



# Focus

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## Managing Ozone Air Pollution through Stage 2 Gasoline Vapor Recovery Systems

### Background

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The federal Clean Air Act of 1990 directed the Environmental Protection Agency (EPA) to identify standards for the amount of ozone air pollution that can be present in the air without harming human health or the environment. Central Puget Sound (King, Pierce, and Snohomish counties) and the Portland/Vancouver area (including Clark County) have previously violated the federal ozone standard. Although these areas now meet the standard, EPA requires them to have maintenance plans showing how they will continue to meet the ozone standard.

### What is ozone?

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Ozone is the main ingredient of smog. Its major source is motor vehicles. Ozone is formed when pollutants released by motor vehicles and other sources such as industry, solvents, and gasoline fumes mix together in sunlight. Ozone can cause serious health problems. It can irritate and inflame the breathing passages in the lungs, throat, nose, and sinuses. It can reduce resistance to infections, colds, and other diseases. Ozone can also reduce the lung's ability to function and worsen existing conditions such as asthma, bronchitis, and emphysema.

### How is ozone controlled?

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Ecology and local air pollution control agencies work to reduce and control ozone through the motor vehicle Emission Check Program, a permit program for industrial facilities, programs to encourage reducing traffic and the use of single occupant vehicles, and use of gasoline vapor controls, including Stage 2 Vapor Recovery.

### What is Stage 2 Vapor Recovery?

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Gasoline vapors accumulate within storage tanks in the space above the liquid gasoline. When a tank is refilled with gasoline, the rising liquid pushes accumulated vapors out into the air. These vapors contain volatile organic compounds, which affect human health and contribute to ozone pollution. Stage 2 gasoline vapor recovery systems collect gas fumes from vehicle fuel tanks when gasoline is pumped so the fumes are not released to the atmosphere. If gasoline fumes are not released, they do not turn into ozone, resulting in cleaner air.

## **Where is Stage 2 required?**

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Local ozone maintenance plans approved by EPA require the use of Stage 2 gasoline vapor control systems at gas stations selling more than 600,000 gallons per year in Clark, King, Pierce, and Snohomish counties, and at gas stations selling more than 840,000 gallons per year in Kitsap County. In addition, the 1996 Washington State Legislature directed Ecology to identify other Western Washington counties where Stage 2 is important to achieving or maintaining the ozone standard in one of the two areas with maintenance plans. Ecology conducted a study to determine whether and where Stage 2 is important.

## **Ecology's proposed new rule on Stage 2**

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Ecology proposed a rule revising the state requirements for Stage 2 gasoline vapor recovery systems. The rule is scheduled for adoption on December 24, 1997, and would take effect January 24, 1998. When the rule takes effect, Stage 2 is required at the following gas stations:

<b>County</b>	<b>Annual Gasoline Throughput</b>	<b>Date Required</b>
Cowlitz/Thurston	Over 1.2 million gallons	Currently for all existing and new stations
Kitsap	Over 840,000 gallons	By December 31, 1998
Clark, King, Pierce, Snohomish	Over 600,000 gallons	By December 31, 1998
All Counties	Over 1.5 million gallons and is sufficiently close to a residence <sup>1</sup>	Currently

<sup>1</sup> Removal of a Stage 2 gasoline vapor system is a modification of an air emission control device. To remove Stage 2 equipment, gas station managers must file a notice of construction with the local air authority and gain agency approval prior to removing Stage 2. If the gas station is near a residential area, Stage 2 may be required to control air toxics.

After the rule takes effect, Stage 2 will no longer be required to control ozone in the following areas:

- Island, Lewis, Skagit, Wahkiakum, and Whatcom counties;
- At gas stations dispensing less than 1.2 million gallons per year in Cowlitz and Thurston counties; and
- At gas stations dispensing less than 840,000 gallons per year in Kitsap County.

## **For more information**

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If you have special accommodation needs or require this document in alternative format, please call Judy Beitel, Air Quality Program, (360) 407-6878 (voice), or 1-800-833-6388 (TTY only).