

Fifth Update on the Implementation of the 2005 ARB / Railroad Statewide Agreement



April 24, 2008

California Environmental Protection Agency

 **Air Resources Board**

Overview of Presentation

- Reduce diesel PM by 20 percent by June 30, 2008
- Key program elements nearly fully implemented
 - Idle reduction device installations: 97 percent implemented
 - Use of ultra-low sulfur diesel fuel: implemented
 - Railyard inspections: semiannual
 - 16 Health risk assessments: last three in progress

Idle Reduction Devices on 99 percent of Intrastate Locomotives

By June 30, 2008

(UP and BNSF – Progress as of July 1 each year)

Year	Equipped
2005	117
2006	230
2007	383
2008	402*
* 97% as of April 2008	

California is Ahead of the Nation on Intrastate Locomotive Idle Reduction Device Retrofits

California: 97%

National: 44%

THE LOWDOWN ON THE SHUTDOWN.

BUILDING AMERICA



Shutting Down Idling Locomotives Benefits Everyone.

Far more than just a cost-saving initiative, shutting down locomotives reduces diesel emissions and benefits our environment, our communities, your family — and YOU! Air pollution is a public health concern, and the noise caused by idling locomotives can irritate community members. Sometimes locomotives are kept idling due to a variety of myths. You've probably heard most of them: *It won't restart. The train will be late. It takes too long. We'll lose our air conditioning. It's not my responsibility.*

Forget the myths. Shutting down idling locomotives is everyone's responsibility, regardless of craft. Help out the environment and be a good neighbor — shut it down!



CARB and USEPA Low Sulfur Diesel Fuels “Complying”

- **Intrastate Locomotives:**
Requirement to use CARB diesel began January 1, 2007
- **Interstate Locomotives:**
Requirement to use a Minimum of 80 percent CARB or USEPA low sulfur (15 ppm) diesel fuel began January 1, 2007



Diesel Storage Tanks



Diesel Fueling Rack

Railroad Employee Training

Idle Reduction

- About 9,600 employees trained.

Visible Emissions

- About 4,600 employees trained.

Visible Emission Inspections by Railroads

- Over 21,000 visible emission inspections performed in the last six months.
- About 64,000 visible emission inspections performed since 2005.
- Overall compliance rate is 99%

Locomotive Remote Sensing Pilot Program (AB 1222 – Jones)

- **AB 1222 requires locomotive remote sensing pilot program**
- **Established Advisory Committee:**
 - **South Coast and Sacramento air districts**
 - **UP and BNSF**
 - **Environmental representatives**
- **Three phase testing program completed February 2008**
- **Final report to Legislature in mid 2008**

Technology Assessments

- **2007 Technology Symposiums**
 - June 6, 2007 (Sacramento)
 - November 28, 2007 (Southern California)
- **Various demonstration efforts underway to assess exhaust retrofit aftertreatment technologies**
 - Diesel oxidation catalyst
 - Diesel particulate filters
 - Selective catalytic reduction

OTHER ACTIVITIES



Low Emitting Switch Locomotives (California)

- **New low emitting gen-set switch locomotives**
 - 61 now in service (southern CA)
 - 11 now in service (northern CA)
 - 4 more expected by mid 2008 (Northern CA)
 - Up to 90% reduction in NOx and diesel PM
- **12 Electric-Hybrids (Green Goats)**
- **4 liquefied natural gas switch locomotives**
- **Turnover of intrastate fleet expected by 2010**
 - 413 California-based locomotives (UP and BSNF)

2007 ARB Enforcement Activities

- Inspections at 31 railyards (4th Qtr 2007)
- Observed 1,015 locomotives
- Issued 30 NOVs for 97% compliance rate
- Diesel fuel exceeds requirements

Community Complaint Process and Status

- **Union Pacific Railroad - 1.888.877.7267**
BNSF Railway - 1.800.832.5452
- **Since June 2007 BNSF and UP have received an average of about 29 calls per month.**
- **Both railroads are continuing to track and improve how calls are processed.**

Health Risk Assessments

- Agreement requires that HRAs be developed for 16 designated railyards
- Provide information about the emissions and public health impacts of railyard operations on nearby communities
- Information used to inform public and to help identify ways to mitigate the impacts

Health Risk Assessments Schedule

Final Health Risk Assessments November 2007 (Phase 1)		Draft Health Risk Assessments to be Completed by March / April 2008 (Phase 2)	
Railyard	Company	Railyard	Company
Commerce (Eastern/Sheila)	BNSF	Barstow	BNSF
Hobart	BNSF	San Bernardino	BNSF
Commerce	UP	Industry	UP
LA (LATC)	UP	Colton	UP
Wilmington (Watson)	BNSF	Dolores (ICTF)	UP
Mira Loma	UP	San Diego	BNSF
Richmond	BNSF	Oakland	UP
Stockton	BNSF		
Stockton	UP		

Railyard HRA Results

(Phase 1)

- Diesel PM emissions from railyards result in higher pollution risks in nearby communities
- Generally, locomotives are the major contributor to diesel PM in railyards
- Generally, trucks are major contributor to diesel PM within 1 mile of the railyard

Draft Railyard HRA Results

(Phase 2)

- **Four UP railyard HRAs were released for comment in February 2008**
 - Public meetings held in March 2008
 - Additional 30 day comment period
 - Will finalize in April 2008
- **Three BNSF railyard HRAs were released for comment in mid-April 2008**
 - Public meetings scheduled for May 6-8, 2008
 - Additional 30 day comment period
 - Plan to finalize by mid-June 2008

Next Steps

- **Public meetings to discuss mitigation to reduce the impacts on a railyard specific basis**
- **In a separate effort, quantify and release non-cancer impacts based on interim ARB methodology**

U.S. EPA Locomotive Rulemaking



U.S. EPA Final Locomotive Rule NOx and PM Reductions

Line Haul Locomotive	NOx Percent Reductions	PM Percent Reductions
Uncontrolled	45%	35%
Tier 0	22%	63%
Tier 1	0%	49%
Tier 2	0%	50%
Tier 3 (2012)	0%	0%
Tier 4 (2015)	76%	85%

Summary

- **Implementation continues on schedule**
- **13 railyard HRAs finalized**
- **Last 3 railyard HRAs released for comment**
- **Railyard risk reduction mitigation plans under development**
- **Switch locomotives being replaced**
- **Compliance occurring at a high level**