Healthy Environment
Healthy Community
Healthy Business

Summary of stakeholder comments and EPA responses on the Locomotive Emissions Project

Scoping study of potential measures to reduce emissions from new and in-service locomotives in NSW and Australia

This document contains:

- a list of industry stakeholders that were sent the report *Locomotive Emissions Project: Scoping study of potential measures to reduce emissions from new and in-service locomotives in NSW and Australia* (Locomotive Emissions Project report) for comment
- a summary of comments from industry stakeholders on issues in the report
- EPA responses to those comments.

The EPA sent the final report to the following stakeholders:

A–B

- Alstom Transport
- Andrew Engineering Pty Ltd
- Asciano Ltd
- Australasian Railway Association
- Australian Rail Track Corporation Ltd
- Australian Railway Industry Corporation
- BHP Billiton Iron Ore
- Bombardier Transportation
- Bradken
- Brookfield Rail Pty Ltd

C-E

- CAF Rail Australia
- Chicago Freight Car Leasing Co
- Chicago Freight Car Leasing Co Australia Pty Ltd
- Country Rail Infrastructure Authority
- Country Rail Network, John Holland Rail Pty
- Country Regional Network
- CRT Group
- Downer EDI Rail
- Downer EDI Works
- El Zorro

F-J

- Fortescue Metals Group Ltd
- Freightliner Australia Pty Ltd
- General Electric Australia Transportation
- Genesee & Wyoming Australia
- GrainCorp
- Great Southern Railway
- Independent Rail Australia
- Independent Transport Group Pty Ltd
- John Holland Rail – NSW Country Regional Network
- Junee Railway Workshop Pty Ltd

L–Q

- Laing O'Rourke
- Manildra Group Nature Conservation Council of NSW
- Oakjee Port and Rail
- Pacific National (owned by Asciano)
- Parsons Brinckerhoff
- Port of Melbourne
- QR National (now Aurizon)
- Qube Logistics

R–W

- RailCorp
- Rail Industry Safety and Standards Board
- Rail Innovation Australia
- Rio Tinto, Railways Division
- Siemens
- Southern Shorthaul Railroad
- Specialised Container Transport Logistics
- Total Environment Centre
- Transport for NSW
- TTG Transportation Technology
- UGL
- United Group Rail
- V-Line Passenger Pty Ltd
- Wabtec Australia

Four stakeholders provided comments. A summary of the key issues raised and the EPA's response follows.

Issue: Locomotive fleet assumptions

Comment: There are concerns about the comparison of US and Australian fleets in the report. The US fleet is much larger, differs in kinematic outline and axle load, and receives state and federal government funding to support emission reduction activities.
EPA response: Differences, including cost differences, between the US and Australian rail networks are considered in the Locomotive Emissions Project report. The project was an initial scoping study. Any further investigation of measures to reduce locomotive emissions would consider specific attributes of the NSW and Australian fleets in detail.

Comment: The Australian fleet is younger than the report reflects.
EPA response: The profiles of individual locomotives in the Australian locomotive fleet were developed by Interfleet Technologies Pty Ltd. The fleet profiles include locomotives with minimal usage and of varying ages.

Issue: Fuel consumption and diesel emissions

Comment: The emission calculations do not reflect that most fuel is burnt in more fuel efficient locomotives with lower emissions.
EPA response: Emissions were calculated based on fuel consumed by individual locomotives. The routes, operating hours and load profile of each locomotive were accounted for in the emission calculations.

Comment: NSW diesel consumption figures used in the report are underestimated. Off-road diesel equipment use has increased in some mines.
EPA response: The focus of this report is on diesel locomotive emissions. Diesel consumption and emissions from off-road diesel engines and mining equipment are being addressed through separate EPA studies and programs.

Issue: Potential negative impacts of emission reduction schemes

Comments: PM or NO_x emission reduction schemes could increase greenhouse gas emissions. There is concern that the increase in emissions could result in negative health impacts.
ECP braking is discussed in the report but is not feasible in some cases and will not reduce fuel consumption.
Mass emissions reduction will reduce the efficiency of locomotives.
EPA response: The Locomotive Emission Project report recognises that not all potential emission reduction measures will result in fuel consumption or greenhouse gas emission reductions. It recommends that opportunities be sought to align air emission reduction measures and energy efficiency measures. Development of any specific emission reduction proposals would require detailed analysis, taking account of these issues.

Issue: Locomotive industry

Comment: Locomotives could offset future truck traffic emissions. Truck emissions are underestimated due to a low assumed truck age.
EPA response: The EPA recognises the role of rail in reducing emissions from heavy vehicles. The focus of this study was to identify opportunities to reduce particulate matter and NO_x emissions from new and in-service locomotives in NSW and Australia. Truck emission and age information was drawn from secondary sources.

Comment: Rail track managers have no control over specification and management of rolling stock.
EPA response: The study only scoped possible measures to reduce particulate matter and NO_x emissions from diesel locomotives. Further development of measures would include considering implementation via regulation or other mechanisms.

Issue: Support for diesel locomotive emission reduction measures

Comments: Driver feedback systems could work but operators would have to be willing to invest the time and money in installing them.
Electrification of the coal lines through Maitland, particulate traps, and Tier 4 requirements are suggested.
Action to reduce the environmental and social impact of rail operations is a key objective of rail corporations. The scoping study report is a useful starting point for joint action on this issue.
EPA response*:* In further developing any specific emission reduction measures identified in the report or based on stakeholder feedback, the EPA would conduct detailed analysis on their feasibility and cost effectiveness. This would include close consultation with the rail industry and other stakeholders.

Published by:
Environment Protection Authority
59 Goulburn Street, Sydney NSW 2000
PO Box A290, Sydney South NSW 1232
Phone: +61 2 9995 5000 (switchboard)
Phone: 131 555 (NSW only – environment information and publications requests)
Fax: +61 2 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

Report pollution and environmental incidents
Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au
See also www.epa.nsw.gov.au

Follow us: **Twitter.com/NSW_EPA**

ISBN 978 1 74359 615 9; EPA 2014/0335; April 2014