impact will lead to an increase in the fees paid by some operators.

Rail construction projects currently requiring EPLs will continue to require an EPL or scheduled development work EPL and only a small number of additional rail construction projects (for light rail projects and projects associated with private railways that are more than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas) will need to obtain EPLs.

The introduction of the threshold provides a consistent, equitable regulatory approach across the rail construction industry for projects with significant environment impacts. As the entities undertaking rail construction projects are largely the same as those undertaking road construction projects, aligning the regulation of rail construction and road construction is also considered beneficial.

The proposed fee amendments will be not insignificant for some operators. However, aligning the fees across similar activities ensures equity in the administration fees paid by other licensees with similar environmental impacts and will ensure better cost recovery for the Government as projects of this nature require significantly more regulatory effort.

8.2 Impacts on the environment and community

The licensing regime is well-established, is a known effective regulatory mechanism for a range of industries and is understood by the community. It provides flexibility and a range of tools to respond proactively and reactively to environmental issues associated with rail construction.

The proposed regulatory framework for rail construction provides a clear, consistent, equitable regulatory approach for all major rail construction projects, including those associated with the operational rail network, private railways and light rail, by requiring them to obtain an EPL. This will provide certainty to the community that impacts of all such projects will be regulated by the EPA to ensure protection of the environment as well as the health and amenity of local communities.

8.3 Impacts on local government

Construction associated with private railways is currently regulated by councils. Under the proposed regulation, construction associated with private railways that is more than 3 kilometres long in the metropolitan area and 5 kilometres long in rural areas will be regulated by the EPA. The proposed regulation therefore results in a reduced workload for local government.

8.4 Impacts on the EPA

It is not expected that the proposed regulatory framework for rail construction will significantly alter the workload of the EPA. The EPA will regulate additional activities: light rail projects and projects associated with private railways that are more than 3

kilometres long in the metropolitan area and 5 kilometres long in rural areas, which are currently regulated by councils. The introduction of a threshold for rail construction projects requiring EPLs will however enable the EPA to focus its regulatory effort on those projects with significant environmental impacts.

The prescribed EPL administrative fees for rail construction only partially cover the EPA's costs of administering the EPLs (as is the case with other licensed activities) even with the proposed fee amendments.

9. Conclusion

The proposed regulatory approach for rail construction includes the following benefits:

- certainty for the proponent, community and regulator regarding which projects must be regulated under an EPL
- consistency with the intent of the environment protection licensing provisions of the POEO Act so the EPA can regulate activities with potentially significant environmental impacts
- separating rail construction projects from operation of the rail network to allow all rail construction projects over the prescribed threshold to be regulated under an EPL, allow the EPA to regulate construction of light rail projects and provide a consistent, equitable regulatory approach across the rail construction industry
- retaining environment protection licensing of all state significant developments and state significant infrastructure that are rail construction projects
- aligning regulation of rail construction projects with road construction projects, including associated fees.

10. Next steps

This position paper can be downloaded on the EPA website at

www.epa.nsw.gov.au/licensing/railindustry.htm

The EPA seeks feedback from all interested stakeholders on the proposed alternative regulatory framework outlined in this position paper.

Stakeholders are invited to provide a written submission to the EPA on the proposal by:

- emailing rail.review@epa.nsw.gov.au, or
- posting the submission to POEO Rail Sector Regulatory Review, Reform and Compliance Branch, Environment Protection Authority, PO Box A290, Sydney South NSW 1232.

All submissions received by **5 p.m. on Wednesday 8 October 2014** will be considered.

Interested stakeholders are also invited to meet individually with the EPA if necessary during the exhibition period to discuss the proposal to amend the regulatory framework. Please email rail.review@epa.nsw.gov.au to arrange a meeting.

The EPA will carefully consider all feedback on the position paper and undertake further consultation as required based on issues identified in submissions.

The EPA will refine the proposed alternative regulatory framework where necessary in response to issues raised during stakeholder consultation.

A consultation draft of the proposed amendment regulation to implement the proposed changes to the Schedule 1 of the POEO Act will then be prepared and exhibited before the final amendment regulation is prepared.

Appendices

Appendix A: Current definition of 'railway systems activities' under Clause 33 of Schedule 1 of the POEO Act 1997

33 Railway systems activities

- (1) This clause applies to railway systems activities, meaning:
- (a) the installation, on site repair, on site maintenance or on site upgrading of track, including the construction or significant alteration of any ancillary works, or
 - (b) the operation of rolling stock on track.
- (2) However, this clause does not apply to any of the following:
- (a) an activity in a railway workshop (including the use of fuel burning equipment),
 - (b) re-fuelling of rolling stock,
 - (c) an activity at a railway fuel depot,
 - (d) repair, maintenance or upgrading of track away from the track site,
 - (e) an activity at a railway station building (including platforms and offices),
 - (f) loading of freight into or onto, and unloading of freight from, rolling stock,
 - (g) an activity at a freight depot or centre,
 - (h) operation of signalling, communication or train control systems.
- (3) The activity to which this clause applies is declared to be a scheduled activity.
- (4) For the purposes of subclause (1) (b), rolling stock that is operated on track is taken to be operated by the occupier of the land on which the track is situated.

Note. Consequently, it is the occupier of that land, not the person having control of the rolling stock, that is required to be licensed under section 48 in respect of the operation of the rolling stock.

- (5) In this clause:
ancillary works means any of the following:

- (a) over track structures,
- (b) earthworks,
- (c) cuttings,
- (d) drainage works,
- (e) track support,
- (f) fencing,
- (g) tunnels,
- (h) bridges,
- (i) level crossings.

track means railway track that forms part of, or consists of, a network of more than 30 kilometres of track, other than railway track that is used solely by railway vehicles that are themselves used solely for heritage purposes.

Note: Rolling stock is defined in Section 50 of Schedule 1 of the POEO Act as follows:

- (a) railway vehicles used or intended to be used to transport passengers or freight for reward, or
- (b) railway vehicles used or intended to be used to maintain railway track and equipment (whether or not for reward),

but does not include railway vehicles that are used solely for heritage purposes.

Appendix B: Possible regulatory models considered

1. Continue with the current framework of licensing rail system operators only under the POEO Act – i.e. no change

The current regulatory framework and its limitations are described in detail in sections 1 and 2 of this position paper.

The EPA considers that the lack of on-the-ground improvements for the environment and the community; the administrative inefficiencies; and the concerns regarding liability resulting from this current regulatory framework are unacceptable. Therefore, maintaining the status quo was not considered a viable option.

2. Continue to license rail system operators only under the POEO Act and strengthen network access agreements

This regulatory option retains the existing framework of regulating rail system operators through EPLs but aims to strengthen their ability to enforce environmental requirements on rolling stock operators by strengthening contractual network access agreements.

This approach would not give the EPA any additional regulatory control over rolling stock operators and continues to assign an environmental enforcement role on rail system operators. As this approach continues to rely on the rail system operators to control the environmental performance of rolling stock operators without the appropriate enforcement powers, organisational structure, resources or charter to undertake such a task, the environmental outcomes of this model are likely to be similar to those under the existing regulatory framework.

3. License rolling stock operators only under the POEO Act

Under this regulatory option, the EPA would regulate rolling stock operators through EPLs and would rely on the general provisions of the POEO Act to regulate State Government rail system operators. Local councils would be the appropriate regulatory authority for Commonwealth Government and non-government rail system operators under the existing terms of the POEO Act.

This approach is unlikely to deliver better (or comparable) on-the-ground environmental benefits than the existing framework. It would lead to inconsistencies in regulation and would not provide a statutory mechanism for resolving issues that require joint management from both track managers and rolling stock operators. The generic provisions in the POEO Act, particularly relating to noise, are limited in their ability to address these issues.

4. Develop a new regulation under the POEO Act to manage the rail industry

This option involves the development of a new regulation under the POEO Act to regulate the operation of the rail industry in NSW. The regulation would state clear requirements that apply to the whole rail industry.

This approach is expected to result in significantly better environmental outcomes than the current approach as it recognises that both rolling stock operators and rail system operators have environmental responsibilities.

However, a regulation is less flexible than licensing for both the EPA and operators, as a licence can be tailored to the specific operation and performance history of the licensee.

This approach is also inconsistent with how other industries are regulated in NSW. Pollution from the operation of the rail network is not considered so different to pollution from other activities regulated by the EPA in terms of environmental risk that it warrants a separate and unique regulation.

5. Continue to license rail system operators only under the existing POEO Act and actively regulate rolling stock operators under existing general powers in the POEO Act

This regulatory option retains the existing framework of regulating the rail system operators through EPLs, with the EPA using the general provisions of the POEO Act to engage directly with and regulate rolling stock operators. As the EPA is only the appropriate regulatory authority under the POEO Act for activities that are scheduled or being undertaken by or on behalf of a NSW public authority, this approach would cause complications for any enforcement action proposed by the EPA to remedy environmental breaches, and may undermine the credibility of the licensing framework. Further, action against rolling stock operators could only be reactive and is therefore unlikely to deliver better environmental outcomes than the existing framework.

6. Economic incentives to improve environmental performance of the rail industry

This option involves the use of economic incentives and disincentives to improve the rail industry's environmental performance, including load-based licensing or scaled access fees. This approach was considered to be a useful tool that could be considered for adoption in conjunction with another regulatory framework rather than a viable option on its own.

7. Issues-based regulation of the rail industry e.g. wheel squeal

This regulatory option would focus on addressing high priority environmental issues associated with the operational rail industry by implementing issue-specific measures or geographically-based measures agreed on and undertaken by all responsible parties, rather than regulating the rail industry more generally. It could be done through existing tools in the POEO Act. This approach was determined to be a useful tool that could be considered for adoption in conjunction with another regulatory framework rather than a viable approach itself as it is not sufficiently comprehensive to manage the range of known issues associated with the operational rail industry.

8. Self-regulation by the rail industry

While the option of self-regulation was explored, the EPA does not consider that the rail industry is currently in a position to manage its environmental impacts in a manner that would achieve the same or better environmental outcomes than the current regulatory system.

While work commenced in 2009 on national voluntary environmental standards for rolling stock through the Rail Industry Safety and Standards Board of the Australasian Railways Association (the key industry peak association), a completion

date is uncertain. Further, as the standards would be voluntary, it is unclear how effectively they would be applied or enforced when finalised, or whether they would be sufficiently stringent to adequately address the environmental impacts of the operational rail network. Nonetheless, the EPA is participating in this process and is hopeful that such standards would be sufficiently stringent to allow their use in EPLs as noise and air emission standards to be considered for locomotives operating in NSW.

9. Regulation by the Commonwealth Government

This option is not viable due to the absence of national legislation relating to the environmental performance of the rail industry. Therefore consideration of an effective regulatory framework needs to continue to be undertaken at State Government level.

10. License both rail system operators and rolling stock operators under the POEO Act – preferred option

This framework involves issuing EPLs under the POEO Act to the rail system operators for rail system related ('below rail') issues and to rolling stock operators for rolling stock ('above rail') issues.

This framework is expected to result in significantly better environmental outcomes than the current framework as it recognises that both rolling stock operators and rail system operators contribute to pollution impacts and therefore have their own environmental responsibilities. It does this by licensing – and therefore by holding directly accountable – the entity that has effective management and control of any given activity.

This framework also provides an effective mechanism for addressing environmental issues that require joint management from both rail system operators and rolling stock operators.