TESTIMONY OF
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Good morning Chairman Inhofe. Thank you for the opportunity to testify today. It is my pleasure to be here in Oklahoma City.

Today I am going to discuss how the Environmental Protection Agency's (EPA's) policies preserve public health protections by addressing the man-made sources of air pollution in the context of both unusual, but foreseeable, meteorological episodes, as well as truly exceptional or unpredictable natural events.

As is the case with others testifying here today, our primary mission at EPA is to protect public health. Air pollution is associated with a variety of serious health and environmental problems. For example, breathing particulate matter can aggravate pre-existing respiratory ailments, reduce lung capacity and even result in premature death. Carbon monoxide can aggravate angina (heart pain). Photochemical smog can impair lung function, cause chest pain and cough, and worsen respiratory diseases and asthma. We have made great strides as a nation reducing levels of all of these pollutants. EPA's role in this has entailed a wide variety of actions ranging from setting national air quality standards that protect the public health, to requiring power plants to

reduce emissions of harmful air pollution, to setting standards for vehicle emissions, to working with state and local governments to ensure that they have the necessary tools to implement plans to reduce air pollution and to inform the public about air quality.

The Clean Air Act, a law created and amended with strong bi-partisan support, provides the blueprint for our efforts to clean the nation's air. Between 1970 and 1999, total emissions of the six principal air pollutants decreased 31 percent. This dramatic improvement occurred simultaneously with significant increases in economic growth and population. For 30 years, the Clean Air Act has provided critical health protection to the American public. The 1990 Clean Air Act alone will bring huge health benefits. For example, EPA's central estimate is that the annual benefits in 2010 when the 1990 Clean Air Act is fully implemented will include: 23,000 fewer incidences of premature mortality; 67,000 fewer cases of chronic and acute bronchitis; 64,000 fewer respiratory and cardiovascular hospital admissions; and 1.7 million fewer asthma attacks.

Over the past 30 years, EPA has developed a series of policies and programs to address the fact that weather and other uncontrollable natural and exceptional events can influence air quality. Our implementation of those policies and approaches confirm our commitment to balanced, common-sense, cost-effective strategies to protect the public from the dangers of air pollution. EPA and the states have worked together under a variety of different circumstances, such as the Mount Saint Helens eruption, clean-up of debris after Hurricane Andrew devastated south Florida, and the pollution from the 1998 Mexican wildfires situation, to determine the most appropriate way to deal with air quality data associated with natural or exceptional events.

Before I describe how EPA accounts for various exceptional and natural events such as volcanoes, wind storms and fires in our regulations, I would like to provide a brief background on the role of meteorological and geographic factors in people's exposure to air pollution.

In 1948, a fog descended over Donora, Pennsylvania. An unusual set of weather circumstances -- a stagnant temperature inversion -- trapped the smoke from the coal-burning fireplaces and industrial plants in the valley. The air grew heavier. By the time the weather shifted, the air pollution trapped over Donora had killed 20 people and over 5,000 people reported illness. That unusual and horrific combination of man-made pollution and weather ushered in a new era of understanding regarding the health impacts of air pollution, and awakened a new awareness of the impact of human activity on our quality of life.

Obviously, we have made tremendous progress since that terrible incident. Since 1970, we have reduced emissions of sulfur dioxide by 37%, lead by 98% and carbon monoxide by 31%. In the last ten years, ambient levels of particulate matter (PM-10) have dropped 18%. Since 1990, EPA has also put in place rules that will prevent 1.5 million tons of toxics from being released into our air. The work of the states, local governments, federal government and the various industries have brought about these dramatic improvements, and all Americans are better off because of it.

The role of weather and other natural factors in air pollution remains a fact of life. Weather can exacerbate air pollution problems. The tragedy in Donora involved an unusual meteorological episode, but what made it deadly was the human-caused

pollution in the air. Our knowledge about these kinds of interactions has evolved over the years, and so have our policies and standards.

The history of how states and EPA have worked together to develop programs to address ground-level ozone is an excellent example of how EPA's approaches factor in unusual climatic episodes in developing plans to reduce emissions. Ozone is unhealthy to breathe, even at low levels. It affects a variety of individuals, including healthy children and adults who are active outdoors during the summer. Ozone can also aggravate asthma, and make people more sensitive to allergens. Ozone also increases people's susceptibility to respiratory infections. It can inflame and damage the lining of the lungs, much like a sunburn.

Unlike many other pollutants, ozone is not emitted directly into the air. It is formed when emissions of nitrogen oxides (emitted from power plants, motor vehicles and other industrial sources) chemically react with volatile organic compounds (emitted from motor vehicles, petroleum refineries, chemical plants and other sources) in the presence of heat and sunlight. Because it is triggered by sunlight and heat, ozone in the air we breathe tends to reach its highest levels during the summer months, often when the air is stagnant.

When states are developing their emission reduction control programs to meet the air quality standards for pollutants like ozone, EPA requires them to take into consideration stagnation episodes and other periods that are conducive to ozone formation. The states must reduce emissions to the point that they can meet the air quality standards even during hot, stagnant periods of the summer. This approach has been very successful. Southern California, for example, has reduced its number of

days exceeding the national ozone standard from 133 to 39 in the past 10 years alone, despite its hot summer temperatures.

The history of our national air quality standard for ground-level ozone demonstrates how EPA's approaches to providing public health protection have evolved while also allowing us to address other factors, including unusual climatic episodes. The air quality standards are set in a way that balances the level and form of the standard so that public health is protected, and, at the same time, provides a stable benchmark on which to develop implementation programs. In the 1970's EPA set a national air quality standard for photochemical oxidants, measured as ozone. That standard was set at 0.08 part per million and was not allowed to be exceeded for more than one hour per year. By 1979, the review of new scientific health effects studies served as the basis for EPA's revision of the ozone standard. This revision took into account the fact that it is the level and the form of an air quality standard that together determine the degree of public health protection. EPA set the revised air quality standard at a level of 0.12 parts per million over a 1 hour period. EPA also changed the form of the standard so that it could be exceeded any three days over a three-year period. In part, this inherently made some allowance for unusually high ozone levels that could result from unusual weather during any given year.

Then, in 1997, based on an extensive review of the most recent peer-reviewed science, EPA again revised the ozone standard, changing the averaging time from 1 hour to 8 hours, setting the level at 0.08 part per million, and establishing a new, more flexible form that is based on the fourth highest daily concentration in a year, averaged over 3 years. This revised standard will protect public health from the prolonged

exposures to ozone at lower levels -- shown by the new research to adversely affect people's health -- while better taking into account unusual, but foreseeable meteorological episodes. In a nutshell, that means an area may have many more exceedances of the 8-hour standard than was the case with previous ozone standards before EPA determines that an area is violating the national air quality standard.

EPA provided similar additional flexibility when we revised the ambient air quality standards for particulate matter in 1997 by establishing new fine particle standards with levels set in conjunction with more flexible forms.

Exceptional Events Policy

In 1986, EPA worked with states to develop what has become known as the *Exceptional Events Policy*. This policy was designed so that singular events -- such as a volcanic eruption – that create air pollution levels above the health-based air quality standards are excluded from the data used to determine if an area is meeting the standards.

The definitions and associated criteria in the policy provide some flexibility in their application to an individual event. Under the policy, an "exceptional event" is one that is not expected to recur routinely at a given location, that is uncontrollable or that is unrealistic to control through state implementation plans. Judgement is needed to identify whether an event is exceptional in the area of the country where it has occurred. For example, the dust caused by salting and sanding streets in a southern city may occur infrequently, but such conditions would not be exceptional in the northeast. Similarly, 40 mile per hour winds may occur infrequently in the southeast, but they may be the norm in central and western states.

This policy also addressed other events, such as stratospheric ozone intrusion; chemical spills and industrial accidents; infrequent large gatherings, events expected to occur less than once per year; as well as clean-up activities after a major disaster.

Natural Events Policy (1996)

The Natural Events Policy was created because certain events, such as wildfires and dust storms, were affecting particulate matter (PM-10) concentrations in many areas several times a year. As a result, EPA worked in partnership with state and local air pollution control agencies to develop a policy for addressing violations of the air quality standards for particulate matter (PM-10) caused by natural events. This policy supersedes the Exceptional Events Policy for three events: -- wildfires, high winds (dust storms), and volcanic and seismic activity.

The Natural Events Policy helps provide increased public health protection by minimizing exposures and reducing levels of particulate matter emissions during forest fires, dust storms, volcanos, and earthquakes. Under this policy, when such a natural event is determined to be the cause of a violation of the particulate matter (PM-10) standard, EPA works with the states to ensure that they are not penalized for this violation if the state develops and implements a natural events action plan.

Natural Event Action Plans include public notification and education programs, procedures to minimize public exposure to high PM-10 concentrations, and measures to abate or minimize PM-10 emissions from industrial and other sources that are controllable and are contributing to the problem with best available control measures. When the best control measures for an emissions source are not known, the states must commit to identify, study and implement practical control measures in the future.

Ozone Exceedances Due to the 1998 Mexican and Central American Fires

In 1998, EPA began working with several states, including Oklahoma, to determine how best to address the impact on ground-level ozone and particulate matter levels in the United States caused by catastrophic fire events that burned out of control in Mexico and Central America. We set up a workgroup comprised of national air quality experts and developed technical guidance for identifying when and where the fires affected air pollution levels. The guidance included the use of sophisticated, yet readily accessible technical tools such as satellite imagery and ground-level visibility measurements to assess the smoke plume location and movement. The guidance addressed possible impacts on peak daily monitored ozone levels downwind of these fires and methods for technically justifying the exclusion of certain ozone values above the level of the standard from use in subsequent compliance calculations.

EPA received requests from nine states to exclude certain days of ozone data from compliance calculations due to these fires. Using our guidance, we carefully reviewed the various requests in consultation with other outside experts from the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), and academia. As a result of this process, we were able to concur with most of the requests from those nine states, including Oklahoma.

Conclusion

In summary, EPA has a long history of developing policies and approaches that protect the public health, while taking into account truly exceptional events. We have worked with states to fashion very balanced and protective approaches to address the effects of uncontrollable events that contribute to air pollution episodes.

Regardless of what causes any given air pollution event, people must breathe. Children, asthmatics and the elderly are especially vulnerable to the health problems caused by air pollution. Our policies are designed to protect people, while at the same time focusing federal, state and local air pollution control strategies on those aspects of the problem over which EPA and state and local governments can control – emissions of industrial and other pollutants into the air.

Mr. Chairman, this concludes my written remarks. I would be happy to answer any questions that you may have.