

The following Table 1-3 contains a summary of the proposed new regional and local control measures and expected VOC and NO<sub>x</sub> emission reductions for the Sacramento nonattainment area for the 2018 attainment demonstration year. Emission benefits from these new committal measures are estimated to provide reductions of 3 tons per day of VOC and 3 tons per day of NO<sub>x</sub> in 2018. Some of these new local measures will be adopted by the end of 2008, and emission benefits from just these adopted new measures are estimated to provide reductions of 1 ton per day of VOC in 2018.

**Table 1-3  
Summary of New Regional and Local Proposed Control Measures  
Sacramento Nonattainment Area**

Control Measure Name	2018 Emission Reductions (TPD)	
	VOC	NO <sub>x</sub>
<b>Regional Non-regulatory Measures</b>		
Regional Mobile Incentive Program – On-road	<0.1	0.9
Regional Mobile Incentive Program – Off-road	<0.1	<0.1
Spare The Air Program	<0.1	<0.1
SACOG Transportation Control Measures	-	-
Urban Forest Development Program	0 - 0.2	-
<b>Total Regional Non-regulatory Measures</b>	<b>0.1</b>	<b>0.9</b>
<b>Local Regulatory Measures</b>		
Indirect Source Rule - Construction	-	≤0.1
Indirect Source Rule - Operational	0-<0.1	0-≤0.1
Architectural Coating	1.5	-
Automotive Refinishing	0.2	-
Degreasing/Solvent Cleaning	1.4	-
Graphic Arts	na	-
Miscellaneous Metal Parts and Products	<0.1	-
Natural Gas Production and Processing	0.1	-
Asphalt Concrete	-	≤0.1
Boilers, Steam Generator, and Process Heaters	-	0.2
IC Engines	-	0.1
Large Water Heaters and Small Boilers	-	0.9
<b>Total Local Regulatory Measures</b>	<b>3.2</b>	<b>1.43</b>
<b>Total Reductions*</b>	<b>3.4</b>	<b>2.76</b>

Notes: Numbers are truncated to one decimal place. na = not available

\*Total reductions are summed from untruncated values. See summary table in Appendix C – Proposed Control Measures.

Depending upon the size and type, the timeline for a construction project can vary from a few months to years.

This control measure will reduce NOx emissions from equipment associated with the construction phase of new land use projects. The requirements that are being considered for the control measure are based on the construction requirements of San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) Rule 9510, Indirect Source Review, which specifies that all applicable projects mitigate their NOx emissions by 20% less than the statewide average emission rates either by using cleaner construction equipment or modifying the construction equipment (through retrofits, replacements, or post-combustion controls), or by paying a fee that will be used by the districts to obtain emission reductions.

The proposed control measure commits to a framework that includes quantification of emissions before and after mitigation measures are applied, establishes appropriate levels to define who is subject to the rule and emission reduction requirements for affected sources. The proposed emission reduction requirements will include a fee option to achieve offsite reductions when onsite reductions are insufficient. The proposed control measure will be evaluated for adoption by districts noted in the table below.

The estimated emission reductions from the construction mitigation rule are provided in the following table.

Construction Mitigation Rule			Emission Reduction (TPD)	
District	Adoption Year	Implement Year	2018	
			VOC	NO <sub>x</sub>
SMAQMD	2010	2011	---	<0.1
PCAPCD	2013	2014	---	<0.1
FRAQMD	2013	2014	---	unknown
<b>Total</b>			---	<b>≤0.1</b>

During the rule development process, staff will explore integration of this rule with CARB's offroad engine rule to ensure that the 20% requirement is feasible and cost effective through 2018 and beyond.

**IS-2: Operational Indirect Source Rule**

This control measure will reduce emissions generated during the operational phase of indirect sources. An indirect source is defined as any facility, building, structure or installation, or combination thereof, which generates or attracts mobile source activity that results in emissions of any pollutant for which there is a state ambient air quality

standard. The rule will require indirect sources to mitigate a portion of their emissions through a combination of on-site mitigation measures and/or, if onsite measures are insufficient, a contribution to an off-site mitigation fund that will invest in emission reduction projects.

On-site mitigation could include strategies that reduce vehicle trips or vehicle miles traveled (VMT). Other on-site mitigation measures could be considered, such as improved energy efficiency resulting in fewer power plant emissions or reductions in on-site combustion emissions. Off-site mitigation fees will be calculated based on the amount of required emission reductions that can not be achieved through on-site measures. This control measure will integrate with SACOG’s Blueprint Metropolitan Transportation Plan<sup>73</sup> and look for synergistic opportunities from AB 32 (Nunez) – California Global Warming Solutions Act of 2006<sup>74</sup> and SB 375 (Steinberg) – legislation to reduce greenhouse gases through land-use planning<sup>75</sup>.

The proposed control measure commits to a framework that includes quantification of emissions before and after mitigation measures are applied, establishes appropriate levels to define who is subject to the rule and emission reduction requirements for affected sources. The proposed emission reduction requirements will include a fee option to achieve offsite reductions when onsite reductions are unavailable. The proposed control measure will be evaluated for adoption by districts noted in the table below.

The estimated emission reductions from the operational indirect source rule are provided in the following table.

Operational Indirect Source Rule			Emission Reduction (TPD)	
District	Adoption Year	Implement Year	2018	
			VOC	NO <sub>x</sub>
SMAQMD	2012	2014	0-<0.1	0-<0.1
PCAPCD	2014	2016	0-<0.1	0-<0.1
<b>Total</b>			<b>0-&lt;0.1</b>	<b>0-&lt;0.1</b>

### 7.16 Stationary and Area-wide Source Control Measures

Historically, local air district regulatory control measures have been implemented to control emissions from stationary and area-wide type sources. In general, stationary

<sup>73</sup> Metropolitan Transportation Plan for 2035 (MTP2035), approved by SACOG Board of Directors March 20, 2008

<sup>74</sup> California Health and Safety Code, Section 38500-38599.

<sup>75</sup> Signed by Governor 9-30-08, and amends California Government Code and Division 13 of the Public Resources Code.

**Natural Gas Production and Processing**

There are several natural gas production fields within Sacramento County. Fugitive emissions of VOC from natural gas production occur from equipment leaks in valves, pumps, compressors, pressure relief devices, flanges, and threaded connections at gas wells and associated transmission systems. The proposed control measure would establish inspection and repair requirements for leaking components. Emission reductions would result from a reduction in the number of leaking components. The proposed measure would establish leak inspection frequencies and allowable repair periods.

Natural Gas Production and Processing Category			VOC Emission Reduction (TPD)
District Measure	Adoption Year	Implement Year	2018
SMAQMD-461	2011	2012	0.1
<b>Total</b>			<b>0.1</b>

**7.18 NOx Emission Control Measures**

**Asphalt Concrete**

Asphaltic concrete, or hot-mix pavement material, is produced in both continuous and batch plants; some of the latter are portable. The process involves heating aggregate in a rotary dryer to 300°F and mixing with melted asphalt cement refined from petroleum. This measure addresses NOx emissions from burners used to heat the dryer. Other ancillary NOx emissions come from heaters used to melt asphalt cement and from stationary internal combustion engines.

The control of dryer NOx emissions is accomplished by controlling the burners used to heat the dryer. The control measure will propose a NOx limit that may be complied with by retrofitting with low NOx burners and flue gas re-circulation.

Asphalt Concrete Category			NOx Emission Reduction (TPD)
District Measure	Adoption Year	Implement Year	2018
SMAQMD-471	2012	2014	0.1
<del>PCAPCD-CM1</del>	<del>2013</del>	<del>2014</del>	<del>&lt;0.1</del>
<b>Total</b>			<b>&lt;0.1</b>

**Table 7-4  
Summary of New Regional and Local Proposed Control Measures  
Sacramento Nonattainment Area**

Control Measure Name	2018 Emission Reductions (TPD)	
	VOC	NO <sub>x</sub>
<b>Regional Non-regulatory Measures</b>		
Regional Mobile Incentive Program – On-road	<0.1	0.9
Regional Mobile Incentive Program – Off-road	<0.1	<0.1
Spare The Air Program	<0.1	<0.1
SACOG Transportation Control Measures	--	--
Urban Forest Development Program	0 - 0.2	--
<b>Total Regional Non-regulatory Measures</b>	<b>0.1</b>	<b>0.9</b>
<b>Local Regulatory Measures</b>		
Indirect Source Rule - Construction	--	≤0.1
Indirect Source Rule - Operational	0-<0.1	0-≤0.1
Architectural Coating	1.5	--
Automotive Refinishing	0.2	--
Degreasing/Solvent Cleaning	1.4	--
Graphic Arts	na	--
Miscellaneous Metal Parts and Products	<0.1	--
Natural Gas Production and Processing	0.1	--
Asphalt Concrete	--	≤0.1
Boilers, Steam Generator, and Process Heaters	--	0.2
IC Engines	--	0.1
Large Water Heaters and Small Boilers	--	0.9
<b>Total Local Regulatory Measures</b>	<b>3.2</b>	<b>1.43</b>
<b>Total Reductions*</b>	<b>3.4</b>	<b>2.76</b>

Notes: Numbers are truncated to one decimal place. na = not available

\*Total reductions are summed from untruncated values. See summary table in Appendix C – Proposed Control Measures.

The following Table 14-1 contains a summary of the proposed new regional and local control measures and expected VOC and NO<sub>x</sub> emission reductions for the Sacramento nonattainment area for the 2018 attainment demonstration year. Emission benefits from these new committal measures are estimated to provide reductions of 3 tons per day of VOC and 3 tons per day of NO<sub>x</sub> in 2018. Some of these new local measures will be adopted by the end of 2008, and emission benefits from just these adopted new measures are estimated to provide reductions of 1 ton per day of VOC in 2018.

**Table 14-1  
Summary of New Regional and Local Proposed Control Measures  
Sacramento Nonattainment Area**

Control Measure Name	2018 Emission Reductions (TPD)	
	VOC	NO <sub>x</sub>
<b>Regional Non-regulatory Measures</b>		
Regional Mobile Incentive Program – On-road	<0.1	0.9
Regional Mobile Incentive Program – Off-road	<0.1	<0.1
Spare The Air Program	<0.1	<0.1
SACOG Transportation Control Measures	-	-
Urban Forest Development Program	0 - 0.2	-
<b>Total Regional Non-regulatory Measures</b>	<b>0.1</b>	<b>0.9</b>
<b>Local Regulatory Measures</b>		
Indirect Source Rule - Construction	-	≤0.1
Indirect Source Rule - Operational	0-<0.1	0-≤0.1
Architectural Coating	1.5	-
Automotive Refinishing	0.2	-
Degreasing/Solvent Cleaning	1.4	-
Graphic Arts	na	-
Miscellaneous Metal Parts and Products	<0.1	-
Natural Gas Production and Processing	0.1	-
Asphalt Concrete	-	≤0.1
Boilers, Steam Generator, and Process Heaters	-	0.2
IC Engines	-	0.1
Large Water Heaters and Small Boilers	-	0.9
<b>Total Local Regulatory Measures</b>	<b>3.2</b>	<b>1.43</b>
<b>Total Reductions*</b>	<b>3.4</b>	<b>2.76</b>

Note: Numbers are truncated to one decimal place. na = not available  
\*Total reductions are summed from untruncated values. See summary table in Appendix C – Proposed Control Measures.

The following Table 14-2 contains a summary of SACOG transportation control measures (TCMs) that are included in the Sacramento region’s federal 8-hour ozone plan. The TCMs include new and continuing projects and funding programs.

## Stationary and Area-wide Source Control Measures

### VOC Control Measures

Architectural Coatings .....	C-68
SMAQMD-442	
EDCAQMD-215	
FRAQMD-3.15	
PCAPCD-218	
YSAQMD-2.14	
Automotive Refinishing.....	C-92
SMAQMD-459	
FRAQMD-3.19	
PCAPCD-234	
YSAQMD-2.26	
Degreasing/Solvent Cleaning .....	C-102
SMAQMD-454/466	
EDCAQMD-225/235	
FRAQMD-3.14	
YSAQMD-2.24/2.31	
Graphic Arts.....	C-112
YSAQMD-2.29	
Miscellaneous Metal Parts and Products.....	C-115
EDCAQMD-246	
PCAPCD-CM3	
Natural Gas Production and Processing.....	C-120
SMAQMD-461	

### NOx Control Measures

Asphalt Concrete .....	C-124
SMAQMD-471	
<del>PCAPCD-CM1</del>	
Boilers, Steam Generators, and Process Heaters .....	C-129
YSAQMD-2.27	

### Summary Table of Emission Reductions by Control Measure

Measure Name	Emission Reductions (TPD)	
	2018	
	VOC	NO <sub>x</sub>
<b><u>Non-regulatory Measures</u></b>		
Regional Mobile Incentive Program – On-road	0.060	0.910
Regional Mobile Incentive Program – Off-road	0.005	0.013
Spare The Air Program	0.059	0.046
SACOG Transportation Control Measures	tbd	tbd
Urban Forest Development Program	0 - 0.18	-
<b>Total Non-regulatory Measures</b>	<b>0.12</b>	<b>0.97</b>
<b><u>Regulatory Measures</u></b>		
Indirect Source Rule – Construction Mitigation	-	0.436091
Indirect Source Rule – Operational ISR	0-0.043	0-0.4309
<b><u>Stationary and Area-wide Source Measures</u></b>		
<b>Architectural Coating</b>		
SMAQMD-442	0.913	-
EDCAQMD-215	0.186	-
FRAQMD-3.15	0.004	-
PCAPCD-218	0.201	-
YSAQMD-2.14	0.214	-
<b>Total Architectural Coating</b>	<b>1.52</b>	
<b>Automotive Refinishing</b>		
SMAQMD-459	0.113	-
FRAQMD-3.19	0.001	-
PCAPCD-234	0.045	-
YSAQMD-2.26	0.058	-
<b>Total Automotive Refinishing</b>	<b>0.22</b>	
<b>Degreasing/Solvent Cleaning</b>		
SMAQMD-454/466	0.593	-
EDCAQMD-225/235	0.076	-
FRAQMD-3.14	0.001	-
YSAQMD-2.24/2.31	0.762	-
<b>Total Degreasing/Solvent Cleaning</b>	<b>1.43</b>	
<b>Graphic Arts</b>		
YSAQMD-2.29	---	-
<b>Total Graphic Arts</b>	<b>---</b>	
<b>Miscellaneous Metal Parts and Products</b>		
EDCAQMD-246	0.002	-
PCAPCD-CM3	0.014	-

Measure Name	Emission Reductions (TPD)	
	2018	
	VOC	NO <sub>x</sub>
<b>Total Miscellaneous Metal Parts and Products</b>	<b>0.02</b>	
<b>Natural Gas Production and Processing</b>		
SMAQMD-461	0.116	-
<b>Total Natural Gas Production and Processing</b>	<b>0.12</b>	-
<b>Asphalt Concrete</b>		
SMAQMD-471	-	0.132
<del>PCAPCD-CM1</del>	-	<del>0.036</del>
<b>Total Asphalt Concrete</b>		<b>0.173</b>
<b>Boilers, Steam Gen. and Process Heaters</b>		
YSAQMD-2.27	-	0.288
<b>Total Boilers, Steam Gen. and Process Heaters</b>		<b>0.29</b>
<b>IC Engines</b>		
SMAQMD-412	-	0.013
FRAQMD-3.22	-	0.004
YSAQMD-2.32	-	0.118
<b>Total IC Engines</b>		<b>0.14</b>
<b>Large Water Heaters and Small Boilers</b>		
SMAQMD-414	-	0.708
EDCAQMD-239	-	0.003
FRAQMD-3.23	-	0.000
PCAPCD-CM2	-	0.030
YSAQMD-2.37	-	0.240
<b>Total Large Water Heaters and Small Boilers</b>		<b>0.98</b>
<b>Total Stationary and Area Source Measures</b>	<b>3.30</b>	<b>1.584</b>
<b>Total Regulatory Measures</b>	<b>≤3.30</b>	<b>1.7267</b>
<b>Total Reductions</b>	<b>≤3.42</b>	<b>2.6957</b>

tbd = to be determined

### Summary Table of Emission Reductions by Air District

Air District Control Measure Name (Rule No.)	Emission Reductions (TPD) 2018	
	VOC	NOx
<b>Stationary and Area Source Measures</b>		
<b>Sacramento Metropolitan AQMD</b>		
Architectural Coating (SMAQMD-442)	0.913	-
Automotive Refinishing (SMAQMD-459)	0.113	-
Degreasing/Solvent Cleaning (SMAQMD-454/466)	0.593	-
Natural Gas Production and Processing (SMAQMD-461)	0.116	-
Asphalt Concrete (SMAQMD-471)	-	0.132
IC Engines (SMAQMD-412)	-	0.013
Large Water Heaters and Small Boilers (SMAQMD-414)	-	0.708
<b>Total Sacramento Metropolitan AQMD</b>	<b>1.74</b>	<b>0.85</b>
<b>EI Dorado County AQMD</b>		
Architectural Coating (EDCAQMD-215)	0.186	-
Degreasing/Solvent Cleaning (EDCAQMD-225/235)	0.076	-
Misc. Metal Parts and Products (EDCAQMD-246)	0.002	-
Large Water Heaters and Small Boilers (EDCAQMD-239)	-	0.003
<b>Total EI Dorado County AQMD</b>	<b>0.26</b>	<b>0.00</b>
<b>Feather River AQMD</b>		
Architectural Coating (FRAQMD-3.15)	0.004	-
Automotive Refinishing (FRAQMD-3.19)	0.001	-
Degreasing/Solvent Cleaning (FRAQMD-3.14)	0.001	-
IC Engines (FRAQMD-3.22)	-	0.004
Large Water Heaters and Small Boilers (FRAQMD-3.23)	-	0.000
<b>Total Feather River AQMD</b>	<b>0.01</b>	<b>0.00</b>
<b>Placer County APCD</b>		
Architectural Coating (PCAPCD-218)	0.201	-
Automotive Refinishing (PCAPCD-234)	0.045	-
Misc. Metal Parts and Products (PCAPCD-CM3)	0.014	-
<del>Asphalt Concrete (PCAPCD-CM1)</del>	-	<del>0.036</del>
Large Water Heaters and Small Boilers (PCAPCD-CM2)	-	0.030
<b>Total Placer County APCD</b>	<b>0.26</b>	<b>0.073</b>
<b>Yolo-Solano AQMD</b>		
Architectural Coating (YSAQMD-2.14)	0.214	-
Automotive Refinishing (YSAQMD-2.26)	0.058	-
Degreasing/Solvent Cleaning (YSAQMD-2.24/2.31)	0.762	-
Graphic Arts (YSAQMD-2.29)	---	-
Boilers, Steam Gen. & Process Heaters (YSAQMD-2.27)	-	0.288
IC Engines (YSAQMD-2.32)	-	0.118
Large Water Heaters and Small Boilers (YSAQMD-2.37)	-	0.240
<b>Total Yolo-Solano AQMD</b>	<b>1.03</b>	<b>0.65</b>
<b>Total Stationary and Area-wide Source Measures</b>	<b>3.30</b>	<b>1.574</b>

### **Emission Inventory**

The SFNA planning emission inventory is presented below for the category associated with construction equipment emissions of NOx. The emissions already account for California Air Resources Board State Implementation Plan measures.

District	EIC Code	EIC Description	NOx Emission Inventory (tpd)
			2018
SMAQMD	860-887	CONSTRUCTION AND MINING EQUIPMENT	4.6081
<del>PGAPCD</del>	<del>860-887</del>	<del>CONSTRUCTION AND MINING EQUIPMENT</del>	<del>0.9172</del>
FRAQMD	860-887	CONSTRUCTION AND MINING EQUIPMENT	0.0722
<b>TOTAL</b>			<del>5.5975</del> <b>4.6803</b>

### **Emission Reductions**

Total NOx emissions from all phases of construction and all other associated emissions will be estimated using URBEMIS 2007, version 9.2 or another construction emission estimation model that the Air Pollution Control Officer deems appropriate. Emission reductions for this measure have been calculated assuming that new construction projects will be required to reduce total construction-related emissions of NOx by 20% below the statewide averages (as required by SJVUAPCD Rule 9510). Applicants will be able to reduce these emissions through either onsite or offsite mitigation. Onsite mitigation will consist of applicants replacing or retrofitting older, higher-emitting construction equipment. Offsite mitigation will allow applicants to pay a fee based on the cost effectiveness of the Carl Moyer, SECAT, or other approved program. The District will secure mitigation for those applicants by funding emission reduction projects elsewhere, following the guidelines of the approved funding program.

Construction projects will be required to comply with this rule if they equal or exceed any of the following thresholds (based on SJVUAPCD Rule 9510):

- 50 residential units;
- 2,000 sq. feet of commercial space;
- 25,000 sq. feet of light industrial space;
- 100,000 sq. feet of heavy industrial space;
- 20,000 sq. feet of medical office space;
- 39,000 sq. feet of general office space;
- 9,000 sq. feet of educational space;
- 10,000 sq. feet of government space;
- 20,000 sq. feet of recreational space; or
- 9,000 sq. feet of space not identified above

In order to estimate potential future emission reductions, District staff used the State Water Resources Control Board storm water permit data and the default assumptions built into the construction emissions model URBEMIS. The storm water data provided the acres and type (residential, commercial, industrial) for all projects occurring in the SFNA over two acres. In order to condense this data, projects were categorized by their size and averaged over a three-year period (2004 through 2006). Because the storm

water database does not give project specifics beyond the type and size, all projects labeled residential were assumed to be entirely residential and other projects not labeled residential were assumed to be entirely commercial.

Defaults from URBEMIS including average residential and commercial density, the type and amount of construction equipment used for different sized projects, and the construction phase timelines were used to estimate calendar year 2008 emissions for the projects obtained from the storm water database. The NOx emissions from all applicable project groups were totaled and reductions were assumed to be 20% of this total with an 80% compliance rate. The reductions were compared to the 2008 SFNA emission inventory to derive a percent reduction that could be applied to the 2018 inventory.

Annual NOx emission reductions are summarized below for the districts planning to adopt this control measure in the SFNA.

District	2018 (tpd)
SMAQMD	0.0905
<del>PCAPCD</del>	<del>0.0462</del>
<b>TOTAL</b>	<del>0.1367</del> <b>0.0905</b>

There are no emission reductions estimated for the portion of FRAQMD in the SFNA because there were no new land use projects shown for 2004 to 2006 in the California storm water database for this area. It is assumed that new construction will occur and, therefore this control measure will achieve ozone precursor emission reductions from those future projects in the FRAQMD.

**SMAQMD**

Adoption year: 2010

Implementation year: 2011

~~PCAPCD~~

~~Adoption year: 2013~~

~~Implementation year: 2014~~

**FRAQMD**

Adoption year: 2013

Implementation year: 2014

**Cost Effectiveness**

It is anticipated that developers will not choose to perform onsite mitigation when the cost for doing so would exceed the cost of paying mitigation fees. Therefore, the upper bound of cost effectiveness for this measure is based on the mitigation fees. The fees have been estimated based on the current Carl Moyer program cost effectiveness of \$16,000 per ton of NOx reduced.

### **Authority**

The districts are authorized to adopt and implement regulations to reduce or mitigate emissions from indirect and areawide sources of air pollution by Health and Safety Code Section 40716. In addition, SMAQMD is specifically authorized to adopt regulations to limit or mitigate the impact on air quality of indirect or areawide sources by Health and Safety Code Section 41013.

### **Implementation**

This control measure will be implemented by SMAQMD, ~~PCAPCD~~, and FRAQMD.

### **References**

CARB Ozone SIP Planning Inventory, Version 1.06, Sacramento NAA (RF#980), February 28, 2007

SJVUAPCD "Rule 9510, Indirect Source Review (ISR)." Adopted December 15, 2005

SJVUAPCD "Final Draft Staff Report – Rule 9510, Indirect Source Review (ISR), Rule 3180, Administrative Fees for Indirect Source Review." December 15, 2005

State Water Resources Control Board "[Statewide Construction Storm Water Database Active Notice of Intents \(NOIs\)](http://www.swrcb.ca.gov/stormwtr/databases.html)." <http://www.swrcb.ca.gov/stormwtr/databases.html>.

URBEMIS 2007, Version 9.2, July 2007.

District	EIC Code	EIC Description	2018 Inventory* (tpd)	
			NOx	ROG
<del>PCAPCD</del>	710	LDA	0.53	0.93
	722	LDT1	0.34	0.54
	723	LDT2	0.59	0.80
	724	MDV	0.38	0.41
	732	LHDT1	0.63	0.17
	733	LHDT2	0.25	0.05
	734	MHDV	0.53	0.06
	736	HHDV	6.48	0.52
	750	Motorcycle	0.20	0.74
	762	Urban-Bus	0.11	0.04
	770	School-Bus	0.11	0.04
	780	Motor-Home	0.07	0.04
	<del>010-045-0110-0000</del>	<del>Electric Utilities— Natural Gas Turbine</del>	<del>0.089</del>	<del>0.007</del>
	<del>610-610-0110-0000</del>	<del>Residential Fuel Combustion—Natural Gas-Cooking</del>	<del>0.029</del>	<del>0.004</del>
	<del>610-608-0110-0000</del>	<del>Residential Fuel Combustion—Natural Gas-Water Heating</del>	<del>0.263</del>	<del>0.013</del>
<b>PCAPCD Total</b>			<b>10.60</b>	<b>4.27</b>

\* all on-road emissions are based on EMFAC2007 with Feb. 08 SACOG activity data. Area source emissions are based on ARB CEFS\_O3SIP data.

### Emission Reductions

In 2006, the existing California Environmental Quality Act mitigation program achieved 0.033 TPD of NOx and 0.035 TPD of ROG in the Sacramento district. These reductions represent 0.061% and 0.115% of the Sacramento 2005 affected NOx and ROG inventory, respectively.

The South Coast AQMD 2007 Air Quality Management Plan proposes an indirect source rule (2007EGM-01) with a commitment to achieve 1.0 TPD and 0.5 TPD of NOx and ROG, respectively, in 2020. This represents 0.17% of the ROG inventory and 0.36% of the NOx inventory. The San Joaquin Valley Unified APCD 2007 ozone plan includes a commitment to achieve 0.2 TPD reduction in on-road NOx in 2017 from their existing indirect source rule which represents 0.12% of the NOx inventory. (Note: South Coast inventory is based on ARB CEFS\_O3SIP data. San Joaquin inventory is based on 2007 Ozone Plan Appendix B.)

Sufficient data is not currently available to precisely quantify expected reductions. For example, the integrated iPlaces land use model and SACMET travel model expected to be used for emission reduction quantification is not yet available in final form. However, based on the ranges of reductions discussed above as applied to the affected inventory for SMAQMD ~~and PCAPCD~~ in 2018 results in the following expected emission reduction range:

District	2018 Reduction (tpd)	
	NOx	ROG
SMAQMD	0 - 0.09	0 - 0.03
<del>PCAPCD</del>	<del>0 - 0.04</del>	<del>0 - 0.01</del>
<b>Total</b>	0 - 0. <del>13</del> <u>09</u>	0 - 0.0 <u>43</u>

Emission reductions from this rule will result from a combination of on-site mitigation implemented by project proponents and off-site mitigation projects. Depending on the type of mitigation strategies funded through the off-site mitigation program, emission reductions could apply to mobile, stationary, or area-wide source inventory categories.

SMAQMD

Adoption year: 2012

Implementation year: 2014

~~PCAPCD~~

~~Adoption year: 2014~~

~~Implementation year: 2016~~

**Cost Effectiveness**

The cost effectiveness of this rule is dependent on the type of on-site mitigation implemented by a developer, and whether or not the off-site mitigation fee option is chosen for some or all of the required emission reductions. Some on-site mitigation may result in a cost savings.

**Authority and Resources**

The districts are authorized to adopt and implement regulations to reduce or mitigate emissions from indirect and area-wide sources of air pollution by Health and Safety Code Section 40716. In addition, SMAQMD is specifically authorized to adopt indirect or area-wide source regulations by Health and Safety Code Section 41013.

Districts are authorized to recover costs associated with regulation of area-wide and indirect sources by Health and Safety Code Section 42311(g).

**Implementation**

This control measure will be implemented by SMAQMD ~~and PCAPCD~~.

**Control Measure Number: ~~PCAPCD-CM1~~**

**Control Measure Title: ~~Asphalt Concrete Production~~**

**Date: ~~February 5, 2007~~**

**Control Measure Description**

~~Asphaltic concrete, or hot mix pavement material, is produced in both continuous and batch plants; some of the latter are portable. The process involves heating aggregate in a rotary dryer to approximately 300 °F and mixing it with melted asphalt cement refined from petroleum. Most of the NOx emissions are from the burners used to heat the dryer, and those are the NOx emissions targeted by this control measure. Some ancillary NOx emissions come from heaters used to melt asphalt cement, and from stationary internal combustion engines.~~

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~~The control of dryer NOx emissions may be accomplished by controlling the burners used to heat the dryer. All the plants in the Placer County are fired with natural gas. The concentration of NOx discharged from uncontrolled burners is typically over 100 parts per million, volumetric dry (ppmvd), or about 0.016 pounds per ton. Use of low NOx burners and flue gas recirculation (FGR) is able to reduce these emissions to as low as 30 ppmvd. There is little to no fuel penalty as a result of these controls, but a reduction in burner capacity of up to 20 percent may be required to avoid flame impingement on the inner surfaces of the dryer. This could result in lost production for plants when they are producing at close to their rated capacities. In order to control NOx emissions, plants must be retrofitted with low NOx burners and FGR.~~

**Emission Inventory – 2018**

<del>EIC Code</del>	<del>EIC Description</del>	<del>NOx Inventory for Control Measures (tpd)</del>
		<del>2018</del>
<del>430-424-7006-0000</del>	<del>Asphaltic Concrete Production</del>	<del>0.0624</del>

**Emission Reductions**

<del>EIC Description</del>	<del>Adoption Date</del>	<del>Implementation Date</del>	<del>NOx Emission Reduction (tpd)</del>
			<del>2018</del>
<del>Asphaltic Concrete Production</del>	<del>2013</del>	<del>2014</del>	<del>0.0364</del>

**Cost Effectiveness**

~~It is assumed that the equipment has a 20-year life, an interest rate of 3%, and the cost of running two plants in Placer County is \$360,000. The estimated cost effectiveness is \$5,675/ton of NOx reduced.~~

**Authority**

~~California Health and Safety Code, Sections 40000, 40001, and 40702~~

**Implementation**

~~The Placer County Air Pollution Control District is the implementing agency.~~

**References**

- ~~1. References are shown in footnotes.~~
- ~~2. Draft Final Sacramento Off-road Measures, Control Measure SN-59, Asphalt Concrete Production, Sacramento Metropolitan AQMD, October 14, 2003.~~
- ~~3. "ARB Forecasted Emissions by Summary Category Ozone SIP Planning Projections v1.06 RF #980". [www.arb.ca.gov/app/emsinv/0#sip/fcemssumcat\\_0#v106.php](http://www.arb.ca.gov/app/emsinv/0#sip/fcemssumcat_0#v106.php). November 16, 2006.~~
- ~~4. Control Measure, PCAPCD CM1, February 7, 2007~~

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Table H-5 PCAPCD Stationary/Area Source Control Measures Considered				
Measure No.	Title	Current Requirements	Opportunity for Strengthening	Conclusion
	Livestock Waste	None	Lower applicability threshold; Increase number of practices and control efficiency	Not Recommended - Evaluated for Attainment Advancement
	Wineries	None	Establish standards to reduce evaporative VOC emissions from the fermentation process at wineries	Not Recommended - Evaluated for Attainment Advancement
236	Wood Products Coatings	VOC limits on coatings and strippers	Reduce VOC limits for high solid stains, sealers, strippers and lower the applicability limit to 20 gal/year	Not Recommended - Evaluated for Attainment Advancement
	Natural Gas Production and Processing	None	Establish requirements to inspect and maintain equipment to reduce fugitive VOC emissions	Not Recommended - No sources
CM1	Asphaltic Concrete	None	<del>Require limits for NOx emissions similar to a control measure adopted by SJVUAPCD</del>	<del>Control Measure</del> <del>Not Recommended</del> <del>-Evaluated for Attainment Advancement</del>
	Other Dryers and Ovens	None	Require limits for NOx emissions that achieve 50 - 75% reduction similar to proposed measure in SCAQMD	Not Recommended - Evaluated for Attainment Advancement
243	Polyester Resin/Plastic Product Manufacturing	Limits monomer content and use of vapor suppressants	Reduce monomer limits to standards adopted by SCAQMD	Not Recommended - Evaluated for Attainment Advancement
237	Landfills	Collect and control ROG emissions from landfills containing approximately 2.75 million tons of waste or more	Lower applicability threshold to landfills containing approximately 0.5 million tons of waste or more	Not Recommended - Evaluated for Attainment Advancement
CM2/246	Water Heaters	NOx limits on water heaters with rated heat input capacity less than 75,000 Btu/hr	Require NOx limits on water heaters/boilers with rated heat input capacity between 75,000 Btu/hr and 1,000,000 Btu/hr, and reduce current NOx limits from 55 ppm to 15 ppm.	Control Measure
	Roofing Kettles	None	Establish VOC limits from roofing kettles	Not Recommended - Evaluated for Attainment Advancement
	Reactivity Based Standards	None	Require VOC limit of coatings to be based on a reactivity limit instead of a mass-balance limit	Not Recommended - Overlaps with Control Measure 218
	Using Greener Consumer Products	None	Promote the use of Low-VOC Consumer Product especially on Spare-the-	Not Recommended - Evaluated for Attainment

Table H-5 PCAPCD Stationary/Area Source Control Measures Considered				
Measure No.	Title	Current Requirements	Opportunity for Strengthening	Conclusion
	Polystyrene/ Poly Foam Blowing/Other	None	Require reduction of VOC emission from EPS molding by vented the emissions to an emission control device such as a thermal oxidizer	Not Recommended - No sources
229, 238	Production of Wood/paper products	Limit coatings and inks which contain 250 grams or less of VOC per liter	Require VOC limits for manufacturing wood/paper products.	Not recommended - already implemented
	Industrial Wastewater	None	Require VOC limits and control system from wastewater system	Not Recommended - No sources
	Wastewater Sewage Treatment	None	Require VOC limits and control system for wastewater sewage treatment plant	Not Recommended - No sources
	Lower permit exemption	Permit exemptions and thresholds	Lower permit threshold to bring more sources and equipment under permit program	Not Recommended - Evaluated for Attainment Advancement
	Composting Green Waste	None	Establish VOC limits similar to the rule adopted by SJVUAPCD	Not Recommended - Evaluated for Attainment Advancement
	Composting and Biosolids	None	Establish VOC reducing requirements equivalent to SJVUAPCD/SCAQMD	Not Recommended - Evaluated for Attainment Advancement
	Glass Furnaces	None	Establish NOx limits for glass furnaces	Not Recommended - No sources
	Central Furnaces	None	Establish NOx limits for central furnaces	Not Recommended - Evaluated for Attainment Advancement
IS-1	ISR Construction	None	Implement construction mitigation rule to reduce off-road construction Nox emissions associated with new land use development	<del>Control Measure</del> <u>Not Recommended</u> <u>-Evaluated for Attainment Advancement</u>
IS-1	ISR Construction	None	Implement construction mitigation rule to reduce off-road construction emissions associated with new land use development	Not Recommended - Evaluated for Attainment Advancement
IS-2	ISR Operational	None	Mitigate increased emissions associated with new land use/development projects	<del>Control measure</del> <u>Recommended</u> <u>-Evaluated for Attainment Advancement</u>