

**EL DORADO COUNTY  
AIR QUALITY MANAGEMENT DISTRICT**

**Ozone Emergency Episode Plan**

**PREPARED IN COMPLIANCE WITH  
THE FEDERAL CLEAN AIR ACT**

**September 2015**

## Purpose

This Ozone Emergency Episode Plan (Plan) contains actions to prevent ambient ozone from reaching potential public health endangerment concentrations and reduce such concentrations. It identifies emergency episode levels, public announcement components, and emission control strategies. El Dorado County (EDC) is classified as non-attainment for the 2008 federal ozone 8-hour average standard<sup>1</sup>. Because EDC experienced more than one day with a maximum hourly ozone concentration greater than 0.10 ppm during the 2011/2012 period, the EDC Air Quality Management District (AQMD) is required to prepare this Plan.

Table 1 shows the number of days exceeding the 0.10 ppm threshold at EDC ozone monitoring sites from 2011 through 2014. During that period, the maximum ozone 1-hour concentration was 0.117 ppm. From 2013 to 2014, there were only two days in which the maximum hourly concentration exceeded 0.10 ppm. Both exceedances occurred at the Placerville site. As ozone concentrations continue to decline statewide, the likelihood of ever reaching the significant harm level (0.6 ppm) is very low.

**Table 1**  
**Number of Days with Maximum 1-hour Concentration Greater than 0.10 ppm\***  
**at EDC Ozone Monitoring Sites**

		2011**	2012**	2013**	2014***
Cool – Highway 193	# of Days	12	5	0	0
	Max Conc.	0.108	0.117	0.092	0.094
Echo Summit	# of Days	1	0	0	0
	Max Conc.	0.108	0.084	0.082	0.081
Placerville – Gold Nugget Way	# of Days	2	6	1	1
	Max Conc.	0.103	0.108	0.097	0.104

\*Values were rounded to 2 decimal places before comparing with 0.10 ppm to determine the number of exceedance days

\*\* Official data obtained from ARB's Aerometric Data Analysis & Management ( iADAM)

<http://www.arb.ca.gov/adam/select8/sc8start.php>

\*\*\*Preliminary unofficial data downloaded from ARB's Air Quality and Meteorological Information System (AQMIS2)

<http://www.arb.ca.gov/aqmis2/aqdselect.php?tab=daily>

## Legal Authority

The Federal Clean Air Act (CAA)<sup>2</sup> gives the U.S. Environmental Protection Agency (U.S. EPA) authority to halt air pollutant emissions causing or contributing to public or welfare injury. The U.S. EPA is authorized to bring a lawsuit in federal court or issue such orders necessary to protect public health, welfare, or the environment. Pursuant to California Health & Safety Code (H&SC)<sup>3</sup>, this authority is vested in the California Air Resources Board (ARB) and local air districts. This requirement applies to a range of emissions violations.

<sup>1</sup> Portions of Sacramento Valley and Mountain Counties Air Basins in EDC are classified as Ozone Nonattainment area.

<sup>2</sup> Federal Clean Air Act Section 110(a)(2)(G)

<sup>3</sup> California Health & Safety Code Section 42400 et seq.

The ARB is responsible for controlling mobile source emissions. Districts are responsible for controlling non-mobile source emissions. H&SC Section 41700 states sources are prohibited from emitting any pollutant(s) potentially causing public injury, detriment, nuisance or annoyance, or that endanger the public's comfort, repose, health or safety. H&SC Section 42450, et seq., gives districts authority to abate emissions from sources violating H&SC Section 41700 or any other order, rule, or regulation prohibiting or limiting pollutant discharge. 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. The California's Attorney General is authorized to enjoin any pollution discharge or nuisance.

Pursuant to the California Emergency Services Act<sup>4</sup>, air districts can work with a local governing body, to proclaim a local emergency when air pollution presents conditions of disaster or extreme peril to the safety of persons and property within the territorial limits of the governing body's jurisdiction<sup>5</sup>. When a local emergency is declared, local jurisdictions shall implement their emergency plans and take actions to mitigate or reduce the threat. Actions may include emergency response personnel deployment, emergency operation center activation and public protection order issuance. Through a local emergency declaration, air districts may obtain local agency aid to accomplish ambient ozone concentration reduction actions.

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

Under the Code of Federal Regulations (CFR)<sup>6</sup>, areas that do not attain federal ozone standards, and have 1-hour ozone concentrations above 0.10 parts per million (ppm), are required to develop a Plan. The Plan must include actions necessary to prevent all jurisdictional ambient two hour average ozone concentrations from reaching "significant harm level" of 0.6 ppm. The ozone pollution episode trigger levels are:

- Alert level                    0.2 ppm
- Warning level                0.35ppm
- Emergency level            0.5 ppm<sup>7</sup>

Response actions to be taken when ozone concentrations reach the triggers levels are identified. Response actions provide rapid short-term emission reductions, to prevent reaching the 0.6 ppm significant harm level. The AQMD commits to implementing the proposed actions associated with each episode identified in this Plan. Plan implementation shall prevent the ambient ozone concentration from reaching the harmful level at 0.60 ppm.

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<sup>4</sup> California Emergency Services Act, California Government Code Section 8550-8668

<sup>5</sup> California Government Code Section 8558 (c).

<sup>6</sup> 40 CFR 51.150 and 51.151

<sup>7</sup> 40 CFR 51 .150

### Ozone Precursor Emissions

Ozone is created by the reaction of precursors Reactive Organic Gasses (ROG) and Nitrogen Oxides (NOx) in sunlight. Ozone emergency episode plans adopted by other jurisdictions require permitted facilities that emit large amounts of ozone precursors to prepare industrial abatement plans (IAP). IAPs contain actions necessary to rapidly reduce that facility's ozone precursor emissions when an episode level is triggered. The lowest threshold for requiring an IAP is 50 tons per year for both ROG and NOx<sup>8</sup>. Table 2 shows the three highest EDC facilities with emissions of ROG and NOx within EDC<sup>9</sup>. There are currently no facilities exceeding emission thresholds.

**Table 2**  
**Highest EDC Ozone Precursor (ROG and NOx) Emitting Facilities**

ROG Emissions					
Facility	Facility ID	Air Basin	Area	Facility SIC	Tons/Year
Union Mine Landfill	28	Mountain Counties	El Dorado	4953	<b>4.21</b>
Tahoe Asphalt	3	Lake Tahoe	South Lake Tahoe	2951	<b>0.061</b>
DST Output	30	Mountain Counties	El Dorado Hills	2761	<b>0.035</b>
NOx Emissions					
Facility	Facility ID	Air Basin	Area	Facility SIC	Tons/Year
Union Mine Landfill	28	Mountain Counties	El Dorado	4953	<b>2.13</b>
DST Output	30	Mountain Counties	El Dorado Hills	2761	<b>0.814</b>
Tahoe Asphalt	3	Lake Tahoe	South Lake Tahoe	2951	<b>0.34</b>

If AQMD does permit a facility with actual ozone precursor emissions of 50 tons or more per year, the following actions will be taken:

- a) Initiate the development process for a rule that establishes IAP criteria (referred by 40 CFR 51 Appendix L) that will rapidly reduce facility ozone precursor emissions;
- b) Adopt an IAP rule within 90 days; and
- c) Request subject facilities submit IAP to AQMD for review and approval within 90 days of rule effective date.

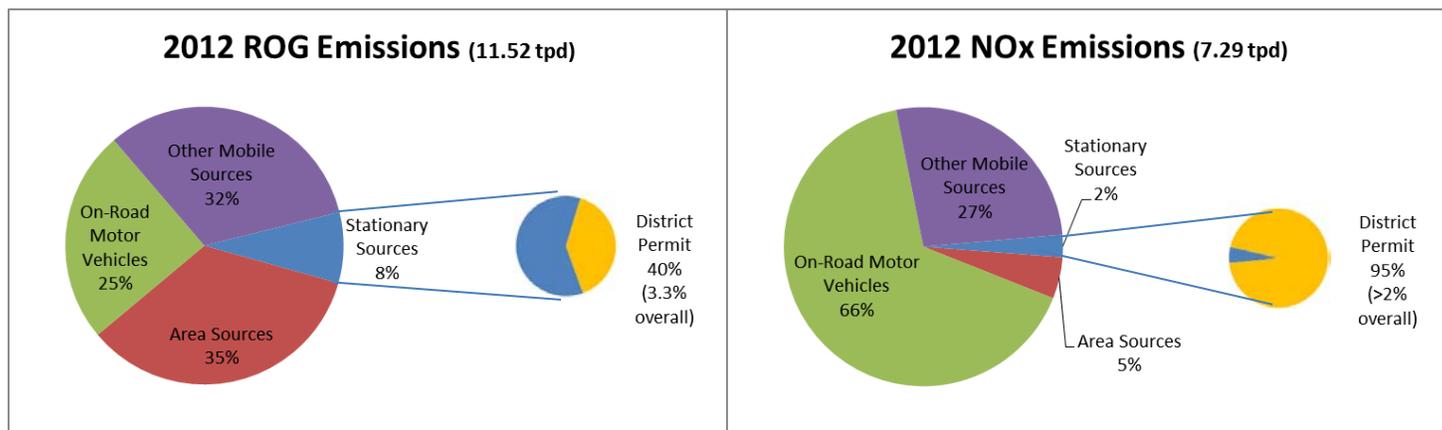
Permitted facilities comprise a very small portion of the ROG and NOx countywide emission inventories. Figure 1 presents the 2012<sup>10</sup> reactive organic gases (ROG) and nitrogen oxides (NOx) emission inventories in EDC.

<sup>8</sup> SMAQMD Rule 701

<sup>9</sup> ARB online facility search engine <http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php>

<sup>10</sup> ARB Emission Almanac (published in 2013)

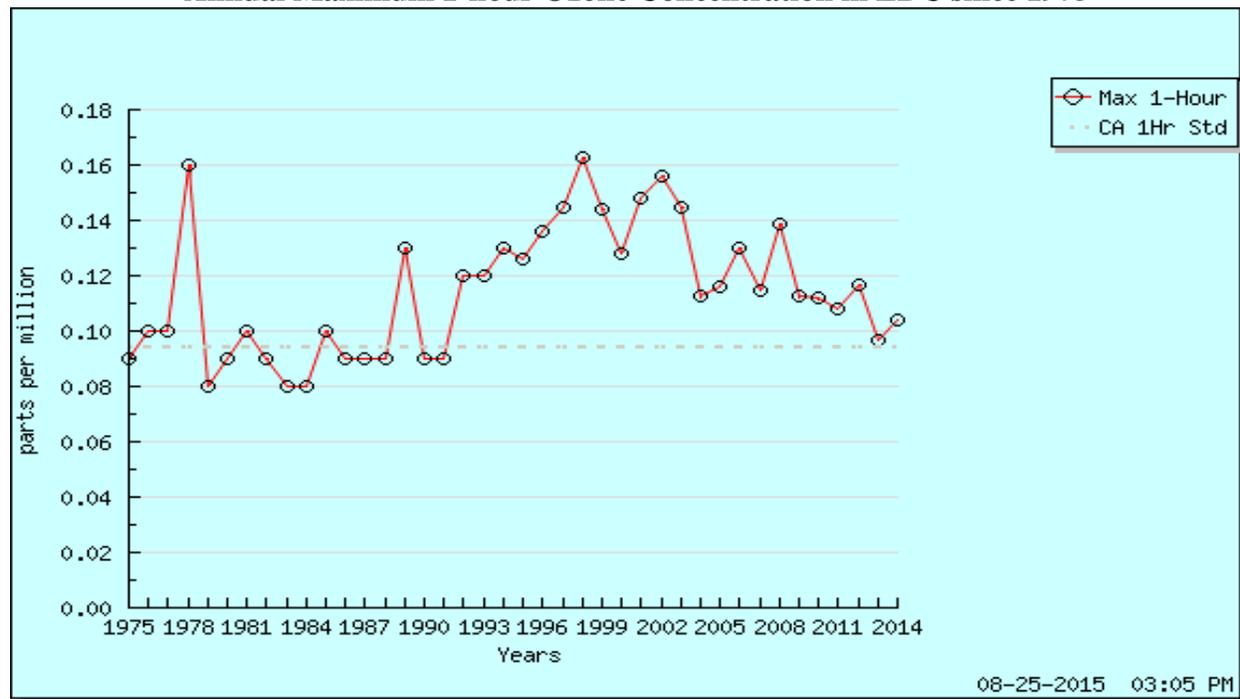
**Figure 1**  
**EDC 2012 Emission Inventory\***



\*This is the latest complete emissions inventory from ARB. District Permit emissions are from AQMD's permit database.

As depicted in Figure 1, EDC stationary sources produce only 8% of ROG emissions and 2% of NOx emissions. Of the total stationary source emissions, 40% of ROG emissions and 95% of NOx emissions are from permitted sources. Therefore, permitted sources produce only approximately 3% of ROG emissions and 2% of NOx emissions countywide. The major ozone precursor contributors are mobile sources and unpermitted area and stationary sources. Unusually high ozone precursor emissions from numerous additional sources outside EDC could raise concentrations to the Alert level and initiate ozone emergency episode plan implementation.

**Figure 2**  
**Annual Maximum 1-hour Ozone Concentration in EDC since 1975**



\*Data downloaded from ARB ADAM on 8/25/15

Figure 2 indicates the 0.2 ppm 1-hour ozone level has not been reached in EDC since monitoring began in 1975. The trend shows a generally consistent decrease since 1998. EDC ozone concentrations have substantially reduced by the implementation of regional control regulations and programs. Western EDC is in the Sacramento Federal Ozone Nonattainment Area (SFONA). The SFONA is designated as nonattainment for the federal 8-hour ozone standards. Two SFONA ozone State Implementation Plans (SIP) have been developed to identify ozone precursor emission control strategies for mobile and non-mobile sources. Based on SIP commitments, AQMD adopted or amended rules and developed programs to progress towards attaining the standards. The SFONA air districts continue to develop control strategies to achieve attainment. The current (2015) federal ozone eight-hour average standard is 0.070 ppm. Development and implementation of control regulations to achieve the standard will continually reduce one-hour maximum ozone concentrations ensuring trigger levels are not reached.

AQMD regulates open burning, including residential, land development, fire hazard reduction, vegetation management, prescribed fire, and agricultural<sup>11</sup>. For both the Mountain Counties and Lake Tahoe Air Basins, AQMD works cooperatively with the ARB and CalFire to disseminate daily burn day information. Proactive burn program implementation through no burn day patrol, 24 hour complaint response, and a first time violators training program minimize emissions during periods of atmospheric conditions conducive to high ozone levels.

AQMD contributes funding to the regional “Spare the Air” program, managed by the Sacramento Metropolitan Air Quality Management District. Spare the Air is an air quality forecasting and reporting program providing daily public notifications. Notifications are based on regional ozone and particulate matter concentrations. Advisories include an episodic ozone reduction element, during the summer ozone season. The program protects public health by informing the public of unhealthy air quality and encouraging them to minimize vehicle trips to reduce emissions. The notifications are based on ozone concentration measurements from all SFONA monitoring stations and meteorological forecasts the national weather service advisories and local agencies. When atmospheric stagnation conditions are forecasted, the public is notified through email, text, or the media, that a Spare the Air Day is issued. AQMD’s participation in the Sacramento regional Spare the Air program will promote the acquisition of forecasts of the atmospheric stagnation conditions as frequently as they are issued, pursuant to the CFR requirements<sup>12</sup>.

## **Ozone Episodes**

The one hour ozone episode trigger levels are shown in Table 3.

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<sup>11</sup> AQMD Rule 300

<sup>12</sup> 40 CFR 51.152 “Contingency Plans”<sup>13</sup> EDC Ordinance Code Article 2.21.080 Emergency Organization and Functions

**Table 3**  
**Ozone Episode Trigger Levels**

	Alert, Stage 1	Warning, Stage 2	Emergency, Stage 3
Ozone (1-hour average)	0.20 ppm	0.35 ppm	0.50 ppm

Ozone Monitoring

AQMD staff do not operate ozone monitors. Staff monitor ozone levels with the Spare the Air program notifications and CARB's Air Quality and Meteorological Information System.

Episode Declaration

Whenever the ozone 1-hour concentration, measured at any of the EDC monitoring sites, reaches an episode trigger level, AQMD shall declare an episode stage to be in effect in EDC. If an episode stage is declared, AQMD shall notify the following:

1. EDC Board of Supervisors/OES Director
2. All Sacramento region and Mountain Counties Air Basin air districts,
3. California Air Resources Board,
4. EDC Chief Administrative Officer,
5. Chief executive officers of the EDC incorporated municipalities,
6. Sheriff, Police and Fire chiefs,
7. EDC Health Officer,
8. Local Hospitals
9. EDC Office of Emergency Services
10. EDC Office of Education and private school principals,
11. Major regional newspapers, television and radio stations,
12. Sacramento Regional Spare the Air Program,
13. AQMD permitted facilities, and
14. Any other entities as deemed appropriate by the APCO,

The AQMD shall periodically review and update this notification list (List). Emergency episode notifications shall include:

- Predicted and/or current episode level data and trigger levels,
- The duration anticipated,
- The affected area geographic boundaries anticipated,
- An air quality health significance statement, and
- The voluntary or mandatory control actions proposed for each episode level.

Episode Actions:

The actions identified for each trigger level include:

- Public notification,
- Activity cessation,
- Ozone precursor emission reductions, and
- IAP implementation.

These actions are to:

- Provide the public with recommendations to minimize their ozone exposure, and
- Rapidly reduce precursor emissions to lower ozone concentrations below trigger levels.

If ever an ozone episode is declared, AQMD shall implement the following:

1. Alert Episode, Stage 1:

- a) Prepare the emergency episode notification, including a request to the public to curtail any unnecessary motor vehicle operation;
- b) Notify the entities identified in the List of the alert episode declaration;
- c) Advise the EDC Office of Education Superintendent to contact and coordinate with public and private schools, to suspend students' strenuous activities;
- d) Notify the news media to broadcast the appropriate warning to the public, in cooperation with the EDC Office of Emergency Services (OES) and the County Health Officer;
- e) Request facilities with approved IAPs implement those plans and recommend employees refrain from operating vehicles until episode termination;
- f) Conduct on-site inspection of IAP facilities to ascertain compliance with applicable IAP emission control action requirements; and
- g) Prohibit all open burning including agricultural waste and incineration

2. Warning Episode, Stage 2: In addition to the Alert Episode actions, the following actions should be implemented in a Warning episode.

- a) Request Listed entities, within the scope of their authority:
  - i. Prohibit all types of open burning;
  - ii. Close non-essential facilities, except emergency facilities and those necessary to protect public safety, national security or national defense; and
  - iii. Request that employees of closed non-essential public agency facilities refrain from using vehicles.
- b) Request closure of all EDC public and private schools, colleges, and universities;
- c) Conduct on-site inspection of major source (50 tpy Ozone) permitted facilities to ascertain the accomplishment of applicable emission control actions.
- d) Request subject facilities to close in accordance with approved IAPs;
- e) Request closed facility employers refrain from vehicle use until episode termination;
- 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 athletic events, including boating and off-road recreational vehicle usage; and
  - h) Request that the EDC Board of Supervisors and Health Officer consider declaring a local emergency for air pollution<sup>13</sup>, and implement emergency control measures, pursuant to the California Emergency Services Act.
3. Emergency Episode, Stage 3: In addition to the Alert and Warning Episode actions, the following will be implemented:
- a) Request that the OES Director/Board of Supervisors Chair declare a local emergency for air pollution and initiate the emergency operations plan;
  - b) Request the media broadcast that a local emergency exists due to high ozone concentrations;
  - c) Through the EDC OES, conduct the following actions:
    - i. Close all government facilities which are not immediately necessary for public health and safety, national security or national defense;
    - ii. Close all recreational and non-emergency commercial and industrial facilities;
    - iii. Request implementation of carpooling and the use of mass transportation; and
    - iv. Request that the public use only mass transit.
  - d) Close principal streets, as deemed necessary by the OES Director, Health Officer, APCO, and local law enforcement agencies, to protect public health and welfare; and
  - e) Request OES 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.

#### Episode Termination

The AQMD shall declare an episode terminated when the one-hour ozone concentration measurements from all EDC monitoring sites fall below the Alert level and meteorological data indicates concentrations will continue decreasing. Upon episode termination declaration, AQMD shall notify all entities listed above.

#### Interdistrict Coordination

Should the Air Pollution Control Officer (APCO) of a district within the Sacramento Valley nonattainment area, or adjacent to the El Dorado Air Quality Management District declare a stage 1, 2, or 3 episode within that district and request assistance, the APCO of AQMD shall take action to make a determination as to the significance of sources within the district and notify the adjacent district of any action being taken to reduce pollutants.

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<sup>13</sup> EDC Ordinance Code Article 2.21.080 Emergency Organization and Functions