PLACER COUNTY
AIR POLLUTION CONTROL DISTRICT

Ozone Emergency Episode Plan

PREPARED IN COMPLIANCE WITH
THE FEDERAL CLEAN AIR ACT

April 2015

Purpose

This Ozone Emergency Episode Plan provides the basis for taking action to prevent ambient ozone concentrations from reaching levels which could endanger public health, or to abate such concentrations should they occur. It identifies criteria for the four levels of emergency episodes, components for public announcements whenever an episode has been identified, and specifies emission control strategies to be taken with each episode.

Legal Authority

The Federal Clean Air Act (CAA)[1] 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 (ARB) and the air districts under the California Health & Safety Code (H&SC)[2]. This section of California law applies to a range of emissions violations and imposes penalties that are equivalent to or exceed federal penalties for comparable violations. These penalties include the imposition of fines and/or imprisonment.

Under the authority of the H&SC, the ARB 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 ARB 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 Act[3], 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

[1] Federal Clean Air Act Section 110(a)(2)(G)
[2] California Health & Safety Code Section 42400 et seq.
[3] California Emergency Services Act, California Government Code Section 8550-8668

limits of a city, county, or both a city and county, caused by such conditions as air pollution[4]. 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 will obtain law enforcement aids from local governing bodies to accomplish necessary actions for preventing ambient ozone concentration from reaching the harmful level.

Requirement of a Plan for the Prevention of Air Pollution Emergency Episodes

Under the Code of Federal Regulations (CFR)[5], areas that (1) do not attain the federal standards for ozone, and (2) have hourly ozone concentrations above 0.10 parts per million (ppm), are required to develop a contingency plan 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 set forth in CFR, three trigger levels (stages) are established for the ozone pollution episodes: Alert level (0.2 ppm), Warning level (0.35 ppm), and Emergency level (0.5 ppm)[6]. Corresponding actions for each specified trigger level would be identified and will be implemented when the ambient ozone hourly concentration measurements reach the specified trigger levels. These elements and actions should provide for rapid short-term emission reductions at each trigger level, to avoid high ozone concentrations from reaching significant harm levels during an episode.

Development of the Ozone Emergency Episode Plan for Placer County

Placer County is classified as non-attainment for the 2008 federal ozone eight-hour average standard[7]. Since Placer County has had more than one day with the maximum one-hour concentration greater than 0.10 ppm between 2011 and 2012, the Placer County Air Pollution Control District (PCAPCD) is required to prepare an ozone emergency episode plan (Plan).

Table 1 shows the number of days exceeding the 0.10 ppm threshold at the Placer County ozone monitoring sites from 2011 through 2014. During this time, the maximum ozone one-hour concentration was 0.11 ppm, with no site having more than three days in a year that exceeded 0.10 ppm after 2011. From 2013 to 2014, there was only one day in each year that exceeded 0.10 ppm.

[4] California Government Code Section 8558 (c).
[5] 40 CFR 51.150 and 51.151
[6] 40 CFR 51 Appendix L
[7] Portions of Sacramento Valley and Mountain Counties Air Basins in Placer County are classified as Ozone Nonattainment area.

Table 1
Placer County Ozone Monitoring Sites
Number of Days with Maximum one-hour Concentration Greater than 0.10 ppm*

		2011	2012	2013	2014**
Colfax-City Hall	# of Days	0	0	0	0
	Max Conc.	0.104	0.097	0.083	0.089
Auburn-Dewitt-C Ave (relocated to Atwood Road site in 2011 summer)	# of Days	1	---	---	---
	Max Conc.	0.105	---	---	---
Auburn-Atwood Rd	# of Days	2	1	0	0
	Max Conc.	0.107	0.107	0.097	0.097
Lincoln-L Street (relocated to 1445 1st Street site at the end of 2012)	# of Days	---	1	---	---
	Max Conc.	---	0.107	---	---
Lincoln-1445 1st Street	# of Days	---	---	0	1
	Max Conc.	---	---	0.081	0.107
Roseville-N Sunrise Blvd	# of Days	3	2	1	0
	Max Conc.	0.109	0.108	0.111	0.097

*Values were rounded to 2 decimal places before comparing with 0.10 ppm to determine the number of exceedance days
**Preliminary data downloaded from ARB's Aerometric Data and Management (ADAM) system on 12/13/14

The industrial abatement plan is a preplanned 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. In order to require such a plan, an emission threshold should be established for the industrial abatement plan requirement. Depending on the ozone emergency plans approved by the other air districts in California, the emission thresholds to require the industrial abatement plan are as low as 50 tons per year for both ROG and NOx emissions[8]. Table 2 shows the five highest facilities with emissions of ROG and NOx within Placer County[9]. The table indicates that there are two facilities in Placer County that emit more than 50 tons per year of NOx, and no facility emitting more than 50 tons per year of ROG.

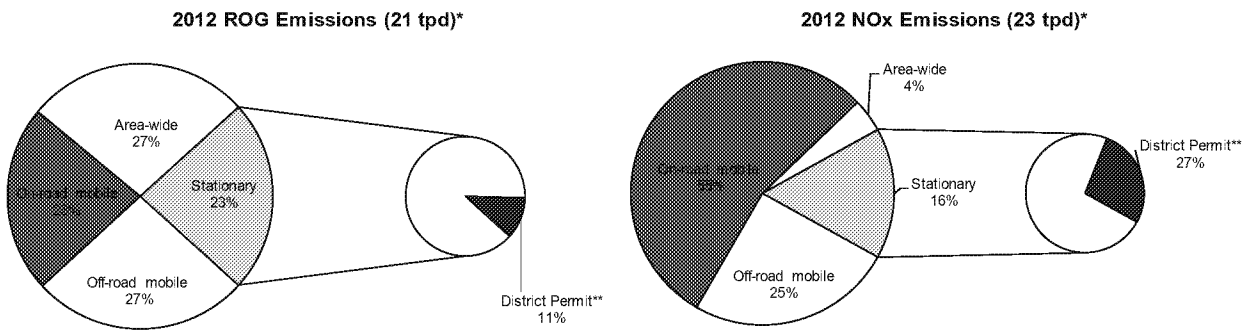
[8] SMAQMD Rule 701
[9] ARB online facility search engine http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php

Table 2
Five Highest ROG and NOx Emissions Facilities

Five Highest ROG Emissions Facilities					
Air Basin	Facility ID	Facility Name	City	Facility SIC	ROG (tons/yr)
Sacramento Valley Air Basin	233	Capital Drum Inc.	Roseville	3412	15
Sacramento Valley Air Basin	183	Pacific MDF Product Inc.	Rocklin	2431	11
Sacramento Valley Air Basin	1731	Progressive Vanguard Corporation	Rocklin	7699	9
Sacramento Valley Air Basin	730	Energy 2001 Inc.	Lincoln	7389	6
Sacramento Valley Air Basin	184	Colledgewood	Lincoln	2431	6
Five Highest NOx Emissions Facilities					
Air Basin	Facility ID	Facility Name	City	Facility SIC	NOx (tons/yr)
Sacramento Valley Air Basin	188	Sierra Pacific Industries	Lincoln	2421	135
Sacramento Valley Air Basin	212	Rio Bravo	Lincoln	4911	119
Sacramento Valley Air Basin	2046	Roseville Energy Park	Roseville	4911	14
Sacramento Valley Air Basin	730	Energy 2001 Inc.	Lincoln	7389	7
Sacramento Valley Air Basin	403	City of Roseville	Roseville	9199	7

Emissions from permitted facilities are identified as stationary source emissions. Although Placer County has two facilities that exceed the 50 tons per year threshold for NOx, permitted facilities comprise a very small portion of ROG and NOx countywide emission inventories. Figure 1 presents the reactive organic gases (ROG) and nitrogen oxides (NOx) emission inventories in Placer County in 2012[10].

Figure 1
Placer County 2012 Emission Inventory



* This is the latest complete inventory including mobile sources emissions from ARB.
** It is the latest update from the District permit database based on the actual 2012 throughput data reported by permitted facilities in 2013.

According to Figure 1, 23% of ROG emissions and 16% of NOx emissions are from stationary sources in Placer County. Within stationary source emissions, only 11% of ROG emissions and 27% of NOx emissions are from permitted industrial sources. Therefore, permitted industrial sources are responsible for approximately 2.7% and 4.3% of the countywide ROG emissions and NOx emissions, respectively. The major

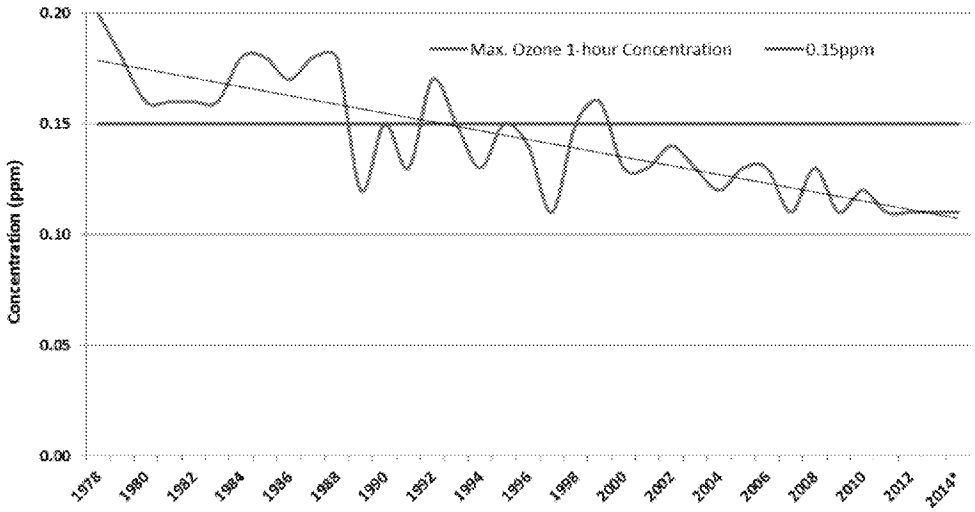
[10] ARB Emission Almanac (published in 2013)

contributions of the ROG and NOx inventories are from mobile and unpermitted area and stationary sources, with mobile source emissions more responsible for ozone formation than permitted industrial sources in Placer County.

Health Advisory Level

The PCAPCD proposes 0.15 ppm as a Health Advisory level to initiate emergency actions. The Health Advisory level (0.15 ppm) is lower than the Alert level (0.2 ppm), which is the lowest of three trigger levels required by the CFR. Figure 2 represents the annual maximum one-hour ozone concentration measured in Placer County since 1978, when air monitoring began. It also contains the red line showing the proposed Health Advisory level at 0.15 ppm.

Figure 2
Annual Maximum one-hour Ozone Concentration in Placer County since 1978



*Preliminary data downloaded from ARB ADAM on 12/13/14

Figure 2 shows that the 0.2 ppm level was last reached in 1978, which was the first year of air monitoring for ozone in Placer County. The ozone concentration trend shows a generally consistent decrease over time, and there has not been an exceedance over 0.15 ppm in the last thirteen years (2000-2013). Accordingly, Figure 2 shows that the maximum ozone one-hour concentration in Placer County has been substantially reduced and would need a high ozone concentration to trigger the Alert level, and therefore initiate the ozone emergency episode plan implementation.

Ozone concentrations in Placer County have been substantially reduced through the implementation of existing control regulations and programs. Placer County is located within the Sacramento Federal Ozone Nonattainment Area (SFONA), which is designated as nonattainment for the federal ozone standards. Two ozone State

Implementation Plans (SIP) have been developed to identify emission control strategies for mobile and non-mobile sources within the SFONA. Based on the SIP commitments, the PCAPCD adopted or amended rules and developed programs to facilitate the SFONA's progress towards attaining the federal ozone standards. The air districts within the Sacramento Region continue to work on the development of control strategies to fulfill the attainment requirement by CAA. Since the current federal ozone eight-hour average standard (0.075 ppm) is more stringent than the previous one-hour standard, the PCAPCD believes that the development and implementation of control regulations and programs identified by the ozone SIPs will ensure that the ozone one-hour maximum concentrations in Placer County will continue decreasing, and would not reach the proposed Healthy Advisory level of 0.15ppm.

In addition, the PCAPCD also regulates various types of open burning, including residential, land development, fire hazard reduction, vegetation management, prescribed fire, and agricultural[11]. For the Sacramento Valley Air Basin, the PCAPCD works cooperatively with the ARB year round, and in the fall, with the Sacramento Valley Air Basin Agricultural Burn Coordinator, to provide daily burn day allocations and notifications based on meteorological conditions and air quality forecasts. For the Mountain Counties and Lake Tahoe Air Basins, the District works cooperatively with the ARB on the daily burn day information. The burn day information is broken down into burn day types to help indicate the quality of a burn day. Through the existing burn programs, the PCAPCD works carefully to balance the public health impacts from air pollution, along with the open burning activities which exist in the county, especially since much of the county is considered a high fire hazard area.

Furthermore, the PCAPCD, along with the other air districts within the Sacramento Region, fund the regional "Spare the Air" program that is managed by the Sacramento Metropolitan Air Quality Management District. This is an air pollution forecasting program which provides notifications to the public on the daily ozone concentration forecasts, along with advisories with an episodic ozone reduction element, during the summer ozone season. It is designed to protect public health by informing people when air quality is unhealthy, and by encouraging the public to reduce vehicle trips to achieve emission reductions. The program's notification includes current ozone concentration measurements from all monitoring stations within the SFONA, including Placer County, and forecasts, based on the meteorological conditions from the national weather service advisories and local agencies. When atmospheric stagnation conditions are forecasted, the public will be notified through email, text, or the media, that a "Spare the Air Day" is issued. The participation of the Sacramento regional "Spare the Air" program will

[11] PCAPCD Rule 301~306, http://www.placer.ca.gov/departments/air/rules

promote the acquisition of forecasts of the atmospheric stagnation conditions, pursuant to the CFR requirements[12].

In conclusion, the PCAPCD believes that the proposed Health Advisory level at 0.15 ppm will be an appropriate and logical condition, in addition to the required ozone emergency episode levels set forth in the CAA, to initiate and fulfill the air pollution emergency episode actions proposed by the Plan.

Emergency Episode Criteria

Table 3 summarizes the four emergency episode trigger levels proposed by the PCAPCD for the one-hour ozone concentration measurement in Placer County. The following section identifies the corresponding actions for each trigger level, when that one-hour ozone concentration is reached.

Table 3
Trigger Levels of Ozone Emergency Episodes in Placer County

	Health Advisory	Alert (Stage 1)	Warning (Stage 2)	Emergency (Stage 3)
Ozone (one-hour average)	0.15 ppm	0.20 ppm	0.35 ppm	0.50 ppm

Proposed Actions for Ozone Emergency Episodes:

The actions identified for each trigger level of the ozone emergency episodes include public notification and emissions mitigation for industrial and mobile sources. The purposes of these actions are 1) to provide notification to the public when atmospheric stagnation conditions would result in substantially high ozone concentration measurements, and 2) to reduce the ozone precursor emissions rapidly in order to lower the ozone concentration below the triggered emergency episode level.

Air Pollution Forecast

The PCAPCD continues to use the Sacramento regional "Spare the Air" program to provide public notification for air quality forecasts when atmospheric stagnation conditions would result in substantially high ozone concentration measurements. The notification with episodic ozone reduction strategies is to encourage the public to take voluntary actions to reduce ozone precursor emissions.

Emergency Episode Declaration

Whenever the ozone one-hour concentration, measured at any location within Placer County, reaches or is predicted to reach any of the episode trigger levels as shown in

[12] 40 CFR 51.152 "Contingency Plans"

Table 3, the PCAPCD shall declare that an emergency episode is in effect in Placer County.

In addition, should the Air Pollution Control Officer (APCO) of a district adjacent to the PCAPCD declare a stage 1, 2, or 3 episode within that district and request assistance, the APCO of PCAPCD may implement measures as described in this Plan as if such episode level has been measured within the District.

Notification of an Emergency Episode

The PCAPCD shall establish and periodically update and review an emergency episode notification list (List). When any emergency episode is declared, the APCO shall notify the officials on the List. The List shall include, and is not limited to, the following public agencies and organizations:

1. California Air Resources Board,
2. The Placer County Executive Officer, chief executive officers of the incorporated municipalities within Placer County, police chiefs, fire chiefs, and any other public safety officers as deemed appropriate by the APCO,
3. The Placer County Health Officer,
4. The Placer County Office of Emergency Services,
5. The Placer County Office of Education Superintendent, school districts' superintendents , and private schools' principals,
6. All air pollution control districts within the Sacramento Valley, Mountain Counties and Lake Tahoe Air Basins, as well as all upwind districts.
7. Major newspapers in daily circulation and major television and radio stations (including those who are part of the emergency broadcast system) broadcasting within Placer County for appropriate warning, notices, and advisories,
8. Sacramento Regional Spare the Air Program,
9. PCAPCD permitted facilities, and
10. PCAPCD Staff who are responsible for public outreach.

Content of Notification

Notification of an emergency episode shall include information on the predicted or current episode level, the expected duration of the episode, the expected geographic boundaries of the affected area, a statement for the public on the health significance of the air quality during the episode, and the appropriate voluntary or mandatory control actions proposed for each episode level.

Termination of an Emergency Episode

The PCAPCD shall declare an episode as terminated when the one-hour ozone concentration measurements from all monitoring sites within Placer County fall below the level of the Alert episode and the meteorological data indicates the ozone concentration is expected to continue decreasing.

Notification of the Termination of an Episode

Upon the declaration of the termination of an episode, the PCAPCD shall notify those agencies and organizations specified in the List.

Actions for Each Emergency Episode

When an emergency episode is declared, the PCAPCD shall implement the following control actions:

1. Health Advisory Episode:
   a) Prepare the emergency episode notification;
   b) Notify those public agencies and organizations identified in the List that a health advisory episode has been declared;
   c) Advise the Placer County Office of Education Superintendent that sustained strenuous activities by students (for both public and private schools) lasting longer than one hour should be discontinued;
   d) Through the Placer County Office of Emergency Services, notify the news media to broadcast the appropriate warning to the public, which will include a recommendation that the public curtail unnecessary motor vehicle operation;
   e) Work with the industry to identify targeted facilities with possible emission control actions to reduce the relative emissions; and
   f) Coordinate with the Placer County Office of Emergency Services to identify possible actions which shall be taken when Placer County declares a local emergency for an air pollution emergency, which might include, for example, ceasing painting, construction, lawn mowing, pesticide application, and charcoal grilling.

2. Alert (Stage 1) Episode:
   a) Prepare the emergency episode notification;
   b) Notify those public agencies and organizations identified in the List that an Alert episode has been declared;
   c) Request the Placer County Office of Education Superintendent contact the School Superintendents and coordinate with private schools, to suspend students' strenuous activities;

d) Through the Placer County Office of Emergency Services, notify the news media to broadcast the appropriate warning to the public, which will include a request that the public to curtail any unnecessary motor vehicle operation;
e) Request targeted facilities to initiate specified emission control actions to reduce relative emissions and to recommend employees refrain from using their vehicles until the episode is terminated;
f) Conduct on-site inspection of targeted facilities to ascertain accomplishment of applicable emission control actions; and
g) Prohibit all open burning, including agricultural burning, and incineration throughout the affected area, except in an emergency situation as provided for in Section 41862 of the H&SC.

3. Warning (Stage 2) Episode: In addition to the actions associated with the Stage 1 Alert episode, the following actions should be implemented in a Warning episode.
   a) Request that those agencies and organizations in the List, within the scope of their authority:
      i. Prohibit all types of open burning, including agricultural waste;
      ii. Close all non-essential public agency facilities, except emergency facilities and those facilities necessary in emergencies to protect national security or national defense; and
      iii. Request that employees of closed non-essential public agency facilities refrain from using vehicles until the episode is terminated.
   b) Request closure of all public and private schools, colleges, and universities within Placer County;
   c) Request targeted facilities to shut down;
   d) Request that employees of facilities which close refrain from using vehicles until the episode is terminated;
   e) Conduct on-site inspection of facilities to ascertain the accomplishment of applicable emission control actions;
   f) Request the suspension of all indoor and outdoor events at parks or recreational facilities open to the public;
   g) Request the suspension of all scheduled athletic events; and
   h) Request that the Placer County Executive Officer and Health Officer consider declaring a local emergency for air pollution, pursuant to the Placer County Code[13], and implement emergency control measures, pursuant to the California Emergency Services Act, when the ambient ozone concentration continues rising and reaches the level at 0.45 ppm.

[13] Placer County Code Article 2.88 Emergency Services

4. Emergency (Stage 3) Episode: In addition to the actions associated with the Stage 2 Warning episode, the following actions should be implemented in the Emergency episode.
   a) Request that the Placer County Executive Officer declare a local emergency for air pollution and initiate its emergency operations plan;
   b) Request the media to broadcast to the public that a local emergency exists for air pollution, due to high ozone concentrations;
   c) Through the Placer County Office of Emergency Service operations, the following actions shall be conducted, but are not limited to:
      i. Close all government facilities which are not immediately necessary for public health and safety, national security or national defense;
      ii. Close all recreational facilities, including but not limited to those servicing boating and off-road vehicles;
      iii. Close all non-emergency commercial and industrial facilities;
      iv. Request implementation of emergency carpooling, or the use of mass transportation;
      v. Request that the public use only mass transit; and
      vi. Hospitals within the affected area shall be notified of the alert level to prepare for the possible increase in the number of patients seeking treatment.
   d) Close principal streets, as deemed necessary by the Placer County Executive Officer, Health Officer, APCO, and local law enforcement agencies, in order to protect the health and welfare of the general public;
   e) Request that the Placer County Office of Emergency Services engage with the State agency for necessary actions pursuant to the California Emergency Services Act, which includes prohibiting the use of all motor vehicles except for emergencies, or any other action deemed warranted;
   f) Restrict all non-essential construction and painting; and
   g) Restrict all lawn care and mowing activities and stop the use of lawn and garden chemicals.

The PCAPCD commits to implementing the proposed actions associated with each episode identified in this Plan. The implementation of the Plan shall prevent the ambient ozone concentration from reaching the harmful level at 0.60 ppm.