

Updated Staff Report

Revision to the South Coast 1-Hour Ozone State Implementation Plan

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Executive Summary

The South Coast Air Quality Management District (District) adopted the *Updated 1-hour Ozone Attainment Demonstration*¹ (1-hour Ozone Update) on November 2, 2018. The 1-hour Ozone Update revises the attainment demonstration for the South Coast Air Basin (South Coast) 1-hour ozone national ambient air quality standard (NAAQS or standard) and demonstrates that the advanced technology provisions of the Clean Air Act (Act) are no longer needed. The 1-hour Ozone Update also alleviates the need to submit a SIP revision that identifies contingency measures for the advanced technology measures.

The 1-hour Ozone Update aligns the emission inventory and air quality modeling for the 1-hour ozone State Implementation Plan (SIP) elements in the District's 2016 Air Quality Management Plan (AQMP) with the comparable elements from the 8-hour ozone and fine particulate matter (PM_{2.5}) SIPs also included in the 2016 AQMP. With the updates to the inventory, the new modeling in the 1-hour Ozone Update demonstrates that with existing regulations 1-hour ozone levels in 2022 are close to the 1-hour ozone NAAQS. Modeling further demonstrates that meeting the 1-hour ozone NAAQS will require emission reductions in 2022 that can be met with defined District measures included in the 2016 AQMP alleviating the need for section 182(e)(5) of the Act advanced technology measures.

Background

Section 182(e)(5) of the Act allows Extreme ozone nonattainment areas to include emission reductions in their attainment strategy from anticipated development of new control techniques or improvement of existing control technologies. These advanced technology measures are generally undefined at the time the SIP is adopted and submitted to U.S. EPA. Areas with SIPs that rely on such provisions must submit a SIP revision three years prior to the attainment year to demonstrate the area will achieve the reductions assigned to the new technology by the attainment date, or include additional adopted contingency measures.

In 1979, the South Coast was designated nonattainment for the 1-hour ozone NAAQS². With the 1990 amendments to the Act, the South Coast was classified as an Extreme area³, and the 1994 AQMP was developed to meet the new 1-hour ozone SIP requirements. Since then, each update to the South Coast AQMP for the 1-hour ozone standard has included control measures that utilize section 182(e)(5) of the Act and rely on future technology advancements to

¹ <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/updated-1-hour-ozone-attainment-demonstration/draft-updated-1-hour-ozone-attain-demon.pdf?sfvrsn=14>

² 44 FR 8202, February 8, 1979

³ 56 FR 56694, November 6, 1991

achieve the reductions needed to demonstrate attainment of the 1-hour ozone NAAQS.

In 2014, U.S. EPA approved the 1-hour ozone SIP update that was included in the District's 2012 AQMP⁴. The attainment strategy for this plan relied on the advanced technology measures to achieve 150 tons per day (tpd) of oxides of nitrogen (NO_x) and 17 tpd of reactive organic gases (ROG) emission reductions in the attainment date of 2022. At the same time, U.S. EPA approved CARB's commitment to submit contingency measures by January 1, 2019, as necessary, to ensure that the emissions reductions from new technology measures are achieved.

In 2017, CARB submitted to U.S. EPA the District's 2016 AQMP, which updated the approved 1-hour ozone attainment demonstration. The 2016 AQMP modeled ozone attainment demonstration for 1-hour ozone NAAQS showed that the standard was met primarily utilizing defined District control measures, but the District included advanced technology measures from CARB's 2016 State Strategy for the State Implementation Plan (State SIP Strategy). In the 2016 AQMP, the emission reductions associated with Section 182(e)(5) measures were reduced to 15 tpd of NO_x emissions.

1-hour Ozone Air Quality in the South Coast

Historically, the South Coast has experienced the worst ozone air quality in the United States. Prior to modern air pollution controls beginning in the 1960s, hourly ozone levels were measured close to 700 parts per billion (ppb), and Stage III episodes (ozone exceeding 500 ppb) were relatively common⁵.

1-hour ozone pollution levels in the South Coast have improved dramatically over the last 50 years. The South Coast once measured 1-hour ozone values above the NAAQS over 200 days per year⁶. Today the number of days with unhealthy 1-hour ozone levels has dropped to just 10 days in 2018⁷ (Figure 1), and the annual maximum levels of 1-hour ozone has gone down by almost 70 percent in the last four decades^{1,2} (Figure 2). While 1-hour ozone levels in the South Coast have decreased, they have not achieved the health based 1-hour ozone NAAQS.

⁴ 79 FR 52526 , September 3, 2014

⁵ <https://www.aqmd.gov/home/research/publications/50-years-of-progress>

⁶ CARB ADAM database, queried October 2018,
<https://www.arb.ca.gov/adam/trends/trends1.php>

⁷ 2018 1-hour ozone measurements are preliminary and may change

Figure 1: South Coast Air Basin 1-hour Ozone Exceedance Days from 1984 to 2018*

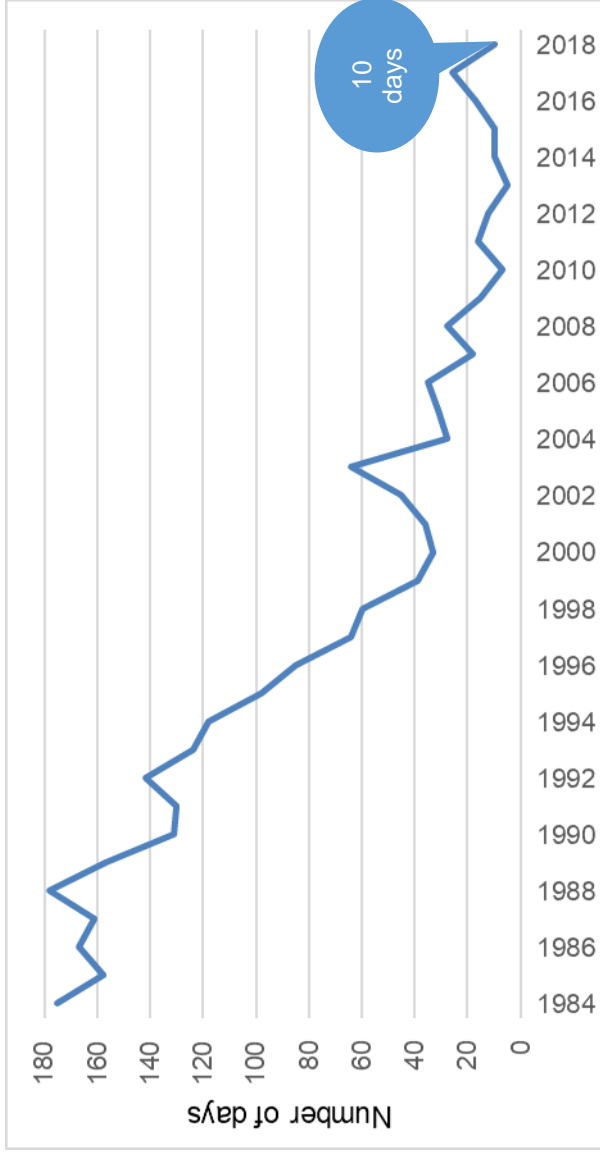
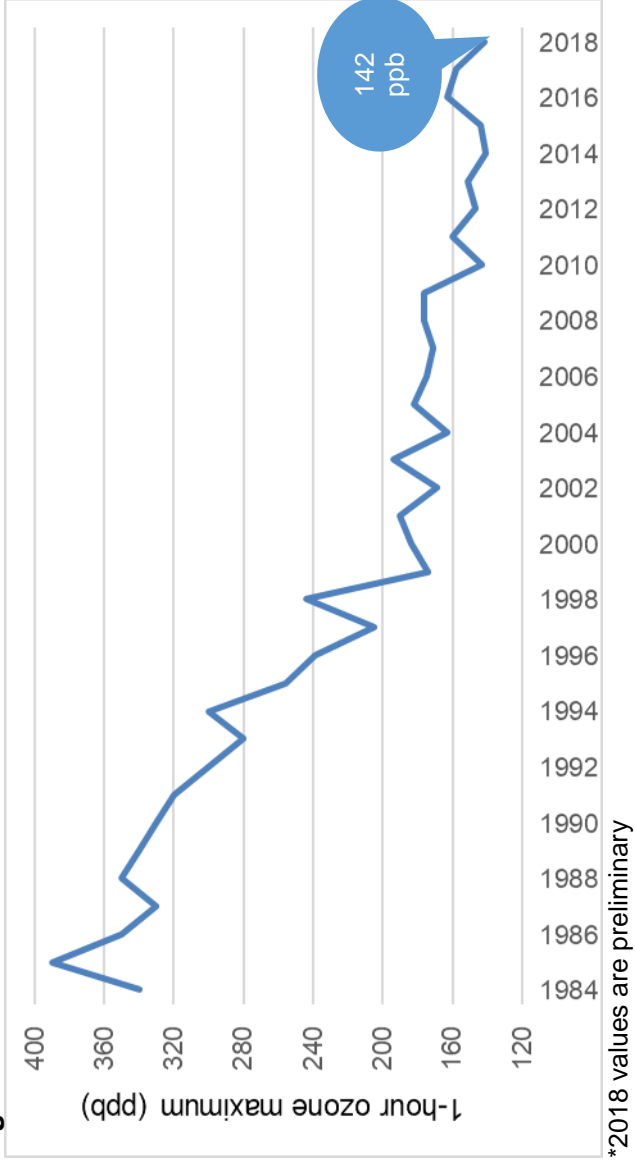


Figure 2: South Coast Air Basin Maximum 1-hour Ozone Levels From 1974 to 2018*



The Updated 1-hour Ozone Attainment Demonstration

The 1-hour Ozone Update includes updates to the 2016 AQMP emission inventory, air quality modeling, and attainment strategy to align the inventory and modeling of the 1-hour ozone attainment demonstration with those of the 8-hour ozone and PM2.5 attainment demonstrations in the 2016 AQMP. The inventory used for the 8-hour ozone and PM2.5 attainment demonstrations in the 2016

AQMP included planning assumptions that were updated after South Coast completed the 1-hour ozone attainment demonstration. For locomotives, new activity showed that NO_x emissions were lower by 1.6 tpd and 7.5 tpd in 2012 and 2022, respectively. Using the updated inventory, the air quality modeling in the 1-hour Ozone Update demonstrates that continued implementation of regulations adopted to date will reduce 1-hour ozone values in 2022 at all South Coast air monitors, and only the Fontana monitor still slightly exceeded the standard (see Table 4 in the 1-hour Ozone Update).

While attainment of the 8-hour ozone standard in the South Coast is dependent almost exclusively on NO_x reductions, both NO_x and ROG emission reductions reduce 1-hour ozone levels. Therefore, to achieve the remaining reductions needed to bring the Fontana monitor into attainment of the 1-hour ozone standard by 2022, the District included in the modeling emissions reductions expected in 2022 from District measures defined in the 2016 AQMP. No reductions from the statewide measures outlined in the State SIP Strategy are included in the 1-hour ozone attainment demonstration.

To achieve these reductions in 2022, the attainment strategy in the 1-hour Ozone Update relies solely on defined District measures included in the 2016 AQMP without requiring any 182(e)(5) advanced technology measures. The District measures included in the attainment demonstration target both mobile and stationary sources and are based on regulations and incentive programs. Table 1 lists the District measures and their associated emission reductions in 2022.

Table 1: District Measures Providing NOx and ROG Reductions in 2022

MOB-11	Extended Exchange Program	2.5	
ECC-02	Co-Benefits from Building Energy Efficiency Measures	0.26	0.06
FUG-01	Improved Leak Detection and Repair		2
CMB-01	Zero and Near-Zero Emission Technologies for Stationary Sources	2.15	1
CMB-03	Non-Refinery Flares	1.4	0.4
CTS-01	Coatings, Solvents, Adhesives, and Lubricants		1

Table 2 shows 2022 baseline emission levels and the emission reductions needed in 2022 for attainment. The District includes a set aside account added to the remaining emissions. The emissions in the set aside account can be used to offset emissions from general conformity or other unplanned projects without interfering with attainment of the 1-hour ozone NAAQS.

Table 2: Emission Levels and Reductions Demonstrated to Provide Attainment

	NOx (tpd)	ROG (tpd)
Baseline emissions	286.8	382.7
Reductions in 2022	20.6	6.1
Set Aside Account	3.1	4.5
Remaining emissions	269.3	381.2

Environmental Impacts

The District found that there is no possibility that the proposed 1-hour Ozone Update may have a significant adverse effect on the environment. Thus, the

project is considered to be exempt under the requirements of the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15061(b)(3) - Activities Covered by General Rule. Furthermore, the proposed attainment demonstration updates are considered categorically exempt because they are considered actions to protect or enhance the environment pursuant to CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment.

CARB has determined that its review and approval of the 1-hour Ozone Update submitted by the District for inclusion in the California SIP is a ministerial activity by CARB for purposes of CEQA (14 CCR § 15268). A “ministerial” decision is one that involves fixed standards or objective measurements, and the agency has no discretion to shape the activity in response to environmental concerns. (14 CCR § 15369; San Diego Navy Broadway Complex Coalition v. City of San Diego (2010) 185 Cal.App.4th 924, 934.)

CARB’s review of the 1-hour Ozone Update is limited to determining if it meets all the requirements of the Act. CARB is prohibited from not approving it or changing it unless CARB finds that it does not comply with the Act (HSC § 41650 and 41652). Since CARB lacks authority to not adopt the plan, or modify it, in response to environmental concerns raised through the CEQA process, CARB’s action on the plan is ministerial for purposes of CEQA.

Conclusion and Staff Recommendations

The 1-hour Ozone Update demonstrates that the South Coast will meet the federal 1-hour ozone standard in 2022 without reliance on emission reductions from 182(e)(5) advanced technology measures. With this demonstration, the 182(e)(5)(B) requirement to submit contingency measures three years before attainment if “the anticipated technologies do not achieve planned reductions” no longer applies to the South Coast Air Basin for the 1-hour ozone NAAQS. Therefore, the 1-hour Ozone Update fulfills the Section 182(e)(5) requirements for the 1-hour ozone NAAQS.

CARB staff recommends the Board adopt the 1-Hour Ozone Update and direct the Executive Officer to submit it to U.S. EPA as a revision to the California SIP.

ERRATA to the 11/9/2018 publication

Revision to the South Coast 1-Hour Ozone State Implementation Plan

On November 9, 2018, the California Air Resources Board released the staff report entitled, *Revision to the South Coast 1-Hour Ozone State Implementation Plan*. The document is corrected as described below.

On page 3, Figure 1 has been replaced with the correct graph for the number of 1-hour ozone exceedance days.

On page 5, the NO_x and ROG headings listed in Table 1 and Table 2 now include units of tons per day (tpd) indicated in first row of these tables.

Other minor typographical errors were corrected.



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