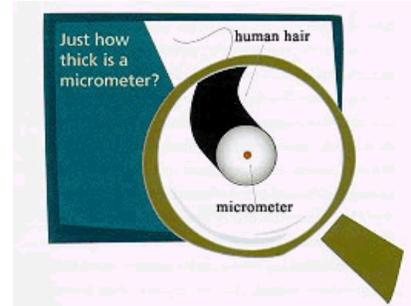


Air Pollution Emergency Rule: What Is It, What Does It Do?

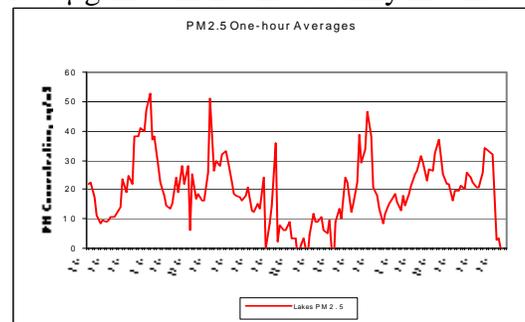
What is the Emergency Rule? The Emergency Rule is a part of the State Implementation Plan required of all states by the Environmental Protection Agency. The Emergency Rule provides criteria to allow the state to take appropriate action when levels of regulated air pollutants cause or are predicted to cause a health emergency. The rule identifies four stages or levels of an emergency with each stage addressing a progressively more serious air quality event. Idaho's recent rulemaking established 1-hour and 24-hour criteria for particulate matter 10 and 2.5 micron in aerodynamic diameter (PM₁₀ and PM_{2.5}, respectively) for Stage 1. Pollutant levels were already established for the other stages.



Note: Aerodynamic diameter refers to the largest dimension of a particle. By comparison, a human hair is about 75 microns in diameter.

How does the rule apply? The emergency criteria apply to any situation or circumstance where particulate matter reaches, or is predicted to reach and persist, at potentially unhealthy levels. While the Stage 1 criteria are not directed at any specific activity or industry, activities such as agricultural burning or forestry burning (slash burning or prescribed fire) are most likely to cause or contribute to high particulate levels in the air. More often, however, unpredictable wildfires are the cause of high particulate levels. Putting numerical criteria to the rule provides (1) some predictability to those who open burn and (2) notification and relief to those who suffer from smoke related health problems.

What do the Stage 1 criteria mean? When particulate matter, specifically PM_{2.5}, reaches a 1-hour average concentration of 80 µg/m³ (micrograms per cubic meter) and/or is predicted to reach and persist at this level, the state will act to restrict open burning in the affected geographic areas. It is important to understand that an isolated spike of 80 µg/m³ will not necessarily invoke the rule. Thus, if particulate matter is increasing but meteorological conditions are such that adequate dispersion and ventilation are expected soon, increasing particulate levels will not necessarily invoke the rule. It is also important to note that if particulate levels are increasing and meteorological conditions indicate there will not be adequate dispersion and ventilation, then the rule may be invoked before the particulate levels reach 80 µg/m³.



How does this rule relate to smoke management plans? It is important to understand that the Emergency Rule is not a smoke management tool per se'. It is best to think of this rule as a "back-stop" if normal air quality controls fail to keep pollution below unhealthy levels. Smoke management plans (SMP) are cooperative pollution control efforts among state, federal and private entities in which burners maintain the responsibility to follow specific smoke management plans to keep PM below the criteria level. Effective smoke management programs will minimize the need to invoke the Emergency Rule.

Are the criteria enforceable standards? The emergency criteria are not specific regulatory standards such as the National Ambient Air Quality Standards (NAAQS) set by the Environmental Protection Agency . The NAAQS are health-based standards for ambient (outside) air and states are required to develop a number of programs to attain and maintain air quality at levels below the NAAQS. For PM_{2.5}, the annual NAAQS is 15 µg/m³ and the 24-hour NAAQS is 65 µg/m³. The Emergency Rule criteria may invoke DEQ to restrict or ban all forms of open burning. While not related to the NAAQS specifically, the restricting of open burning under certain circumstances can help protect against exceeding the PM NAAQS.

What is in smoke and how does it affect health? Smoke is made up small particles, gases and water vapor. Water vapor makes up the majority of smoke. The remainder includes carbon monoxide, carbon dioxide, nitrogen oxide, irritant volatile organic compounds, toxic air pollutants and very small particles. One of the biggest dangers of smoke comes from the particulate matter. In smoke, these particles are mostly PM_{2.5}. These particles can build up in the respiratory system, causing a number of health problems, including burning eyes, runny noses and illnesses such as bronchitis. The particles can also aggravate existing heart and lung diseases, such as congestive heart failure, chronic obstructive pulmonary disease, emphysema and asthma. Children and the elderly also are more susceptible to smoke. Healthy adults generally find that their symptoms (runny noses, coughing, etc.) disappear after the smoke is gone.

Are the criteria adequate to protect the public health? DEQ has chosen 80 µg/m³ based on a number of considerations including protection of public health. Currently there is not a great deal of clear cut evidence to support any specific 1-hour PM_{2.5} number; and professionals in the field of particulate pollution and health disagree on what level is most appropriate. On-going and future research will help to identify the best criteria to use. DEQ will continue to evaluate the scientific data as it becomes known.



Let's summarize the common issues raised about the Emergency Rule. First, the Emergency Rule is not an everyday smoke management tool; rather, it is a tool to deal with particulate levels that may constitute an emergency. Second, the 80 µg/m³ number is not used in a vacuum; as mentioned, meteorological conditions and other factors are also considered. Third, when circumstances are such that particulate levels are predicted to reach and persist at the 80 µg/m³ DEQ will act without necessarily waiting until the 80 µg/m³ is reached. Finally, the 80 µg/m³ is in place for emergency situations and does not address nuisance levels of smoke which do not constitute an emergency situation.