



COMPLIANCE ASSISTANCE PROGRAM

Indoor and Outdoor Burning

We are all affected by the smoke from burning wood and other natural vegetation. Inhaling smoke can pose a serious threat to the respiratory system, causing irritation, coughing, lung damage, chronic lung disease, cancer, and in some cases, respiratory failure. Those most at risk have heart or lung disease, asthma, or anemia, or are infants or elderly. Below are pollutants found in smoke from burning natural vegetation and some of the health effects caused:

PM (particulate matter) - Most particles in smoke are less than one micron in size, allowing them to reach the lower lung. Particles less than ten microns in size become trapped in the lower lung, impairing lung function and damaging tissue.

CO (carbon monoxide) - Produced in very large amounts by burning, carbon monoxide reduces the blood's ability to supply oxygen to body tissues.

VOCs (volatile organic compounds) - Reacting with oxides of nitrogen in sunlight, volatile organic compounds form ozone which aggravates allergies, asthma and emphysema, and impairs lung function.

NOx - (oxides of nitrogen) Combining with VOCs, oxides of nitrogen form ozone and combine with moisture and ammonia to form aerosol nitrates in the fine particle range.

SO₂ (sulfur dioxide) - A respiratory irritant, sulfur dioxide also combines with moisture and ammonia to form aerosol nitrates in the fine particle range.

Toxics - Many of the compounds found in smoke are toxic. These gaseous compounds are adsorbed by the particles and carried deep into the lungs, diffusing into blood capillaries. Benzene and other hydrocarbons have been implicated in causing cancer.

YRCAA receives many complaints each year about indoor and outdoor burning. Primarily, the complaints refer to nuisance, odor, interference with visibility, and adverse health effects. Responding to these complaints is an extreme cost to the public. Also, aesthetics are vital to the wellbeing and economy of our valley. Smoke impairs visibility.

Both Washington State and YRCAA regulations require that outdoor burning comply with the following:

- Burning must not be conducted when a reasonable alternative is available;
- Most burning requires a permit, conditioned to minimize emissions;
- Burning must not be conducted in a burn barrel;
- Burning must not be conducted on days of impaired air quality;
- Natural vegetation only may be burned;
- Burning must not cause emissions detrimental to health or property; and
- Burning must not cause emissions that interfere with the use or enjoyment of other property.



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Both Washington State and YRCAA regulations require that solid fuel burning devices (a device that burns wood, coal, or any other nongaseous or nonliquid fuel) comply with the following:

- Smoke from the device must not exceed 20% average opacity for any six minutes in any one hour;
- The following must not be burned:
 - (1) Garbage;
 - (2) Treated wood;
 - (3) Plastic and plastic products;
 - (4) Rubber products;
 - (5) Animal carcasses;
 - (6) Asphaltic products;
 - (7) Waste petroleum products;
 - (8) Paints and chemicals; or
 - (9) Any substance which normally emits dense smoke or obnoxious odors other than paper to start the fire, properly seasoned fuel wood, or coal with sulfur content less than 1.0% by weight burned in a coal-only heater.
- In dwellings with another *adequate source of heat:
 - (1) Only EPA-certified devices may be used during a Stage 1 burn ban; and
 - (2) No solid fuel burning device may be used.
- Smoke or odor from the device must not cause a nuisance.

* In dwellings which have no adequate source of heat other than a solid fuel burning device, the device may be used during either stage of burn ban.