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Texas outdoor burning rules: wind speed

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY REGULATES OUTDOOR BURNING

The Texas Commission on Environmental Quality (TCEQ) rules state that *“Burning shall not be commenced when surface wind speed is predicted to be less than six miles per hour (mph) (five knots) or greater than 23 mph (20 knots) during the burn period”*. The rule was written to provide favorable conditions for smoke dispersal. The rule is based on the “public” forecast as provided by the National Weather Service based on 10 meter reporting stations located at airports. These stations are used in the models that provide predictions of wind speed throughout the United States. The TECQ developed the wind speed rule based on the public forecast that the public could access such as newspapers, radio, or television forecasts.

Surface wind is defined by The National Oceanic and Atmospheric Administration (NOAA) as *“the maximum sustained surface wind speed (peak 1-minute wind at the standard meteorological observation height of 10 m [33 ft] over unobstructed exposure)...”*

Fire science and wildland fire fighters use the 20 ft wind speed measurement as the standard “surface” wind speed in the various fire danger, smoke, and fire intensity models and in the development of strategies to extinguish wild fires. *20 ft. wind is defined as sustained winds averaged over a 10 minute period and measured 20 feet above the average height of nearby vegetation.* This is the standard reported by the Re-

mote Automated Weather Stations (RAWS) owned by land management agencies and used in the National Fire Danger Rating System (NFDRS) (NOAA definition). 20 ft wind speed is generated by multiplying the 10 meter wind speed measured by the NWS offices by an adjustment factor which includes adjustment for height of estimation, atmospheric stability and possibly other factors.

RAWS data is only used to validate or alert the NWS fire weather forecasters that a computer predicted wind speed may not reflect actual conditions.

IMPLICATIONS FOR PRESCRIBED BURNING

Use of the NWS surface wind speed (10 M) meets the TCEQ guidelines for complying with the rule for burning when surface winds speed is 6 –23 mph. The 20 ft. wind speed as reported in the Fire Weather Forecast may result in burning outside TCEQ rules. **Be sure to check with your local NWS to obtain the correction factor that they use.** However wind speed is measured or calculated, the burn boss is responsible for ensuring the burn does not cause a nuisance or hazard on public roads or sensitive structures.

FOR MORE INFORMATION

The Texas Prescribed Burn Alliance website has resources and contacts. <http://pbatexas.org/>

The NOAA fire weather website allows you to access forecasts and more. <http://www.srh.noaa.gov/ridge2/fire/>.

For more information:

<http://GpFireScience.org> GPE Email: GpFireScience@missouristate.edu

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