STATE OF CALIFORNIA

California Environmental Protection Agency

Air Resources Board

STAFF REPORT

ANALYSIS OF THE SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT 2012 REDESIGNATION REQUEST AND MAINTENANCE PLAN FOR THE 1997 NATIONAL OZONE STANDARD

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I. EXECUTIVE SUMMARY

On June 13, 2012, the U.S. Environmental Protection Agency (U.S. EPA) classified San Diego as a "Moderate" nonattainment area for the 1997 8-Hour Ozone National Ambient Air Quality Standard (standard), requiring a State Implementation Plan (SIP) addressing Moderate area control requirements to be submitted to U.S. EPA by June 13, 2013. The classification, which was made in response to a court order, was based on 2001 to 2003 air quality data. However, more recent data show that San Diego attained the standard in 2011. The San Diego Air Pollution Control District's (District) 2012 Redesignation Request and Maintenance Plan (Maintenance Plan) demonstrates that the region's air quality now meets the federal standard, and that it will continue to do so through at least 2025. If approved by U.S. EPA, the Maintenance Plan will fulfill all applicable SIP requirements for the 1997 8-Hour Ozone Standard.

The District's Governing Board is scheduled to consider adoption of the Maintenance Plan on December 5, 2012. ARB staff has reviewed the Draft Maintenance Plan released on November 2, 2012 and finds that the Maintenance Plan meets all applicable federal Clean Air Act (CAA) requirements for redesignation requests and maintenance plans. Staff recommends that the Board approve the Maintenance Plan contingent on ARB staff's determination that the Maintenance Plan approved by the District Board does not differ significantly from that reviewed by ARB staff, and that the Board direct staff to submit the Maintenance Plan to U.S. EPA as a proposed revision to California's SIP.

II. REDESIGNATION REQUIREMENTS

ARB staff reviewed the Maintenance Plan within the context of the CAA, which identifies the following requirements that a nonattainment area must meet in order to be redesignated to attainment:

- Attainment of the standard has been demonstrated;
- The State has met all applicable CAA requirements for ozone in the nonattainment area;
- The area has an approved SIP;
- The area's improvement in air quality is due to permanent and enforceable ozone emission reductions; and
- The area has a U.S. EPA-approved maintenance plan.

The CAA also sets the general framework for maintenance plans. Each ozone maintenance plan must provide for continued maintenance of the ozone standard for 10 years after redesignation, and must include the following components:

- A detailed emissions inventory;
- A maintenance demonstration;
- A commitment to continue operation of the monitoring network;

- A commitment to verify continued attainment; and
- A contingency plan to promptly correct any violation of the standard that occurs after redesignation.

III. EVALUATION OF THE SAN DIEGO PLAN

Based on review of the Maintenance Plan and the District's supporting technical analysis, ARB staff concurs that the Maintenance Plan meets the CAA requirements. The following sections describe the major elements of the Maintenance Plan.

A. Redesignation Request: San Diego Attains the 1997 8-hour Ozone Standard

The San Diego District operates an extensive ozone monitoring network that continuously monitors ambient ozone levels at numerous sites throughout San Diego County in compliance with federal requirements. The data generated at these monitors are used to define the nature and severity of ozone pollution in San Diego County, to identify ozone pollution trends, and to determine compliance with ozone air quality standards.

Data from the San Diego monitoring network show that the area attained the 1997 8-hour ozone standard, which is 0.08 parts per million (ppm), in 2011. Figure 1 maps the ozone monitors operating in the nonattainment area during the 2009 through 2011attainment period. Table 1 shows the fourth-highest daily maximum 8-hour average ozone concentration recorded at each monitoring site in each of the past three consecutive years. U.S. EPA regulations specify that the three-year average of the fourth-highest daily concentrations recorded at each site must be used to determine whether a region attains the standard. The highest resulting averaged value is known as the ozone "design value" for the region; the 1997 8-hour ozone standard is attained when a region's design value is less than or equal to 0.084 ppm. Table 1 shows that San Diego County's ozone design value is 0.082 ppm. San Diego's design value is established at the Alpine monitoring station, which has historically recorded the highest ozone concentrations in the region. As shown in Table 1, the 1997 8-hour ozone standard has been attained throughout the San Diego County Planning Area.

Data from the 2012 ozone season have not yet been fully reviewed. Preliminary data indicate that the area continues to be in attainment of the 1997 ozone standard to date.

Figure 1. Ozone Monitoring Stations in San Diego County

Table 1. San Diego County Ozone Data: Annual Fourth-Highest Daily Maximum Concentrations (ppm)

Monitor Site	2009	2010	2011	3-Year Average
Alpine	0.085	0.081	0.082	0.082
Camp Pendleton	0.071	0.064	0.067	0.067
Chula Vista	0.067	0.068	0.055	0.063
Del Mar	0.067	0.063	0.064	0.064
Downtown	0.060	0.058	0.060	0.059
El Cajon	0.071	0.073	0.070	0.071
Escondido	0.074	0.075	0.068	0.072
Kearny Mesa	0.069	0.070	0.069	0.069
Otay Mesa	0.061	0.056	0.059	0.058

B. The State Has Met Applicable Clean Air Act Requirements

ARB and the District have met all of the CAA requirements applicable for a Moderate ozone nonattainment area to be considered for redesignation. U.S. EPA fully approved San Diego's 1-hour Ozone Maintenance Plan on July 28, 2003; this plan remains the applicable ozone SIP for San Diego until U.S. EPA approves a subsequent ozone SIP submittal (San Diego's 2012 Redesignation Request and Maintenance Plan). No SIP provisions are currently disapproved, conditionally approved, or partially approved.

C. Improvement in San Diego's Ozone Air Quality is Due to Permanent and Enforceable Reductions in Emissions

The Maintenance Plan projects that ozone precursor emissions will continue to decline through the maintenance period despite projected increases in population, motor vehicle use, meteorological fluctuations, and economic recovery. The benefits of the adopted rules and regulations are projected to continue through the maintenance period as older vehicles, engines, and equipment are replaced with newer units subject to more stringent emission control requirements. The Maintenance Plan also identifies the adopted State and local regulations that, together with federal controls, brought the area into attainment of the 1997 ozone standard.

D. Maintenance Plan

The Maintenance Plan also includes the components needed to demonstrate that the area will remain in attainment of the 1997 ozone standard: an attainment emission inventory that is projected to decline through 2025; a commitment to continue operation of the monitoring network; a commitment for verification of continued attainment; and a contingency plan.

1. Attainment Emission Inventory

Ozone is formed in the air by reactions of ozone precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NOx), in the presence of sunlight and heat. Because San Diego attained the 8-hour ozone standard in 2011, total daily VOC and NOx emissions in 2011 represent the attainment inventory (see Table 2). The attainment inventory shows average total ozone precursor emissions of 142.6 tons per day (tpd) VOCs and 137.5 tpd NOx.

Table 2. San Diego County 2011 Ozone Attainment Inventory Summer Planning Inventory, tpd

Precursor	Emissions
Volatile organic compounds (VOC)	142.6
Nitrogen oxides (NOx)	137.5

2. Maintenance Demonstration

In addition to the 2011 adjusted baseline inventory of ozone precursor emissions, the Maintenance Plan provides emission projections through the year 2025. These projections incorporate the effects of projected growth in population, vehicle travel, and economic activity, as well as the effects of adopted regulations. As shown in Table 3, emissions of ozone precursors will continue to decline through 2025.

Because potential changes in military activities do not follow socioeconomic factors, the District included a projection of future mobile source emissions from potential

additional military activity, obtained from the Department of the Navy, in its inventory projections. The projected inventory also includes banked emission reduction credits as a line item to demonstrate that the use of banked emissions credits will not interfere with maintenance.

Table 3. Emissions Trends

Emissions Source Category	2002	2011	2015	2020	2025
VOCs					
Stationary Sources	28.4	31.1	33.1	35.8	36.8
Areawide Sources	42.2	35.9	35.3	36.7	37.5
On-Road Motor Vehicles	63.4	35.3	26.4	20.5	18.3
Non-Road Mobile Sources	49.1	40.3	37.1	35.4	36.1
Banked Emission Credits			0.9	0.9	0.9
Potential Future Military Activity			1.0	1.0	1.0
Total VOCs	**183.1**	**142.6**	**133.9**	**130.3**	**130.6**
NOx					
Stationary Sources	8.2	6.3	5.6	5.5	5.6
Areawide Sources	1.9	1.7	1.8	1.9	2.0
On-Road Motor Vehicles	119.9	70.9	52.5	35.9	27.6
Non-Road Mobile Sources	68.0	58.6	54.9	50.4	47.5
Banked Emission Credits			0.7	0.7	0.7
Potential Future Military Activity			4.4	4.4	4.4
Total NOx	**198.1**	**137.5**	**119.9**	**98.9**	**87.8**

The declining inventory indicates that San Diego will maintain attainment of the 1997 ozone standard due to ARB, District, and federal control measures that are already in place.

3. Ozone Monitoring Network

San Diego County's nine-station ozone monitoring network substantially exceeds U.S. EPA requirements, which call for two ozone monitoring sites in an area of this size.

4. Verification of Continued Attainment

In the Maintenance Plan, the District commits to continue ozone monitoring to verify continued attainment of the 1997 ozone standard. The Maintenance Plan also includes a commitment to continue air monitoring data collection, verification, and submittal in compliance with federal guidelines.

5. Contingency Plan

The CAA requires that a maintenance plan include contingency provisions for prompt correction of any violation of an air quality standard that might occur after the area has been redesignated to attainment for that standard. U.S. EPA's

requirements specify that the area must have a plan ensures that contingency measures will be adopted if the area goes out of attainment.

The San Diego Maintenance Plan cites ARB mobile source control regulations that were not included in the emission projections as contingency measures that will provide significant continuing emissions reductions through the maintenance period. The Maintenance Plan also includes a District commitment to adopt and implement additional emission control measures needed to ensure maintenance if a violation of the 1997 ozone standard is recorded. ARB staff concurs that the Maintenance Plan meets CAA contingency plan requirements.

6. Transportation Conformity Budgets

The CAA's transportation conformity requirements are designed to ensure that transportation planning is consistent with air quality goals. Conformity is determined by comparing emissions from proposed projects and transportation system plans to the transportation conformity budgets established in the SIP.

The Maintenance Plan includes the transportation conformity budgets shown in Table 5. The San Diego Association of Governments and District staffs agreed to use the projected on-road motor vehicle inventories for 2020 and 2025, rounded up to the nearest ton and increased by two tons, to develop the transportation conformity budgets. These budgets provide room for economic recovery that exceeds current projections, but are still substantially lower than the 2011 on-road emissions levels that resulted in attainment of the 1997 ozone standard. If approved by the District Board in December 2012, these budgets will meet CAA requirements.

Table 5. Emissions Budgets for Transportation Conformity

Ozone Precursor	2020 (Interim Year)	2025 (Horizon) and Subsequent Years
VOC	23 tpd	21 tpd
NOx	38 tpd	30 tpd

IV. STAFF RECOMMENDATION

ARB staff has reviewed the Maintenance Plan for San Diego and consulted with District staff during this review. ARB staff finds that the Maintenance Plan meets all applicable CAA requirements. ARB staff believes that implementation of this Maintenance Plan will continue to maintain ozone levels below the 1997 8-hour ozone National Ambient Air Quality Standard in the San Diego County Planning Area. Therefore, staff recommends that the Board adopt the San Diego County 2012 Redesignation Request and Maintenance Plan as a revision to the California SIP for submittal to U.S. EPA. Staff further recommends that the Board approve the District's request that the San Diego County Planning Area be redesignated from nonattainment to attainment for the national ozone standard.