

October 28, 2013

To: Town Officials and individuals concerned with open burning in Vermont

The purpose of this letter is to provide recommendations for minimizing potential health impacts from open burning. Depending on the meteorological conditions, the proximity of the burn to residences, and air quality level on the day of the burn, smoke from open burning may cause health problems such as respiratory effects or aggravation of heart and lung diseases.

The Vermont Air Quality and Climate Division works with other states and the US EPA to provide daily forecasts of the next day's air quality for two major air pollutants: ozone (O<sub>3</sub>) and fine particles (PM<sub>2.5</sub>). The forecasts for PM<sub>2.5</sub> may be useful for town managers, fire wardens and others who issue open burning permits, as smoke from open burning activities can produce high localized concentrations of PM<sub>2.5</sub> pollution in situations where air stagnation occurs.

The forecasts, as well as current measured air quality levels in Vermont and other states are available at <http://airnow.gov>. Click Vermont on the national map for forecasts and data for Vermont locations. The PM<sub>2.5</sub> levels are reported according to an Air Quality Index (AQI), which ranges from 0 to 500 numerically, and includes the following categories: *good* (0 to 50), *moderate* (51-100), *unhealthy for sensitive individuals* (101-150), *unhealthy* (151-200), *very unhealthy* (201-300) and *hazardous* (301-500). In Vermont, PM<sub>2.5</sub> levels are typically *good to moderate*, but occasionally climb into the *unhealthy* range.

Individuals interested in air quality conditions may also sign up for automatic e-mail or cell phone text message forecast notifications, using EPA's EnviroFlash service: <http://www.enviroflash.info>. Note that you can request to receive EnviroFlash messages only if the forecast or current air quality exceeds a certain level – for example *moderate* or higher. Note also the option in both the AirNow and EnviroFlash to see forecasts for "Vermont Mountain Valley Locations". Forecasts for these locations are based on meteorological estimates of poor dispersion conditions, which can occur during calm, clear mornings, evenings and overnight during the "cold season" (approximately October 15 through March 1). Cold season forecasts for these mountain valley locations are the best indicators of poor dispersion conditions for smoke from open burning activities in valley locations throughout Vermont.

The Vermont Air Quality and Climate Division offers the following (non-mandatory) recommendations for minimizing the potential health impacts of open burning activities that may impact residences during the cold season based on the PM<sub>2.5</sub> AQI forecasts for Vermont mountain valley locations:

- If the forecast is for *good* levels of PM<sub>2.5</sub>, this suggests that an open burn will not result in significant air pollution impacts in the neighborhood. Note, however, that if the wind is forecast to blow from the burn location directly towards a nearby residence, the burn may still produce air pollution problems; but smoke won't tend to accumulate over time in the neighborhood.
- If the forecast is for *moderate* levels of PM<sub>2.5</sub>, this suggests that an open burn may result in *significant air pollution impacts* in the neighborhood and an open burn is not recommended except *during the daytime from 2 hours after sunrise until 1 hour before sunset when the skies are generally clear to partly cloudy*.
- If the forecast is for *unhealthy for sensitive groups* levels of PM<sub>2.5</sub> or higher, this suggests that an open burn will result in *significant air pollution impacts* in the neighborhood both because of the meteorological conditions and

the likelihood that other nearby emissions will cause poor air quality, and an open burn is not recommended under these conditions.

If you do not have access to a personal computer, a rule of thumb to ensure that the burn will not occur under stagnant weather conditions during the cold season (*approximately October 15 to March 1*) is that *an open burn that may impact residences is recommended during the daytime from 2 hours after sunrise until 1 hour before sunset when the skies are generally clear to partly cloudy.*

During the warm season (March 1 through October 15), the atmospheric dispersion is generally much greater. However, regional air pollution occurring in a stagnant air mass over New England will occasionally reach high enough levels that it may constitute an air quality concern when combined with a local source, such as an open burn. An AQI value exceeding 75 is indicative of this kind of warm season event. Therefore no open burning *that may impact residences* is recommended when the warm season PM<sub>2.5</sub> AQI value at the Vermont location nearest you exceeds 75 in the air quality forecast as noted above.

A summary of these recommendations and Internet links is attached. To convey this information to individuals who are planning to burn, a copy of this letter is posted on the Open Burning page of the VT Air Quality and Climate Division website at: <http://www.anr.state.vt.us/air/Compliance/htm/Openburn.htm>. If you have questions about the air quality in your area on any day and for the following day feel free to call me at (802) 272-3695 or email [dan.riley@state.vt.us](mailto:dan.riley@state.vt.us). Also, please call with any questions about the EnviroFlash Air quality forecast message system or other questions about air pollutant dispersion.

Sincerely,



Dan Riley, Environmental Analyst

## Recommended Air Quality Considerations for Open Burning Decisions

To obtain VT Air Quality Forecasts for use in open burning decisions,

Go To: <http://airnow.gov/>



Click on Vermont on National Map.

Click on “Vermont Mountain Valley Locations” in cold season or nearest location in warm season.

Review “Today’s High” or “Tomorrow’s High” Forecast for “Particles (PM<sub>2.5</sub>)” and consult Table below.

(Note that the forecast for tomorrow’s high is available only after 3 p.m. each day).

Season	Cold Season: October 15 – March 1			Warm Season: March 1 – October 15	
VT Forecast Location to Use	Vermont Mountain Valley Locations			Vermont Location Nearest You	
Forecast PM <sub>2.5</sub> AQI (Air Quality Index)	0-50	51-100	> 100	0-75	> 75
Air Quality Recommendation	OK to Burn	OK to Burn from 2 hours after sunrise to 1 Hour before sunset	Don’t Burn	OK to Burn	Don’t Burn

To Subscribe to EnviroFlash E-mail advisories for use in open burning decisions

Go To: <http://www.enviroflash.info/>



Click on “Subscribe to EnviroFlash”.

Fill in form, Click on “Change City”, Select “Vermont” and “Vermont Mountain Valley Locations”.

Choose “Receive Forecasts” and possibly also “Receive Current Conditions”.

Select a “Minimum Level” so you will only be notified if forecasts and/or current levels exceed it.

(Note that this e-mail will be received during the afternoon for the next day forecast).

**For Additional Information Contact:**

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A copy of this letter is posted at: <http://www.anr.state.vt.us/air/Compliance/htm/Openburn.htm>