

SCAQMD Regulatory Efforts to Reduce Emissions from Railroads



February 26, 2007

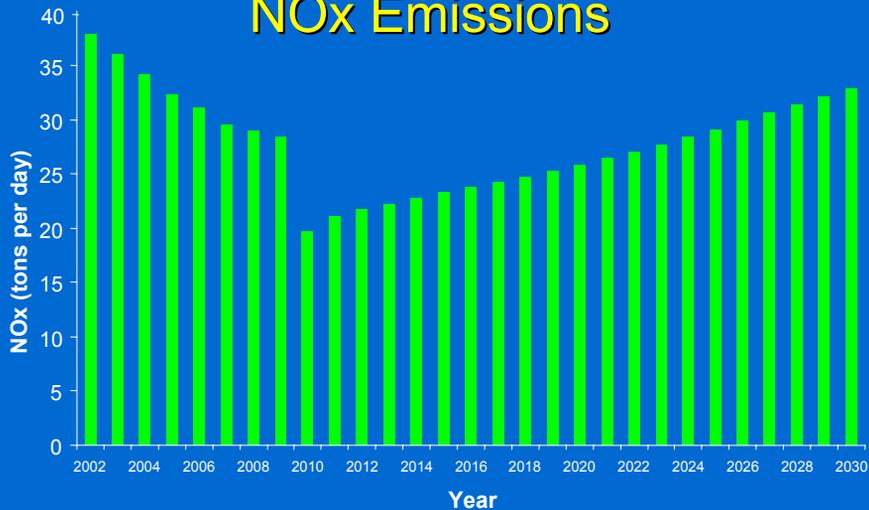


Air Quality Challenges for Locomotives

- Emissions growth exceeding reductions
- Locomotives eighth highest NO_x emitter in the Basin
- Cancer risk from rail yards
 - JR Davis Railyard >1,000 in one million*
 - Many rail yards are located near residential communities

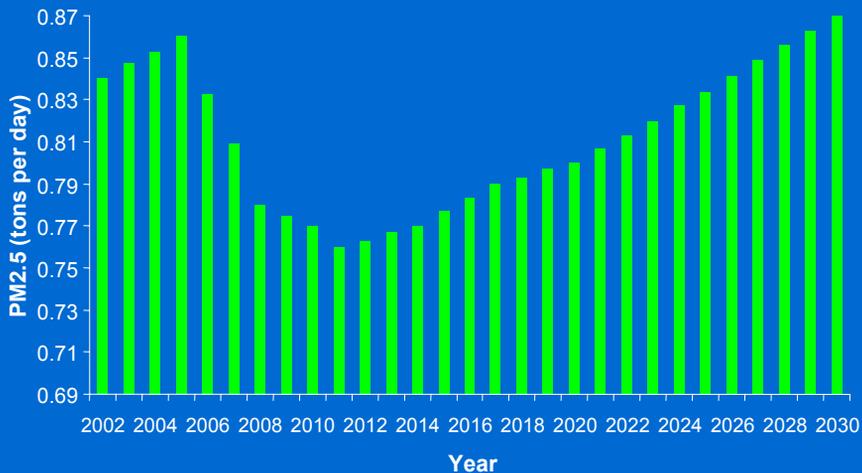
* CARB JR Davis Railyard Study presented maximum average cancer risk.

Trend for Locomotive NOx Emissions



Source: 2007 AQMP, Appendix III

Trend for Locomotive PM2.5 Emissions



Source: 2007 AQMP, Appendix III

Emission Reduction Strategies

- New engine emission standards
- Accelerated fleet turnover
- Pollution control equipment
- Operational changes
- Fuel standards
- Alternative fuels/technologies



Regulation XXXV

- R3501* – Recordkeeping for Locomotive Idling (Adopted Feb. 3, 2006)
- R3502* – Minimization of Emissions from Locomotive Idling (Adopted Feb. 3, 2006)
- R3503* – Emissions Inventory and Health Risk Assessments for Railyards (Adopted Oct. 7, 2005)

* Implementation pending litigation.



Applicability

- Class I freight railroads
- Switching and terminal freight railroads
- Excludes passenger operations
- 19 existing freight railyards
 - BNSF (8)*
 - Pacific Harbor Line, Inc. (1)
 - UP (10)
- New and expanded railyards

* LA Junction owned by BNSF

Rule 3501 Recordkeeping and Reporting

- Recordkeeping for idling events >30 minutes
- Weekly report to AQMD summarizing idling events
- Annual locomotive inventory report
- Exemptions
 - Equipped with anti-idling devices
 - Using alternative technology



Rule 3502 Idling Requirements

- No idling for >30 minutes if:
 - Locomotive is unattended under specified conditions
 - Operator notified of delay or breakdown >30 minutes
- Exemptions:
 - Emissions Equivalency Plan
 - Locomotives with anti-idling device
 - Locomotive used in emergency
 - Ambient temperatures $\leq 40^{\circ}\text{s}$
 - Charge batteries to restart locomotive



Rule 3503 Emissions Inventory and HRA

- Develop emissions inventory
- Conduct health risk assessments
- Annual public meetings until cancer risk is <10 in one million
- Update emissions inventory every 2 years and HRA under specific conditions





AQMP Locomotive Control Measure

- OFFRD-05 - Accelerate Replacement of Existing Locomotive Engines
- Meet Tier 3 or cleaner exhaust standards by 2014
- Concepts for accelerated replacement:
 - New Tier 3 locomotives; or
 - Tier 2 locomotives retrofitted with pollution control devices

SCAQMD Contact Information

Susan Nakamura
snakamura@aqmd.gov
(909) 396-3105

