Bureau of Environmental Health and Safety
Division of Health
Idaho Department of Health and Welfare

May 2001

GUIDELINES FOR IMPROVING INDOOR AIR QUALITY DURING THE FIRE SEASON

When wildland fires and controlled burns affect outdoor air quality, indoor air quality can also be impacted. The following recommendations are provided to help protect indoor air quality during outdoor fire events. For determining outdoor conditions, see the attached table provided by the Department of Environmental Quality

All Homes or Buildings

- Close all windows and doors to the outside
- Shut off non-essential exhaust fans to reduce the amount of outside air being pulled inside.
- Minimize foot traffic in and out of the building.

  Keep window or through-the-wall air conditioning units in the re-circulation mode rather than bringing in air from the outside.

Homes/Buildings with Filtered Air

Upgrade filters to the highest efficiency possible for the system. The higher the filter efficiency rating, the better protection the filter will provide. Filters are available with a layer of activated carbon (charcoal) that will also remove smoke odors.

The most desirable filter set-up (in order of installation) is a pre-filter, carbon filter, High Efficiency Particulate Air (HEPA) filter. Since the space provided for filters in most ventilation systems is limited, a combination HEPA and activated carbon filter may be the best option. Filters should be checked often for dirt build-up.

For filtered air systems with outside air intakes, reducing outside air volume may improve filter life, but do not close outside air intakes completely.

When replacing existing filters with high efficiency filters, you need to know the maximum filter efficiency that your system will handle; otherwise, system damage could occur. If in doubt when performing any recommended changes to your existing systems, consult your local heating and cooling contractor or the equipment manufacturer.

Homes/Buildings without Filtered Air

Homes and Small Offices

Use portable air filtering units. Look for HEPA rated units. Keep the pre-filter clean to protect the much more expensive internal HEPA filter. Ion Generators and Ozone Generators are NOT recommended.

Large Facilites

Retrofit the building with portable forced air systems with filtration. Total capacity of all fans used will be determined by the number of occupants. Twenty cubic feet per minute (CFM) of outside air per occupant is recommended. Use the same filter guidelines as previously described.

Typically, these systems will require temporary duct entries into the building. When placing duct entries, do not obstruct exits. Also, check equipment and extension cords frequently to ensure systems do not overheat.

Special attention and care need to be given to those spaces which generate hazardous and/or air contaminants that rely on general dilution ventilation or special ventilation needs, such as:

- Chemistry and Biology labs
- Wood and Paint shops
- Copy and Printing shops
- Welding and Auto shops
- Solvent Tanks

These areas should be dealt with on a case by case basis. If you have questions about your system, contact your local heating and cooling contractor or the equipment manufacturer.

Resources

- For questions regarding health effects of indoor air quality, contact the Idaho Bureau of Environmental Health and Safety at (208)332-7328

- For questions regarding outdoor air quality, contact the Idaho Department of Environmental Quality (IDEQ) at 208-373-0502 or the IDEQ Air Quality Hotline at 208-236-6173.

- For questions regarding wildland fire status, contact the National Interagency Fire Center (NIFC) at 208-387-5050.

  IDEQ Daily Air Quality Report Website: www2.state.id.us/deq/air/dailyreports/aqi_report_bro.shtml

STATE OF IDAHO

DEPARTMENT OF
ENVIRONMENTAL QUALITY

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August 23, 2000 - Revised

In the absence of real-time ambient air quality monitoring data, visibility range estimates are recommended for determination of qualitative air quality conditions. The following table associating visibility ranges with air quality conditions, health effects, and cautionary statements was developed from empirical data gathered by Montana DEQ.

Conditions	Health Effects	Cautionary Statements	Visibility Ranges*
Good	None	None	10 miles and up
Moderate	Possibility of aggravation of heart or lung disease among persons with cardiopulmonary disease and the elderly.	Extremely sensitive people should consider limiting prolonged outdoor exertion.	4 to 9 miles
Unhealthy for Sensitive Groups	Increasing likelihood of increased respiratory symptoms in children and adults, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.	People with respiratory or heart disease, the elderly, and children should limit prolonged exertion.	2½ miles to 3 miles
Unhealthy	Increasing respiratory symptoms in children and adults, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.	People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion.	1¼ miles to 2 miles
Very Unhealthy	Significant increase in respiratory symptoms in children and adults, aggravation of heart disease and premature mortality in persons with cardiopulmonary disease and the elderly.	People with respiratory or heart disease, the elderly, and children should avoid any outdoor activity; everyone else should avoid prolonged exertion.	1 mile
Hazardous	Serious risk of respiratory symptoms in children and adults, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.	Everyone should avoid any outdoor exertion; people with respiratory or heart disease, the elderly, and children should remain indoors.	¾ miles or less

* Face away from the sun and look for targets at known distances. Visible range is that point at which even high contrast objects totally disappear.