

Ozone Attainment in the Las Vegas Valley

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DES
DEPARTMENT OF ENVIRONMENT
AND SUSTAINABILITY



air quality



desert conservation
PROGRAM



sustainability

Department of Environment and Sustainability

- ▶ Clark County DES Division of Air Quality has delegated authority to act as the Air Pollution Control Agency for the Clark County area
- ▶ Perform air quality monitoring, planning, permitting and compliance



What is ozone?

- ▶ Ground level ozone is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs)
 - ▶ Pollutants from cars, industry and other sources chemically react in the presence of sunlight
 - ▶ Most likely to reach unhealthy levels on hot sunny days in urban environments
 - ▶ Can be transported long distances by wind

Ozone can be “good” or “bad” for health and the environment depending on where it’s found in the atmosphere.

Upper atmosphere: Good
Ground level: Bad

Effects of elevated ozone

- ▶ High levels of ozone in the air we breath can harm our health
 - ▶ Those most at risk are people with asthma, children, older adults and people who are active outdoors
- ▶ Elevated exposure can affect sensitive vegetation and ecosystems
 - ▶ Reduces photosynthesis, slow growth, increase sensitivity to disease and effect of other pollutants

Environmental Protection Agency

Ozone Standard

- ▶ National Ambient Air Quality Standards (NAAQS) for ground-level ozone specify the maximum allowed measurement for ozone to be present in outdoor air
- ▶ Periodically reviewed to ensure adequate health and environmental protection
 - ▶ 2008 ozone NAAQS – 0.075 parts per million
 - ▶ **2015 ozone NAAQS – 0.070 parts per million**
 - ▶ 2020 ozone NAAQS – retained 2015 standard
- ▶ The standard gets applied, or implemented, through controlling air pollution from emission sources

Ozone in Clark County

- ▶ Designated as “Marginal Nonattainment” in 2016
- ▶ Updated designation to only the Las Vegas Valley (Hydrographic Area/Airshed 212) in 2018
 - ▶ “Home grown” ozone from industry, combustion engines, sunny days
 - ▶ Transport from Southern California
 - ▶ Wildfire smoke from surrounding states
 - ▶ Stratospheric intrusion from other regions

Ozone in Clark County

OZONE DAYS, 70 ppb or HIGHER



Ozone in Clark County

- ▶ Based on exceedances from 2018 and 2020, EPA has indicated the area will be advanced to “Moderate Nonattainment”

Marginal Nonattainment	Moderate Nonattainment
Perform emissions inventory every 3 years	Meet all Marginal nonattainment requirements
Require 1:1 offsets of VOCs for major sources	Require 1.15:1 offsets of VOCs
Impose reasonably available control technology	Impose additional reasonably available control technology
	Impose a 15% reduction in VOCs in 6 years

- ▶ Continued exceedances of the EPA standard lead to increasing advancement in nonattainment and more stringent control requirements

Current Actions

- ▶ Awaiting official designation and deadlines from EPA
- ▶ Conducting an emissions control inventory
- ▶ Creating an Ozone stakeholders list
 - ▶ Review modeling results, control measures, documentation
- ▶ Evaluating opportunities for new controls and measures
 - ▶ Required 15% reduction in VOCs
 - ▶ Solvents and consumer products
 - ▶ Gasoline fueled equipment
 - ▶ Gasoline service stations, storage, transport, processing
 - ▶ On-road vehicles
 - ▶ Airports

Next Steps

- ▶ Model emissions reductions from additional reasonably available control technology (RACT)
- ▶ Model emissions reductions from reasonably available control measures (RACM)
- ▶ Develop Attainment State Implementation Plan, required to show how air pollution will be controlled
 - ▶ Ozone stakeholder input
 - ▶ BCC approval
 - ▶ Submission to EPA
- ▶ Develop rules and/or update existing rules



Questions?

Jodi Bechtel, Assistant Director
Clark County Department of Environment and Sustainability
702-455-5942