

LAKE COUNTY AIR QUALITY MANAGEMENT DISTRICT

Request for Exemption of the Ozone Emergency Episode Plan

PREPARED IN COMPLIANCE WITH THE FEDERAL CLEAN AIR ACT

February 28, 2020

Purpose

Under the Code of Federal Regulations (CFR)¹, areas that have hourly ozone concentrations above 0.10 parts per million (ppm) are classified as Priority I Regions and are required to develop a contingency plan, or ozone emergency episode plan (OEEP), which must, at a minimum, provide for taking action necessary to prevent ambient ozone concentrations at any location in such region from reaching the significant harm level of 0.6 ppm, averaged over two hours. As Lake County is classified as attainment for the 2015 ozone national ambient air quality standards (NAAQS) and does not have any major sources of ozone or ozone precursors, Lake County is requesting an exemption of the OEEP under 40CFR 51.152(d).

Legal Authority

The Federal Clean Air Act (CAA)² gives the U.S. Environmental Protection Agency (U.S. EPA) the legal authority to halt the emission of air pollutants causing or contributing to the injury of the public or their welfare. The U.S. EPA is further authorized to either bring a lawsuit in federal court or, if such civil action cannot assure prompt protection of public health or welfare, to issue such orders as may be necessary to protect public health, welfare, or the environment. The authority granted to the U.S. EPA Administrator is vested in the California Air Resources Board (CARB) and the air districts under the California Health & Safety Code (H&SC)³. This section of California law applies to a range of emissions violations and imposes penalties that are equivalent to or exceed federal penalties for violations.

Under the authority of the H&SC, the CARB is responsible for controlling emissions from mobile sources, while districts are responsible for controlling emissions from non-mobile sources. H&SC Section 41700 states that sources are prohibited from emitting any pollutant(s) that can cause injury, detriment, nuisance, or annoyance to the public, or that endanger the comfort, repose, health, or safety of the public. Furthermore, H&SC Section 42450, et seq., gives districts specific authority to abate emissions from any source violating H&SC Section 41700 or any other order, rule, or regulation that prohibits or limits the discharge of pollutants, consistent with applicable notice and hearing requirements. Under H&SC Section 41509, the CARB or other local agency rules cannot infringe upon a district's authority to declare, prohibit, or abate a nuisance, and California's Attorney General is authorized to enjoin any pollution or nuisance, either on his or her own, or by request.

In addition to the authority under H&SC, the local air districts can work with the local governing body of a city, county, or city and county, pursuant to the California Emergency Services Act⁴, to proclaim a local emergency when there are conditions of disaster or of extreme peril to the safety of persons and property within the territorial limits of a city, county, or both a city and county, caused by such conditions as air pollution⁵. When a local emergency is declared, cities and counties shall implement their emergency plans and take actions to mitigate or reduce the emergency threat. Actions may include deploying field-level emergency response personnel such as law enforcement, activating emergency operation centers, and issuing orders to protect the public. Through a local emergency declaration, the air districts can obtain law enforcement aids from local governing bodies to accomplish necessary actions for preventing ambient ozone concentration from reaching the harmful level.

¹ 40 CFR 51.150 and 51.151

² Federal Clean Air Act Section 110(a)(2)(G)

³ California Health and Safety Code Section 42400 et seq.

⁴ California Emergency Services Act, California Government Code Section 8550-8668

⁵ California Government Code Section 8558 (c)

Lake County Background

Lake County is located in Northern California just two hours by car from the San Francisco Bay Area, the Sacramento Valley, or the Pacific Coast. The county's economy is based largely on tourism and recreation, due to the accessibility and popularity of its several lakes and accompanying recreational areas. It is predominantly rural, about 100 miles long by about 50 miles wide, and includes the largest natural lake entirely within California borders. Lake County is mostly agricultural, with tourist facilities and some light industry.

Lake County is bordered by Mendocino and Sonoma Counties on the west; Glenn, Colusa and Yolo Counties on the east; and Napa County on the south. The two main transportation corridors through the county are State Routes 29 and 20. State Route 29 connects Napa County with Lakeport and State Route 20 traverses California and provides connections to Highway 101 and Interstate 5.

Approximately 30% of all Lake County residents live in the cities of Clearlake and Lakeport while the remainder lives in unincorporated areas. The population of Lake County has increased modestly overall since the 2000 Census, with most of the growth occurring outside of the two cities (Table 1). According to California labor market data about county-to-county commute patterns (last updated 2000), the total workers that live and work in Lake County is 15,566 persons: the total workers commuting in was 1,046; and 4,320 total workers commuted out. About 67% of people who live in Lake County also work within the county. While the population size of Lake County was estimated as 65,071 residents in January 2019, the population can swell with daytime work commuters and seasonal tourists.

In Lake county, the summers are hot, arid, and mostly clear and the winters are very cold, wet, and partly cloudy. The wind is most often from the west during late spring to earl fall, and mostly from the north during the rest of the year.

Table 1. Population estimates of Lake County cities

| Area | 4/1/2010 | 1/1/2015 | 1/1/2019 |
|-------------------|----------|----------|----------|
| Clearlake | 15,250 | 14,977 | 14,828 |
| Lakeport | 4,753 | 4,699 | 4,806 |
| Balance of County | 44,662 | 45,242 | 45,437 |
| Unincorporated | 20,003 | 19,676 | 19,634 |
| County Total | 64,665 | 64,918 | 65,071 |

Source: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties, and the State, 2011-2019, with 2010 Census Benchmark. Sacramento, California, February 2020.

History of Ozone Air Quality in Lake County

Table 2 shows the number of days exceeding the 0.10 ppm threshold at the Lake County ozone monitoring sites from 2014 through 2017. During this time, the only one-hour ozone concentration that exceeded the 0.10 ppm threshold was the 0.103 ppm observed in 2017 which was caused by multiple nearby wildfires, declared Federal Disaster⁶ in Lake County and the surrounding areas. In fact, as shown in Figure 1, there were no other hourly ozone concentrations above 0.10 ppm in Lake County during the last 4 decades. Therefore, even with the impacts of wildfires, Lake County has never exceeded the 1979 1-hour ozone NAAQS and it is highly unlikely that hourly ozone concentration in Lake County will reach the Alert emergency episode level of 0.20 ppm⁷. In addition, Figure 2 illustrates that Lake County has also never exceeded the 8-hour ozone NAAQS during the whole time period when ozone measurements are available.

Table 2

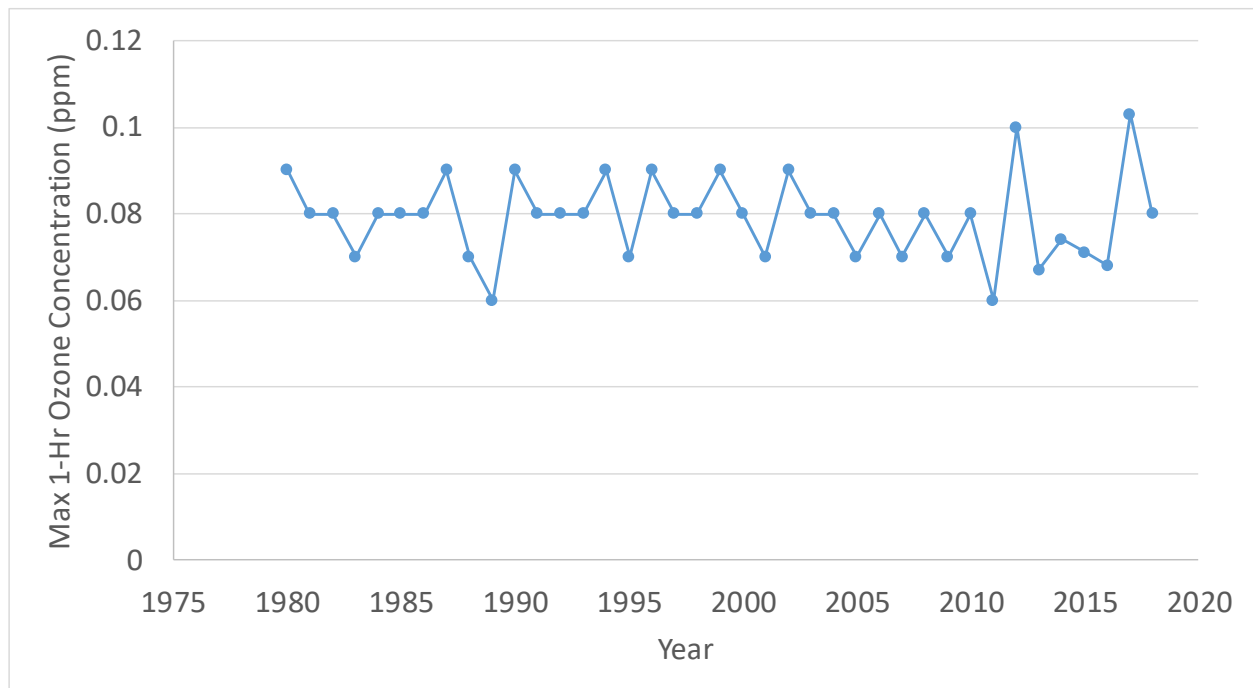
Number of days with maximum one-hour ozone concentration greater than 0.10 ppm in Lake County*

| | | 2014 | 2015 | 2016 | 2017 |
|-------------|-----------------|-------|-------|-------|-------|
| Lake County | # of Days | 0 | 0 | 0 | 1 |
| | Max Conc. (ppm) | 0.074 | 0.071 | 0.068 | 0.103 |

*Data downloaded from CARB's Aerometric Data and Management (ADAM) system on 3/22/19

Figure 1

Maximum 1-hour ozone concentrations observed in Lake County

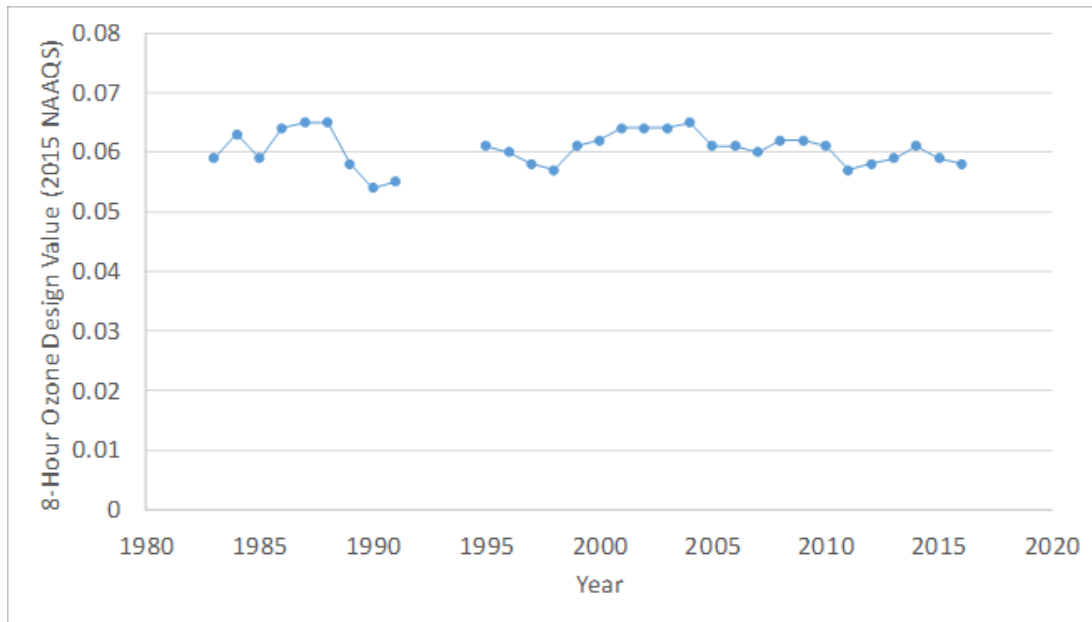


⁶ <https://www.fmcsa.dot.gov/emergency/california-fire-emergency-declaration-10-10-2017>

⁷ 40 CFR 51 Appendix L

Figure 2

8-Hour (2015 NAAQS) ozone design values (ppm) in Lake County



Ozone Precursor Emission Sources in Lake County

Table 3 shows that only 8.1 tons/day of reactive organic gases (ROG) and 4.6 tons/day of oxides of nitrogen (NOx) are emitted from all ozone precursor sources in Lake County Air Basin, and about 50% and 80% of the ROG and NOx emissions, respectively, are from mobile sources.

Table 3
Estimated 2020 annual average emission in Lake County Air Basin
(tons/day, based on the 2016 SIP Emission Projection Data)⁸

| STATIONARY SOURCES | | | | | | | | | |
|---|-------------|------------|-------------|------------|------------|------------|------------|------------|------------|
| | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| FUEL COMBUSTION | 5.5 | 0.4 | 6.0 | 0.3 | 0.1 | 0.3 | 0.2 | 0.1 | 1.7 |
| WASTE DISPOSAL | - | - | - | - | - | - | - | - | 0.0 |
| CLEANING AND SURFACE COATINGS | 0.2 | 0.2 | - | - | - | - | - | - | - |
| PETROLEUM PRODUCTION AND MARKETING | 0.2 | 0.2 | - | - | - | - | - | - | - |
| INDUSTRIAL PROCESSES | 0.1 | 0.1 | 0.0 | 0.2 | 0.2 | 1.4 | 0.8 | 0.2 | - |
| * TOTAL STATIONARY SOURCES | 6.0 | 0.9 | 6.0 | 0.4 | 0.2 | 1.6 | 1.0 | 0.4 | 1.8 |
| AREAWIDE SOURCES | | | | | | | | | |
| | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| SOLVENT EVAPORATION | 1.3 | 1.2 | - | - | - | - | - | - | 0.1 |
| MISCELLANEOUS PROCESSES | 6.3 | 1.7 | 13.7 | 0.7 | 0.1 | 6.9 | 4.7 | 2.2 | 0.4 |
| * TOTAL AREAWIDE SOURCES | 7.5 | 2.9 | 13.7 | 0.7 | 0.1 | 6.9 | 4.7 | 2.2 | 0.5 |
| MOBILE SOURCES | | | | | | | | | |
| | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| ON-ROAD MOTOR VEHICLES | 1.6 | 1.4 | 10.2 | 2.3 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| OTHER MOBILE SOURCES | 3.3 | 2.9 | 11.4 | 1.2 | 0.0 | 0.2 | 0.2 | 0.2 | 0.0 |
| * TOTAL MOBILE SOURCES | 4.9 | 4.3 | 21.6 | 3.6 | 0.0 | 0.4 | 0.3 | 0.2 | 0.1 |
| GRAND TOTAL FOR LAKE COUNTY AQMD | 18.5 | 8.1 | 41.2 | 4.6 | 0.4 | 8.8 | 6.0 | 2.8 | 2.3 |

⁸ Available at: <https://www.arb.ca.gov/app/emsinv/2017/emssumcat.php>

The industrial abatement plan is a pre-planned document prepared by a permitted industrial source (facility) which contains the necessary actions to rapidly reduce that facility’s emitted ozone precursor emissions when an episode level is triggered. Depending on the ozone emergency plans approved by the other air districts in California, the emission thresholds to require the industrial abatement plans are as low as 50 tons per year for both reactive organic gases (ROG) and oxides of nitrogen (NOx) emissions. Table 4 shows the five highest facilities with emissions of ROG and NOx within Lake County. The table indicates that there is no facility in Lake County that emits more than 50 tons per year of ROG or NOx.

Table 4
Five Highest Permitted ROG and NOx Emissions Facilities in
Tons per Year⁹

| Five Highest ROG Emissions Facilities | | | | | |
|--|-------------|--------------------------------|----------------|--------------|---------------|
| Air Basin | Facility ID | Facility Name | City | Facility SIC | ROG (tons/yr) |
| Lake County Air Basin | 290 | Calpine - Calistoga Geothermal | Middletown | 4911 | 43.2 |
| Lake County Air Basin | 30 | Calpine - Bear Canyon Creek | Middletown | 4911 | 32.4 |
| Lake County Air Basin | 50 | Calpine - West Ford Flat | Middletown | 4911 | 20.6 |
| Lake County Air Basin | 170 | Jim Jonas, Inc. | Lower Lake | 5171 | 6.8 |
| Lake County Air Basin | 220 | Parnum Paving/kelseyville | Kelseyville | 1442 | 2.4 |
| Five Highest NOx Emissions Facilities | | | | | |
| Air Basin | Facility ID | Facility Name | City | Facility SIC | NOx (tons/yr) |
| Lake County Air Basin | 160 | Homestake Mining Company | Lower Lake | 1041 | 24.2 |
| Lake County Air Basin | 205 | Parnum Paving/kelseyville | Lakeport | 1442 | 23.8 |
| Lake County Air Basin | 61 | Clearlake Lava - Lower Plant | Clearlake Oaks | 1429 | 9.2 |
| Lake County Air Basin | 280 | S-bar-s Quarry | Kelseyville | 1429 | 7.7 |
| Lake County Air Basin | 290 | Calpine - Calistoga Geothermal | Middletown | 4911 | 6.5 |

Ozone Emergency Episode Plan Exemption Request for Lake County

Lake County is classified as attainment for all federal and state ozone standards and has been so since the 1980s. Lake County only had one 1-hour ozone concentration above 0.10 ppm since ozone measurements started in Lake County well over 30 years ago. The highest ozone readings have been during wildfire events. In addition, there is no major ROG or NOx sources in the Lake County Air Basin. Therefore, the Lake County Air Quality Management District (LCAQMD) is requesting an exemption to the preparation of an ozone emergency episode plan under 40CFR 51.152(d). The LCAQMD has a close relationship with the County and both Cities within the Lake County Air Basin and will continue to work with these entities during air quality emergency events, even if they do not reach trigger levels identified in the emergency episode plan requirements. The LCAQMD currently is flexible and able to adapt to emergencies and provide the public and agencies with information quickly and efficiently under many challenging circumstances. Our goal is to continue to provide those services, information, and support during future events.

⁹ ARB CEIDARS database system. Data shown for calendar year 2017