



FEWG – A WORKING GROUP FOR NCDFR MTM

NC SMP Technote 4 – October 10th, 2008
Nighttime Smoke Dispersion Interpretation Table



NWS Nighttime Smoke Dispersion Forecast	Weather Event	Verifying Observation	Fire Manager's Interpretation for Burning Period
Stagnant	Low level temperature inversion (≤ 2 mph)	Smoke collects at the surface with generally no movement. Restricted visibility.	No Burning at night
Very Poor	Rapid inversion setup at sunset / stagnant air at night (2 to 4 mph)	Smoke layer near the ground (treetop level or below). Restricted surface visibility within 2 hours of sunset.	Terminate burning late in the afternoon. Consider 3 hours prior to sunset to allow for smoke dispersal. Atmospheric can be lost as much as 2 hours prior to sunset. No Burning at night.
Poor	Gradual inversion setup at overnight / Light Wind (5 to 8 mph)	Smoke layer gradual thickens near the ground but not until late at night and in the morning. Appreciable restriction to surface visibility can initiate at sunset.	Terminate burning late in the afternoon. Consider 1 hour prior to sunset to allow for smoke dispersal. Atmospheric lift can be lost at sunset or shortly thereafter. No Burning at night.
Fair	Weak or no inversion setup overnight and light to moderate wind (9 to 12 mph)	Smoke from ground based sources is dispersed upward above treetop level with no appreciable restriction to surface visibility during the night. Possible brief layering of smoke around sunrise.	Burn anytime
Good	No inversions and moderate to strong winds (> 12 mph)	Smoke dispersed throughout the atmosphere all night and around sunrise. Rapid dispersion and no layering of smoke.	Burn with caution. Possible adverse fire behavior.