

**Revision to Motor Vehicle Emissions Budgets in  
*Ozone Redesignation Request and Maintenance  
Plan: Clark County, Nevada***

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## **EXECUTIVE SUMMARY**

This revision to the motor vehicle emissions budgets (MVEBs) in the *Ozone Redesignation Request and Maintenance Plan: Clark County, Nevada* (March 2011), developed for the 1997 8-hour ozone standard, is a formal request by Clark County to the U.S. Environmental Protection Agency (EPA) to revise MVEBs for emissions of volatile organic compounds and nitrogen oxides for the 2008 attainment year and to project those emissions outward to 2015 and 2022. The necessity to revise the MVEBs is twofold.

First, portions of Clark County were designated as nonattainment for the 2015 ozone National Ambient Air Quality Standard of 70 parts per billion effective August 3, 2018. As a result, the Regional Transportation Commission of Southern Nevada (RTC) will be required to demonstrate transportation conformity in updates to its Regional Transportation Plan and Transportation Improvement Plan with the established MVEBs after a one-year grace period.

Second, due to the ruling in *South Coast Air Quality Management District v. EPA*, No. 15-1115 (D.C. Cir. 2018), the RTC will be required to use the MVEBs in Clark County's ozone redesignation request and maintenance plan for determining transportation conformity.

Current MVEBs contained in the ozone redesignation request and maintenance plan were developed using an outdated mobile emissions model, Mobile6. The revised MVEBs were developed using EPA's most up-to-date mobile emissions model, the Motor Vehicle Emissions Simulator (MOVES2014a).

After EPA approval, the RTC will use these MVEBs for determining transportation conformity. Under Section 176(c) of the Clean Air Act, transportation plans, programs, and projects in maintenance areas that are funded or approved under Title 23 of the U.S. Code or the Federal Transit Act must conform to the on-road MVEBs specified in the applicable state implementation plan. In this case, 40 CFR 93.118 provides the criteria and procedures for developing the MVEBs in this revision.

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## **ACRONYMS AND ABBREVIATIONS**

### Acronyms

CAA	Clean Air Act
EI	emission inventory
EPA	U.S. Environmental Protection Agency
EPP	Early Progress Plan
ERC	Emission Reduction Credit
MVEB	motor vehicle emissions budget
NAAQS	National Ambient Air Quality Standards
RTC	Regional Transportation Commission of Southern Nevada
SIP	state implementation plan

### Abbreviations

NO <sub>x</sub>	nitrogen oxides
tpd	tons per day
VOCs	volatile organic compounds

## **1.0 OVERVIEW**

### **1.1 Introduction**

Clark County, in conjunction with the Nevada Division of Environmental Protection, requests that the U.S. Environmental Protection Agency (EPA) approve this revision to its *Ozone Redesignation Request and Maintenance Plan* for the 1997 8-hour ozone standard, submitted to EPA in April 2011. This revision establishes revised motor vehicle emission budgets (MVEBs) for emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) for the 2008 attainment year, and projects those emissions outward to 2015 and 2022 using the most recent EPA-approved motor vehicle emissions model (MOVES2014a) and the most current planning variables (e.g., vehicle miles traveled projections and population forecasts). The current MVEBs in the ozone maintenance plan were established using EPA's outdated Mobile6 motor vehicle emissions model.

Once approved, the MVEBs in this revision will become the projected budgets that the Regional Transportation Commission of Southern Nevada (RTC) will use in the future for determining transportation conformity under Section 176(c) of the Clean Air Act (CAA).

### **1.2 History**

Clark County was designated in nonattainment of the 8-hour ozone National Ambient Air Quality Standard (NAAQS) in April 2004. The Phase 1 Implementation Rule issued by EPA on June 15, 2004, classified Clark County as a "basic" nonattainment area under Subpart 1 of the CAA. Following this designation, the state of Nevada submitted a request to EPA to reconsider the boundaries of the nonattainment designation for Clark County. EPA accepted the Nevada recommendations, and issued a final rule in September 2004 delineating those boundaries.

On December 22, 2006, the U.S. Court of Appeals for the District of Columbia Circuit vacated the Phase 1 Implementation Rule. EPA and other entities petitioned for a rehearing. On June 8, 2007, the court reviewed its decision and decided to vacate only certain portions of the rule, including the classification determinations for areas designated under Subpart 1 of the CAA. After the court decision, EPA issued a memorandum (dated 6/15/2007) stating that nonattainment areas classified under "Subpart 1 are not currently subject to the June 15, 2007 submission date for their attainment demonstrations," and established a transportation conformity rule that allowed states in nonattainment to submit an Early Progress Plan (EPP). The EPP allowed nonattainment areas to establish MVEBs that addressed the ozone NAAQS prior to a complete attainment demonstration. These actions obligated Clark County to develop the *Eight Hour Early Progress Plan for Clark County*. The Board of County Commissioners adopted and approved the EPP on June 17, 2008, after which it was submitted to EPA. In May 2009, EPA formally approved Clark County's EPP.

In April 2011, Clark County submitted the *Ozone Redesignation Request and Maintenance Plan: Clark County, NV* to EPA, requesting redesignation of the Clark County nonattainment area for the 1997 8-hour ozone NAAQS from nonattainment to attainment. On January 8, 2013, EPA approved the request; the Clark County nonattainment area was redesignated to "attainment" effective February 7, 2013.

## 2.0 UPDATED EMISSIONS INVENTORY

### 2.1 Emission Inventory Type Categories and Summary

The updated NO<sub>x</sub> and VOC emissions inventories (EIs) for the portion of Clark County that is the 1997 8-hour ozone maintenance area were derived from estimates developed for eight EI type categories: point sources, nonpoint sources, commercial aviation, federal aviation, railway, on-road mobile, non-road mobile, biogenic, and banked Emission Reduction Credits (ERCs).

Table 2-1 summarizes the 2008, 2015, and 2022 NO<sub>x</sub> EIs in tons per day (tpd). Table 2-2 summarizes the 2008, 2015, and 2022 VOC EIs in tpd.

Appendix A, the technical support document, provides a detailed explanation of EI estimates.

**Table 2-1. Summary of Total Daily NO<sub>x</sub> Emissions (tpd)**

Source Category	2008 NO <sub>x</sub>	2015 NO <sub>x</sub>	2022 NO <sub>x</sub>
Point source	28.97	11.60	12.26
Nonpoint source	6.60	5.94	5.04
Commercial aviation	11.41	11.77	17.42
Federal aviation	1.27	1.58	2.26
On-road mobile	89.50	64.30	27.02
Non-road mobile	40.63	27.69	17.50
Biogenic	5.00	5.00	5.00
ERC	0.00	22.23	22.23
<b>Total</b>	<b>183.38</b>	<b>150.11</b>	<b>108.73</b>
<b>Safety Margin</b>	<b>N/A</b>	<b>33.27</b>	<b>74.65</b>

**Table 2-2. Summary of Total Daily VOC Emissions (tpd)**

Source Category	2008 VOCs	2015 VOCs	2022 VOCs
Point source	1.50	2.42	2.72
Nonpoint source	67.56	60.12	59.49
Commercial Aviation	2.60	2.67	2.95
Federal Aviation	0.79	1.08	0.95
On-road mobile	42.46	33.04	17.12
Non-road mobile	42.07	31.10	28.52
Biogenic	132.00	132.00	132.00
ERC	0.00	0.43	0.43
<b>Total</b>	<b>288.98</b>	<b>262.86</b>	<b>244.18</b>
<b>Safety Margin</b>	<b>N/A</b>	<b>26.12</b>	<b>44.80</b>

### 3.0 TRANSPORTATION CONFORMITY AND MOTOR VEHICLE EMISSIONS BUDGETS

#### 3.1 Transportation Conformity

Under CAA Section 176(c), transportation plans, programs, and projects in maintenance areas that are funded or approved under Title 23 of the U.S. Code or the Federal Transit Act must conform to the on-road MVEBs specified in the applicable state implementation plan (SIP). In this case, 40 CFR 93.118 provides the criteria and procedures for MVEBs. The MVEB establishes a cap on motor vehicle-related emissions that cannot be exceeded by predicted transportation system emissions. It applies as a ceiling on emissions in the year for which it is defined, and for all subsequent years, until a different budget is defined for another year or a SIP revision modifies the budget. Unless the SIP clearly indicates otherwise, the estimate of future transportation network emissions used in the milestone or attainment demonstration acts as the MVEB.

#### 3.2 Motor Vehicle Emissions Budgets

This revision establishes VOC and NO<sub>x</sub> MVEBs for 2008, 2015, and 2022 for use in conducting future transportation conformity determinations. The budgets for 2008 consist of the updated on-road emissions for that year. The budgets for 2015 and 2022 were established by adding 80 percent of the safety margin to the updated on-road emissions in each corresponding year.

Table 3-1 provides 2015 and 2022 VOC and NO<sub>x</sub> MVEBs for the portion of Clark County that comprises the 1997 8-hour ozone maintenance area. Upon an EPA affirmative adequacy finding and approval of the MVEBs, the RTC will use these budgets for conformity determinations in future regional transportation plans.

**Table 3-1. VOC and NO<sub>x</sub> MVEBs for Clark County**

Year	NO <sub>x</sub> MVEBs (tpd)	VOC MVEBs (tpd)
2008 – attainment	89.50	42.46
2015 – interim	90.92 or (64.30 + (.8 x 33.27))	53.94 or (33.04 + (.8 x 26.12))
2022 – maintenance	86.74 or (27.02 + (.8 x 74.65))	52.96 or (17.12 + (.8 x 44.80))