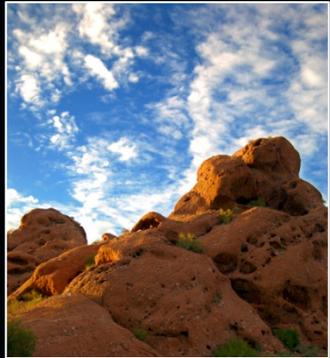
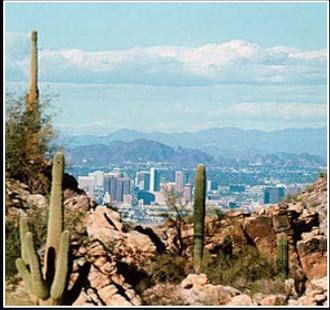


MAG 2014 State Implementation Plan Revision for the Removal of Stage II Vapor Recovery Controls



MAG Air Quality Technical Advisory Committee
June 26, 2014

ENVIRONMENTAL PROGRAMS

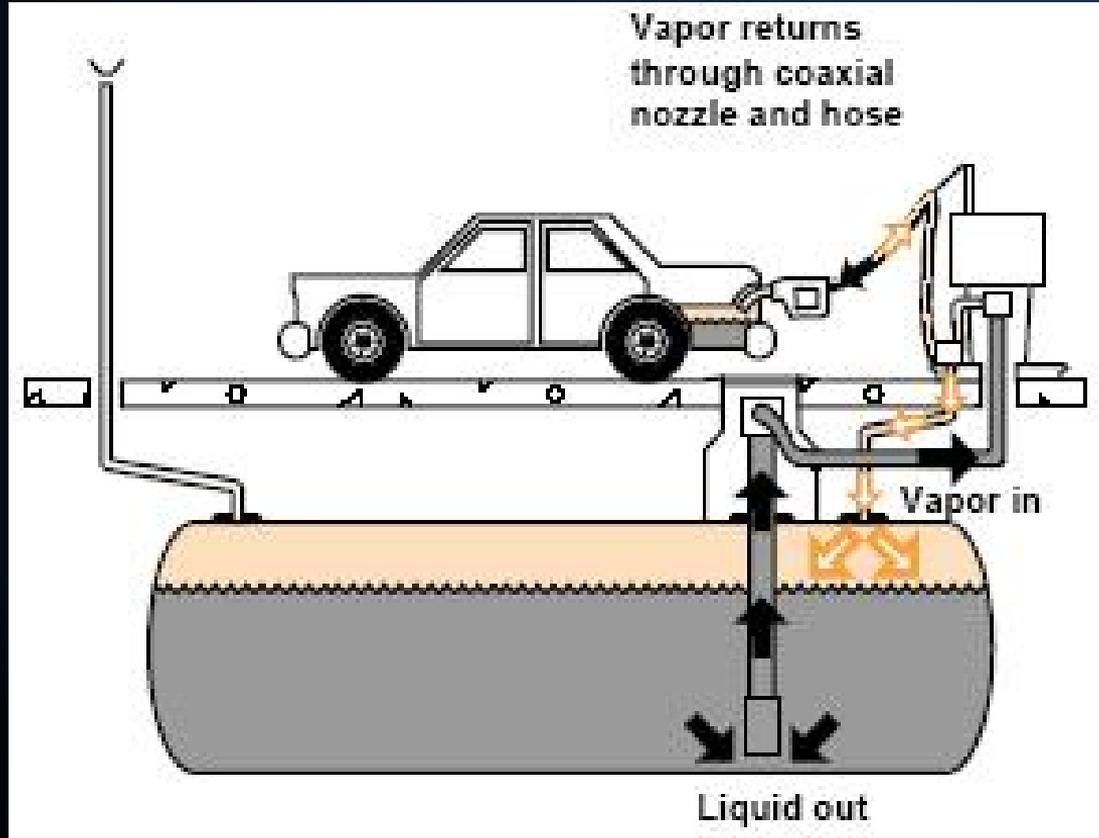
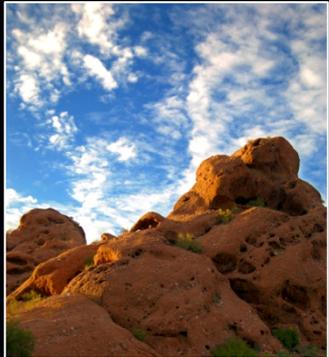


Overview

- On May 16, 2012, EPA made a determination that Onboard Refueling Vapor Recovery (ORVR) is in widespread use throughout the motor vehicle fleet
- States may now evaluate the removal of Stage II vapor recovery systems at gasoline dispensing facilities since ORVR and Stage II are duplicative control systems
- This plan revision requests that EPA remove the requirement to install and operate Stage II vapor recovery systems in the Maricopa eight-hour ozone nonattainment area for new gasoline dispensing facilities beginning in 2014 and for existing facilities beginning in October 2016, before a regional disbenefit begins to occur in 2018

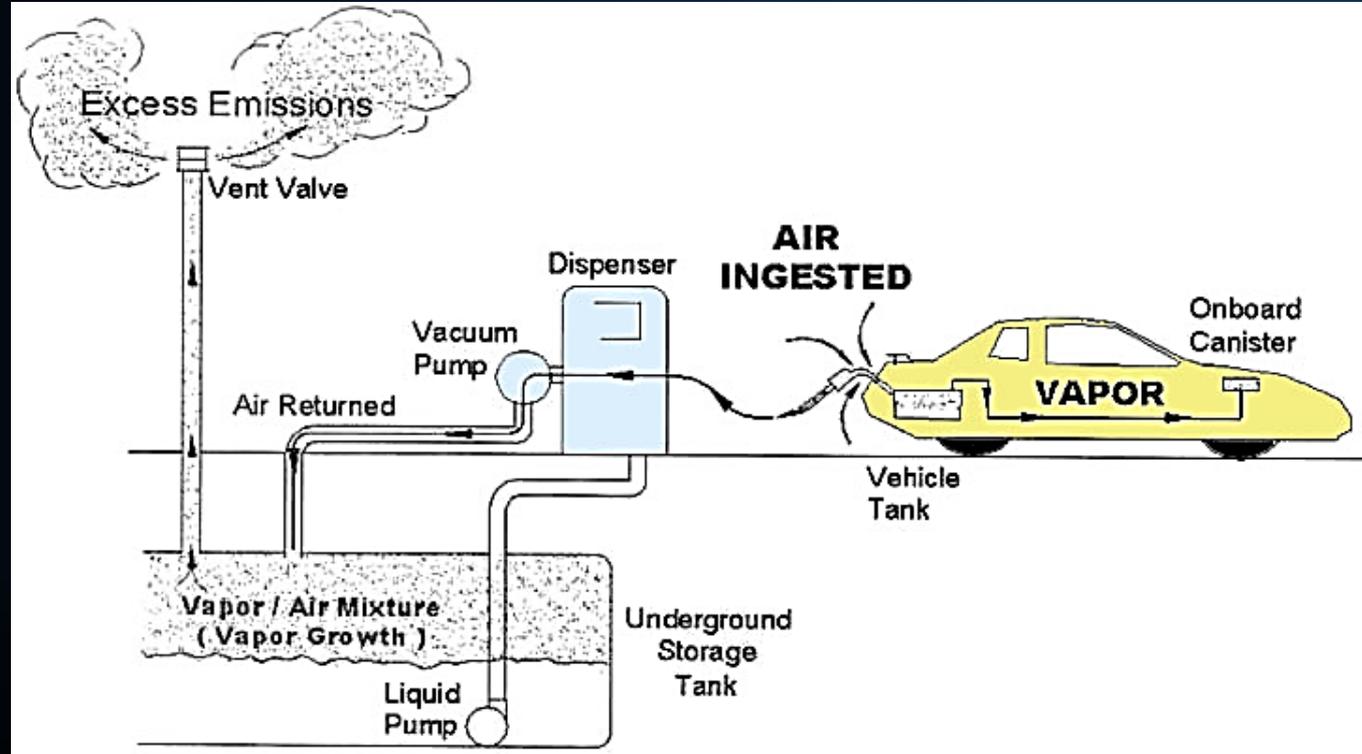
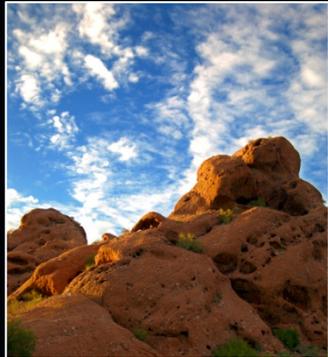
Stage II Vapor Recovery Systems

ENVIRONMENTAL
PROGRAMS



Onboard Refueling Vapor Recovery (ORVR) Incompatibility Issues

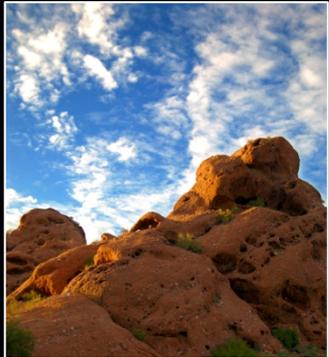
ENVIRONMENTAL
PROGRAMS



ENVIRONMENTAL PROGRAMS

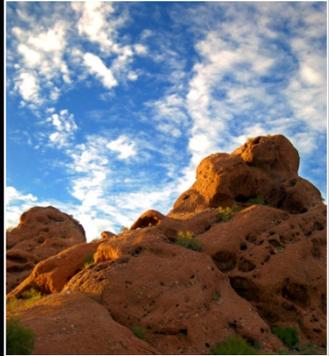
EPA Guidance

- On August 7, 2012, EPA released *Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures* which includes equations that are used to estimate the areawide impact of Stage II vapor recovery systems on vehicle refueling volatile organic compound (VOC) emissions



Areawide Emission Reduction Benefits and Disbenefits of Stage II Controls

ENVIRONMENTAL PROGRAMS

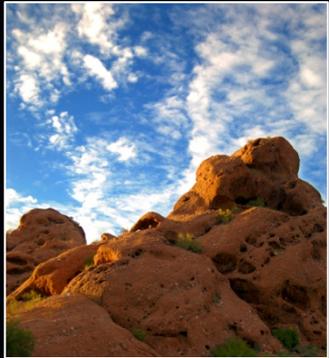


Year	% of Gas-Powered Vehicles with ORVR*	% of VMT by Vehicles with ORVR*	% of Gas used by Vehicles with ORVR*	Compatibility Factor**	Increment (EPA eq. 1)	VOC Emission Reductions from Stage II (kg/day)
2010	62.4	71.6	69.5	0.0540	0.1506	2,168
2011	67.1	76.0	73.9	0.0574	0.1196	1,740
2012	71.4	80.0	77.7	0.0604	0.0928	1,379
2013	75.3	83.4	81.0	0.0629	0.0695	1,041
2014	78.7	86.3	84.0	0.0653	0.0484	725
2015	81.8	88.8	86.5	0.0672	0.0308	462
2016	84.5	90.9	88.6	0.0688	0.0160	238
2017	86.8	92.5	90.3	0.0702	0.0040	60
2018	88.8	93.9	91.9	0.0714	-0.0073	-108
2019	90.5	95.0	93.2	0.0724	-0.0164	-244
2020	92.0	95.9	94.3	0.0733	-0.0242	-359

*Due to the similarity between the average national and Maricopa County gasoline-powered highway vehicle fleet ages, national data from EPA guidance were selected for these values

**Larger values of this factor denote increased incompatibility between ORVR and Stage II systems

ENVIRONMENTAL PROGRAMS

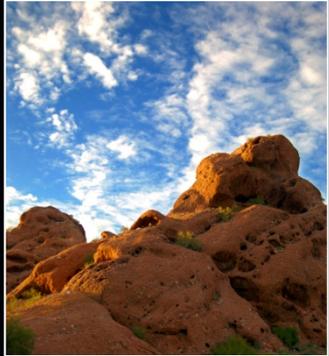


Removal of Stage II Will Not Interfere With Attainment [CAA Section 110(I)]

- Clean Air Act Section 110(I) precludes the EPA from approving a State Implementation Plan revision if it would interfere with attainment of the National Ambient Air Quality Standards, reasonable further progress towards attainment, or any other applicable requirement under the Clean Air Act
- EPA recommended following a Stage II removal schedule for new facilities beginning in 2014 and for existing facilities beginning in October 2016, after the 2016 ozone season, as this schedule results in the smallest temporary increase in VOC emissions of the scheduling options considered
- The temporary increase in VOC emissions from the scheduled removal of Stage II are too small to interfere with attainment , or progress towards attainment

ENVIRONMENTAL
PROGRAMS

Temporary Increase in VOC Emissions from Stage II Removal Schedule



Year	Temporary Increase in VOC Emissions from New Gasoline Dispensing Facilities (kg/day)	Temporary Increase in VOC Emissions from Existing Gasoline Dispensing Facilities (kg/day)	Total Temporary Increase in VOC Emissions (kg/day)
2014	15	NA	15
2015	10	10	19
2016	5	10	15
2017	1	30	31
2018	0	23*	23*

**Temporary increases in emissions in 2018 are due to existing facilities that have not removed Stage II controls by the beginning of the 2018 ozone season.*

Note: Totals may not equal the sum of the individual values due to independent rounding.

ENVIRONMENTAL
PROGRAMS

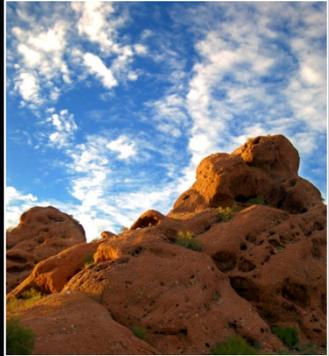
Removal of Stage II Will Not Interfere With Attainment [CAA Section 110(I)]

- An analysis of mobile source VOC emissions found that when Stage II controls are assumed to be completely removed beginning in 2014, mobile source VOC emissions still exhibit a downward trend in future years
- This conservative analysis provides a second demonstration that removal of Stage II controls in the Maricopa eight-hour ozone nonattainment area will not interfere with attainment, or progress towards attainment, as required by Section 110(I) of the Clean Air Act



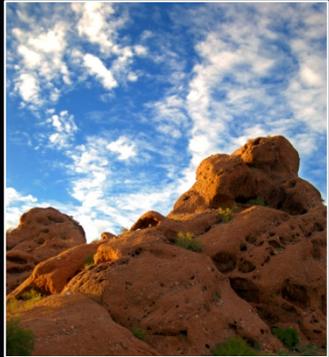
ENVIRONMENTAL
PROGRAMS

Mobile Source VOC Emission Trends With and Without Stage II Controls

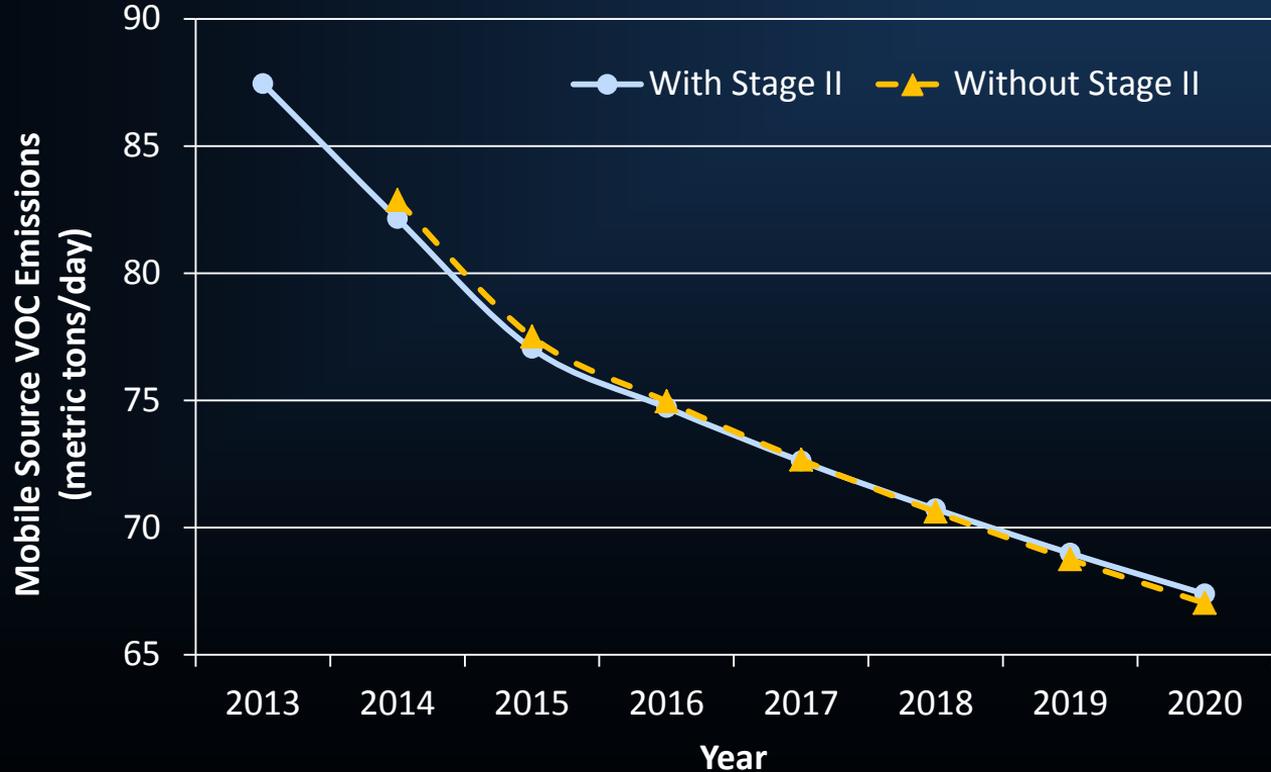


Year	Nonroad VOC Emissions Without Stage II (metric tons/day)	Onroad VOC Emissions Without Stage II (metric tons/day)	VOC Emission Reductions from Stage II (metric tons/day)	Total Mobile Source VOC Emissions (metric tons/day)	
				Without Stage II	With Stage II
2013	26.29	62.20	1.04	NA	87.45
2014	24.76	58.11	0.73	82.87	82.14
2015	23.49	54.01	0.46	77.50	77.04
2016	22.43	52.53	0.24	74.96	74.72
2017	21.63	51.04	0.06	72.67	72.61
2018	21.07	49.55	-0.11	70.62	70.73
2019	20.68	48.07	-0.24	68.75	68.99
2020	20.45	46.58	-0.36	67.03	67.39

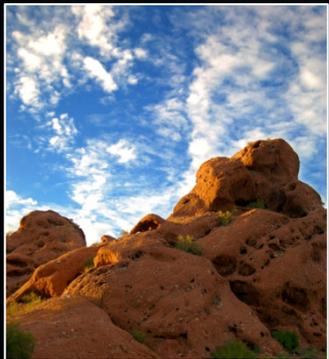
ENVIRONMENTAL PROGRAMS



Mobile Source VOC Emission Trends With and Without Stage II Controls



ENVIRONMENTAL PROGRAMS



Conclusion

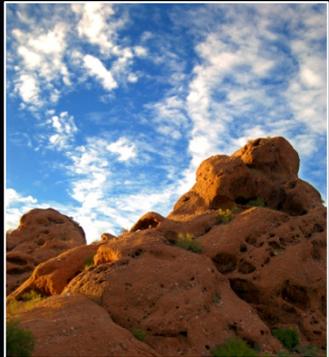
- **Stage II controls no longer provide areawide VOC emission reductions benefits in the Maricopa eight-hour ozone nonattainment area beginning in 2018**
- **The scheduled removal of Stage II controls beginning in 2014 for new gasoline dispensing facilities and October 2016 for existing facilities results in the smallest temporary increase in VOC emissions of the scheduling options considered**
- **The temporary increase in emissions does not alter the downward trend in mobile source VOC emissions and is too small to interfere with attainment of the ozone standard, or reasonable progress towards attainment, as required by Section 110(I) of the Clean Air Act**



ENVIRONMENTAL
PROGRAMS

Schedule

- **May 2, 2014 – Draft revision available for public review**
- **June 3, 2014 – Public hearing**
- **June 26, 2014 – MAG Air Quality Technical Advisory Committee recommendation**
- **August 6, 2014 – MAG Management Committee recommendation**
- **August 27, 2014 – MAG Regional Council adoption**
- **August 29, 2014 – MAG submission of revision to ADEQ and EPA**





**MARICOPA
ASSOCIATION of
GOVERNMENTS**



**For more information
Contact:
Matt Poppen
(602) 254-6300**

mpoppen@azmag.gov