

Rail Emission Reduction Agreements

CARB emission reduction agreements with the Class 1 Railroads

DOWNLOAD

PDF · 370 KB

CATEGORIES

Topics Freight & Goods Movement

Programs Reducing Rail Emissions in California

Type Information

CONTACT

Freight Transport Branch

Email freight@arb.ca.gov

Phone (916) 322-8382

1998 Locomotive NOx Fleet Average Emissions Agreement in the South Coast Air Basin (1998 MOU)

The 1998 Locomotive NOx Fleet Average Emissions Agreement in the South Coast Air Basin (1998 MOU), signed by CARB, Union Pacific Railroad (UP) and BNSF Railway (BNSF), accelerates the introduction of cleaner locomotives into the South Coast Air Basin. Under the Agreement, UP and BNSF agreed to operate locomotive fleets that “on average” meet a Tier 2 NOx emission standard, or 5.5 g/bhp-hr by 2010 (and through 2030). The Agreement provides State Implementation Plan (SIP) creditable emission reductions.

2018 Fleet Activity Data for the South Coast Air Basin

Union Pacific Railroad

Tier¹	Number of Locomotives²	Megawatt-Hours [MWhrs]	% MWhrs by Tier Level	Weighted Average Nox Emission Level [g/bhp-hr]³	Tier Contribution to Fleet Average [g/bhp-hr]⁴
Pre-Tier 0	94	982	0.4%	10.4	0.04
Tier 0	1,814	48,707	21.3%	8.5	1.81
Tier 1	2,433	63,855	27.9%	7.3	2.03
Tier 2	1,582	57,948	25.3%	5.3	1.33
Tier 3	953	47,062	20.6%	5.1	1.05
Tier 4	245	8,603	3.8%	1.1	0.04
ULEL	32	1,476	0.6%	2.8	0.02
Total	7,153	228,633	100%	NA	6.3
				ULEL Credit Used	0.8
				Fleet Average	5.5

BNSF Railway

Tier¹	Number of Locomotives²	Megawatt-Hours [MWhrs]	% MWhrs by Tier Level	Weighted Average Nox Emission Level [g/bhp-hr]³	Tier Contribution to Fleet Average [g/bhp-hr]⁴
Pre-Tier 0	297	1,797	0.7	13.0	0.09
Tier 0	268	11,118	4.0	7.9	0.31
Tier 1	1,455	99,606	36.1	6.1	2.22
Tier 2	1,507	97,720	35.4	4.9	1.73
Tier 3	1,187	53,473	19.4	4.5	0.87
Tier 4	251	11,962	4%	1.1	0.1
Total	4,965	275,676	100.0%	NA	5.3

The links below provide formal correspondence for 2018 compliance between the ARB and UP or BNSF.

- UP Approval Letter for 2018
- UP Compliance Report
- UP Locomotive Summary

- BNSF Approval Letter for 2018
- BNSF Compliance Report
- BNSF Locomotive Summary

Archive of 1998 MOU Data

- Data from 2010-2017

Previously Completed: The 2005 Statewide Railyard Agreement

The 2005 Statewide Railyard Agreement, which was completed in 2015, included a statewide idle reduction program, maximized the use of state and federal ultra-low sulfur (15 parts per million maximum) diesel fuel, and established a statewide visible emissions reduction and repair program. The agreement also required the preparation of 17 railyard inventories and health risk assessments.

- The 2005 Statewide Railyard Agreement
- Railyard Health Risk Assessments and Mitigation Measures

RELATED RESOURCES

CHC Webinar Presentation - March 2020

Proposed Concepts for Public Webinar on March 5, 2020

The Draft 2010 Railyard Commitments

(800) 242-4450 | helpline@arb.ca.gov
1001 I Street, Sacramento, CA 95814
P.O. Box 2815, Sacramento, CA 95812



California
Governor

Gavin Newsom

Secretary for
Environmental
Protection

Jared Blumenfeld

Chair, California
Air Resources
Board

Mary D. Nichols

Copyright © 2020 State of California