

**BRIEFING DOCUMENT
SEPTEMBER 1, 2000**

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WHY IS DUST A PUBLIC HEALTH ISSUE?

With the enactment of the Federal Clean Air Act of 1970, National Ambient Air Quality Standards (NAAQS) were established to protect public health from harmful levels of the most common pollutants. Standards were developed for six major pollutants, of which particulate matter (PM10) is one of the six. These are called “criteria” pollutants because the limits were set using *health-based* criteria.

Particulate matter or PM10 refers to particles less than or equal to 10 microns in diameter and can be made up of a variety of components, including dust, smoke, and soot. When inhaled, these small airborne particles lodge deep in the lungs and can increase breathing problems, damage lung tissue, as well as aggravate existing health problems. In addition to health concerns, dust generated from various activities including high winds can reduce visibility, resulting in accidents. Furthermore, PM10 pollution can impair the health of animals and vegetation, corrode building material, reduce crop production, and in general reduce the quality of life.

WHAT ARE THE FEDERAL REQUIREMENTS WHEN AIR POLLUTION LEVELS GET TOO HIGH IN AN AREA?

In most areas of the country, most air pollution comes from human activities. From factories and refineries, to woodstoves and cars, people can cause enough pollution to damage health. In areas with unhealthy air, the approach of the federal EPA has been based on the assumption that human activities are causing the problem. Traditionally, when air pollution levels exceeded the NAAQ standards EPA has taken a role of “command and control.” The EPA would designate an area non-attainment for the air pollutant that has been exceeded, like particulate matter. Then through the State Implementation Plan process, EPA would require state and local governmental entities to satisfy automatic constraints designed for more traditional air pollution problems, which do not fit the particular situation of exceedances caused by natural events.

However, a new opportunity has arisen for local entities to control pollution problems related to natural events. This opportunity was established under the federal Natural Events Policy. Many western states were finding it difficult to stay out of non-attainment for PM10 and even more difficult to get back to attainment status, because natural events (ie. high winds) were the reason for their exceedances. This policy allows local control of the pollution problem as long as adequate methods are established to address pollution emissions and for public notification of health risks. This policy establishes a reasonable method of dealing with a PM10 pollution problem while preventing designation of non-attainment status.

WHAT IS THE AIR QUALITY IN DOÑA ANA COUNTY?

Throughout most of the year, the air quality in Doña Ana County is very good and the air is considered clean. However, on days when winds are high dust levels are generally high enough to exceed standards. Since 1996 Doña Ana County has experienced numerous exceedances of the NAAQS for PM10. For example, in 1999 monitors throughout the county recorded 16 days which exceeded the federal standard. Most of the exceedances recorded in Doña Ana County have been caused by high winds. Furthermore, we find ozone and smog creeping up the valley from the El Paso and Juarez metro area. However, Las Cruces is probably beginning to add to the ozone and smog pollution bit-by-bit as the area continues to grow quickly.

WHY SHOULD HUMAN CAUSED SOURCES OF DUST BE CONTROLLED WHEN THERE IS SO MUCH DUST NATURALLY CAUSED BY NATURE?

While human activities are not the only cause of windblown dust, we do play a significant part. What's more, since human activities tend to occur in more populated areas, the dust they create can be more likely to be breathed into people's lungs. For example, the dust off of a particular vacant lot may be a very small percentage of the total dust emissions for the whole county, but could be a large contribution to the dust being breathed by the people in that neighborhood. That's why dust sources in populated areas are important to consider.

Furthermore, it is unreasonable to expect that all dust can be controlled. No one, not even EPA, believes that we can control Mother Nature. However, we should do what we can to control sources when and where we can. This is what a Natural Events Action Plan (NEAP; described below) is all about; doing what we reasonable can to control dust and protect health, yet knowing that we will at times have our controls overwhelmed by nature. The NEAP gives a community the opportunity to showcase its good faith efforts in doing its part to reduce dust in the air.

WHAT IS THE STATE IMPLEMENTATION PLAN PROCESS?

A State Implementation Plan (SIP) is an agreement between the Federal EPA and the New Mexico Environment Department by which some of the responsibilities of implementing the federal Clean Air Act are delegated to the state. Most of the responsibility for achieving compliance with the NAAQS then rests on the state government, or in some cases local government, if they have assumed this responsibility. An example of this would be Albuquerque's air program. Many of New Mexico's air quality regulations and programs, including ambient air quality monitoring, inventory of emission sources, and many provisions of the permitting program, are governed by New Mexico's SIP.

If the air pollution in an area is too high (exceeds standards), under the SIP process EPA will designate it "non-attainment", as authorized by the Clean Air Act. The purpose of non-attainment designation is to identify the problem areas for which the state and local governments must seek solutions to improve the air quality. Non-attainment areas must undertake special measures to reduce pollution and bring levels back under compliance standards. First an emissions inventory would need to be conducted to determine all possible sources of air

pollution. Then the information from the inventory is used to develop a strategy for reducing air pollution in the area. Rigorous programs to improve air quality are then implemented.

An area that is designated non-attainment for PM10 may find economic growth is negatively impacted, as new businesses find it difficult to locate in non-attainment areas due to more stringent pollution control requirements. Emissions offsets would be needed to allow for new development. This means that existing businesses must reduce their emissions to allow new business to come into the area. Furthermore, anyone needing air quality permits will find them to have more complex requirements. Also, any city, county, or state road projects, whether for construction or maintenance, will have more burdensome requirements. And, with non-attainment status comes the stigma of being an unclean and undesirable place to live.

WHAT ARE THE OPPORTUNITIES UNDER THE NATURAL EVENTS POLICY?

In the past, exceedances such as those observed in Doña Ana County could have resulted in an area being automatically designated non-attainment. However, with the development of the Natural Events Policy (NEP) in 1996, a new opportunity was opened up for dealing with PM10 violations due to natural events, while still allowing for the protection of public health. The NEP stresses the importance of local stakeholder involvement and control. In essence, a plan is developed by the affected people for the people; control of the plan is at the local level. The NEP applies to three categories of natural events that can cause high PM10 levels: (1) volcanic and seismic activities; (2) wildfires; and, (3) high wind events. Since the problem in Doña Ana County is due to high winds, that is the situation addressed in this briefing.

Based on EPA's natural events policy, high winds are defined as uncontrollable natural events under the following conditions: (1) the dust originated from nonanthropogenic sources (natural; undisturbed lands); or, (2) the dust originated from anthropogenic sources (disturbed by human activity) that are controlled with best available control measures (BACM).

In order for exceedances of the PM10 standards to be considered as due to a natural event, a Natural Events Action Plan must be developed to address future events. Many parts of the US affected by natural events have been able to develop a Natural Events Action Plan (NEAP) to deal with the problem in a more effective and economical manner. With the creation of an adequate NEAP, exceedances caused by natural events such as high winds are excused and don't count towards non-attainment status. Many areas already non-attainment for PM10 jumped on this opportunity offered by doing a NEAP to excuse those exceedances caused by natural events. The NEAP offered those non-attainment areas a means of once again achieving attainment status, whereas before, they could not.

What a NEAP does is act as a buffer from non-attainment status. Development of a NEAP allows for a sensible means of addressing a pollution problem generated by a natural event, while still being responsive to protection of public health. A NEAP shows that a community is doing what it can to protect public health, yet with the understanding that sometime mother nature is going to overcome those controls communities have put in place. A NEAP should be designed by the community since the people of that community understand the situation better than anyone else. Most NEAPs submitted successfully to the US EPA by other western states have

found that local control of the situation through county ordinances is most effective. The purpose of the plan is to:

- Educate the public about the problem;
- Identify and implement Best Available Control Measures (BACM) for man-made sources of windblown dust that are feasible both technologically and economically; and,
- Mitigate health impacts on exposed populations during future events.

SOURCES OF FUGITIVE DUST IN DOÑA ANA COUNTY

Airborne dust is generated at many different types of businesses and during many different types of activities. The sources of dust in Doña Ana County are similar to those in other communities that are or have developed plans to control airborne dust; these communities are found throughout the western US and include locations as diverse as Phoenix, Arizona and Spokane, Washington.

The most commonly encountered sources in urban and rural areas in the western US include:

- Soil disturbance during construction projects. This is primarily a problem during windy conditions.
- Emissions due to wind from disturbed land areas that are vacant, where construction is pending or due to recreational activities.
- Track-out of dirt and dust from unpaved roads and dirt areas on to paved roads.
- Unpaved shoulders of paved roads.
- Unpaved road emissions from rural roads and around unpaved high-traffic industrial areas.
- Wind blown emissions from unpaved playgrounds and unpaved parking lots
- Wind blown emissions from tilled fields.
- Undisturbed areas during the highest winds.
- Military training exercises.
- Unpaved equipment lots (laydown yards).

WHAT IS BACM?

Best Available Control Measures (BACM) are methods that can be used to reduce or eliminate wind blown dust in areas where natural soils have been disturbed and thus more prone to erosion by the wind. The BACM process takes into account what the most common sources of man-made dust within a community are, when they occur, what measures can be used to reduce dust, and how much the measures cost versus how effective they are at controlling dust.

Most BACM are physical methods of controlling dust from developed or undeveloped areas within or surrounding communities. Many methods attempt to return native soils to a more natural state by revegetation or by replacing natural crusts with artificial covers. However, they also include education of community members on what can be done to control and/or reduce airborne dust by planning community growth and best management practices for specific land

uses. The following is a list of BACM, it is by no means all-inclusive, and represents only some of the options available to community residents.

- revegetation
- paving
- dust suppressants
- mulches
- gravelling
- windbreaks
- phased construction
- stop or slow active construction during high winds

WHAT'S BEEN DONE TO CREATE AN ADEQUATE NEAP FOR DOÑA ANA COUNTY?

The NMED has historically viewed development of the NEAP by both state and local affected entities as the key to a successful submittal of this document to the EPA. The NMED has been working with local governmental entities in an effort to complete and submit the NEAP by the end of this year.

The City of Las Cruces has taken an active role in developing an ordinance that will limit the amount of dust from sites within the city limits. Very early on in the process, the city was concerned with the possibility of being designated non-attainment, and the consequences of such a designation on economic growth. In response, the planning staff for the City jumped into the project whole-heartedly and established a stakeholder group to determine what the contributing man-made sources of dust were within the city. From there, the City worked hard to develop and approve a new dust control ordinance to deal with windblown dust in a satisfactory manner.

Doña Ana County is also being asked to regulated industries, sites, or activities that generate particulate matter. The county is continuing work to strengthening regulatory language for dust control. Furthermore, other municipalities are encouraged to limit windblown dust generated from man-made sources.

While the New Mexico Environment Department (NMED) holds to the belief that **local** stakeholders and governments are best equipped to deal with this type of **local** situation, the department has acted as a facilitator and offered guidance for the development of a NEAP. The state's Environment Department still holds the role of tracking the monitoring data as well as investigating the reasons behind any exceedances of PM10. This monitoring report is then compiled and submitted to EPA, satisfying one of the NEAP requirements. In 1997 the department initiated the formation of a task force made up of local stakeholders to develop a health brochure for informing people of the health concerns involving dust storms, who is susceptible, and what steps for protection can be taken. Furthermore, this task force worked on identifying means with which to develop an adequate warning system of when health may be affect by dust storms.

In addition, the NMED, in its quest to help develop a NEAP for the County, is now asking those stakeholders not under City or County jurisdiction to voluntarily take steps to reduce PM10 from property and facilities that they control.

DOES DOÑA ANA COUNTY HAVE AN ADEQUATE NEAP?

In short, Doña Ana County does not at this time have an adequate NEAP. However, we have until the end of the year to make it adequate.

Should the County become non-attainment, the State Environment Department has the means with which to argue for the City to remain in attainment with their own NEAP. If the County should develop its own dust control regulation by December 2000, then our NEAP for the entire county should be adequate enough to prevent non-attainment designation.

WHAT IS STILL NEEDED TO MAKE THE NEAP ADEQUATE?

LOCAL LEVEL

- Dona Ana County is being asked to regulate sites, industries, or activities that generate dust (also called PM10).

STATE LEVEL

- Stakeholder agreements are being developed with those entities that fall outside county or city rule for dust control (i.e. military installations and NMSU).
- We will continue to work with the County on ordinance development for dust control.
- Update and submit "Analysis of PM10 Exceedances Report" from March 1997 to present to the EPA.
- Pull together all parts of the NEAP, i.e. local dust control measures, educational plan and materials, etc., into a single document and distribute it for public comments.
- Release the draft NEAP by mid November for public review and comments.
- Submit the final NEAP for Doña Ana County to the US EPA - Region 6 office by the end of December 2000.

LOCAL AND STATE GOVERNMENT

- Work with local stakeholders and the public to develop the NEAP and ordinances.
- Hold a public meeting in early December to present the NEAP for questions and comments before submittal to the US EPA in late December of this year.

YOUR SUPPORT IS IMPORTANT

Your support is very important to the success of this project and the future status of Doña Ana County's air quality. We urge you to support local ordinance development to prevent the area from being designated as non-attainment. Our staff is more than willing to assist in any feasible way possible. We would be delighted to make a NEAP presentation to any interested parties.