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Ozone In the Treasure Valley: What it Means to Businesses and Governments

What is Ozone?

Ozone is an odorless, colorless gas that forms in the atmosphere when three atoms of oxygen are combined. It can be helpful or harmful, depending on where it is located.

- Ozone in the upper atmosphere, or stratosphere, is good. Up high, it is natural and helps protect us from the sun's ultraviolet rays.
- Ozone at ground level is bad. Near the surface of the earth, in the air we breathe, ozone is unnatural, hazardous to our health, and an air pollutant.

Ozone is not emitted directly into the air, but is created by a chemical reaction between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in the presence of heat and strong sunlight.

Because the Treasure Valley experiences hot, sunny summers, it provides the ideal setting for the formation of ground-level ozone. Pollutants that cause ozone come from motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents, and vegetation.

What Are the Health Impacts of Breathing Ozone?

Breathing ground-level ozone can be dangerous to human health. Breathing ozone is harmful to everyone, although it is most harmful to children, the elderly, anyone who is active outdoors, and people with respiratory diseases such as asthma.

Breathing ozone can cause coughing, rapid or shallow breathing, discomfort when breathing, or general chest discomfort. It can also aggravate asthma and other respiratory diseases, reduce lung function, and inflame and damage lung tissue.

Recent health studies have shown ozone to be even more detrimental to health than previously thought. Because of this, the U.S. Environmental Protection Agency (EPA) has issued a new, more stringent standard for ozone.

What is the "Ozone Standard"?

To protect our health and the quality of the air we breathe, EPA sets limits on the amounts of certain pollutants that can safely be in our air. These limits are called the National Ambient Air Quality Standards or NAAQS. When geographic areas exceed these standards, they must take steps to meet them.

On March 12, 2008, EPA lowered the standard for ground-level ozone air pollution from 80 parts per billion to 75 parts per billion. This is a reflection of the serious health effects of breathing ozone.

What Does the New Standard Mean for the Treasure Valley?

This change means the Treasure Valley may very well exceed the new ozone standard. This is referred to as being designated “nonattainment” (meaning an area has failed to attain the standard). The standard is based on a 3-year rolling average of the 4th highest maximum 8-hour concentration. Currently, the 3-year average (2005, 2006, 2007) for the Treasure Valley is 78 parts per billion, which is above the new standard. The 2008 summer season will be included in the average, then based on the new average, Idaho will recommend to EPA if the Treasure Valley should officially be declared “nonattainment” for ozone.

Because ozone levels are heavily dependent on weather conditions, we cannot know for sure what our air quality will be this summer. If trends continue, we will likely see more air quality alerts this summer than in past summers. That is, we will likely see more days when the Air Quality Index is orange or red. More air quality alerts do not necessarily mean the quality of our air has suddenly worsened, just that more alerts have been triggered by the lower standard.

Favorable weather conditions and thoughtful actions by individuals can help keep ozone levels down.

What Does the New Standard Mean for Government and Business?

Compliance with air quality standards contributes to economic growth. Nonattainment status may limit production capabilities of existing industries and keep new industries from locating in a nonattainment area. This can result in fewer job opportunities.

Failure to act on nonattainment status, such as failure to develop or follow an improvement plan, can result in a potential loss of federal highway funding.

It is costly and time-consuming to develop and implement plans to re-attain attainment status. DEQ strives to avoid having areas of Idaho designated “nonattainment” by encouraging governments and businesses to take proactive measures to protect air quality.

How Does DEQ Publicize Air Quality Conditions?

DEQ monitors and measures air pollutants throughout Idaho. Based on these data and meteorological conditions, DEQ issues air quality forecasts and alerts using a color-coded system called the Air Quality Index or AQI.

At 3:00 p.m. daily, the air quality forecast for the next day is emailed to the media and other interested parties. Media outlets are encouraged to include this information in their weather forecasts. The AQI can be found online at www.deq.idaho.gov/air/aqindex.cfm. The public can sign up for email alerts at www.pause2preventpollution.com or call (208) 373-0313 to hear a recorded message.

Individuals are encouraged to pay close attention to these forecasts and modify their behavior, as appropriate, when an air quality alert is issued. Those with health conditions that are affected by air quality should pay particular attention and take actions to protect their health. Everyone is encouraged to take individual actions to help protect air quality.

For More Information...

Air Quality Index: www.deq.idaho.gov/air/data_reports/monitoring/aqi.cfm

Daily Air Quality Reports: www.deq.idaho.gov/air/aqindex.cfm

Health and Air Pollution: www.deq.idaho.gov/air/prog_issues/pollutants/health.cfm

How Air Quality is Assessed: www.deq.idaho.gov/air/data_reports/monitoring/overview.cfm

Ozone: www.deq.idaho.gov/air/prog_issues/pollutants/health.cfm#ozone

Pause 2 Prevent Pollution: www.pause2preventpollution.com