THE EL PASO COUNTY AREA NATURAL EVENTS ACTION PLAN (NEAP)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
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LIST OF ACRONYMS

AQB - Air Quality Bureau
AQS - Air Quality System
AIRS - Aerometric Information Retrieval System
BACM - Best Available Control Measures
BLM - Bureau of Land Management
BRAVO - Big Bend Regional Aerosol and Visibility Observational
CAMS – Continuous Air Monitoring Station
CFR - Code of Federal Regulations
EIS - Environmental Impact Statement
EPA - United States Environmental Protection Agency
EPCCHED – El Paso City-County Health and Environmental District
FEM – Federal Equivalent Method
FRM – Federal Reference Method
FSA - Food Security Act
GOES - Geostationary Operational Environmental Satellites
I-10 - Interstate Highway 10
IMPROVE - Interagency Monitoring of Protected Visual Environments
INRMP - Integrated National Resource Management Plan
JAC – Joint Advisory Committee
MOA - Memorandum of Agreement
MOU – Memorandum of Understanding
MPO - Metropolitan Planning Organization
NAAQS - National Ambient Air Quality Standard
NASA - National Aeronautics and Space Administration
NEAP - Natural Events Action Plan
NEP - Natural Events Policy
NEPA - National Environmental Policy Act
NOAA - National Oceanographic and Atmospheric Administration
NPS – National Park Service
NRCS - Natural Resources Conservation Service
PM_{10} - Particulate Matter of the size 10 microns or less
$PM_{2.5}$ - Particulate Matter of the size 2.5microns or less
PM_{coarse} - Particulate Matter of the size less than 10 microns and greater than 2.5 microns
PSI - Pollution Standard Index
SCS - Soil Conservation Service
Spec – measurement of many species of $PM_{2.5}$
SWCD - Soil and Water Conservation Districts
TACB - Texas Air Control Board
TCEQ - Texas Commission on Environmental Quality (former TNRCC and TACB)
TEOM – Tapered Element Observational Method – a continuous PM monitor
TNRCC - Texas Natural Resource Conservation Commission
USDA - United States Department of Agriculture
UTEP – University of Texas at El Paso
UV - Ultraviolet
WSMR - White Sands Missile Range

EXECUTIVE SUMMARY

In 1990 the EPA designated El Paso as being a moderate nonattainment area for the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM), pursuant to the Federal Clean Air Act § 107 (40 USC § 7407). In 1991 the El Paso PM_{10} SIP was adopted and included measures to reduce PM emissions from anthropogenic (resulting from human activity) sources. Recent modeling studies show that El Paso would meet the particulate matter NAAQS if not for its proximity to Cuidad Juarez, Chihuahua, Mexico, and natural events, specifically dust storms. The area continues to experience exceedances of the 24-hour NAAQS concentration limit for particulate matter, 10 microns or less (PM_{10}) recorded by monitors operated by the Texas Commission on Environmental Quality (TCEQ). The TCEQ's analysis of wind data and other information regarding conditions during the exceedances indicates that the major causes were high winds and international transport, which lift and carry dust from exposed dry soil. In response to uncontrollable exceedances of the PM_{10} NAAQS caused by natural events, the TCEQ, in conjunction with the City of El Paso, the Joint Advisory Committee, and community stakeholders, has developed this Natural Events Action Plan (NEAP) for El Paso County. A future plan may be submitted to address exceptional events the area experiences due to its proximity to Mexico.

The Environmental Protection Agency (EPA) issued a Natural Events Policy (NEP) on May 30, 1996, recognizing the effect that certain uncontrollable natural events, such as high winds, wildfires, and volcanic/seismic activity can have on attainment of the NAAQS for PM_{10}. The NEP set forward procedures for states to develop NEAPs for areas that wish to protect public health when the PM_{10} standard may be violated due to these uncontrollable natural events. The guiding principles of the NEP are:

1. Federal, State, and local air quality and government agencies must protect public health;
2. The public must be informed whenever air quality is unhealthy;
3. All valid ambient air quality data should be submitted to the EPA Air Quality System (AQS) and made available for public access;
4. Reasonable measures safeguarding public health must be taken regardless of the source of the PM_{10} emissions; and
5. Emission controls should be applied to sources that contribute to exceedances of the PM_{10} NAAQS when those controls will result in fewer violations of the standards.

Also, in the Question and Answer document provided by the EPA in a response letter to the Western States Air Resources Council, EPA stated it will use the PM_{10} NEP in a consistent manner for $PM_{2.5}$ natural events. Based on EPA guidance, the El Paso NEAP pertains to both PM_{10} and $PM_{2.5}$.

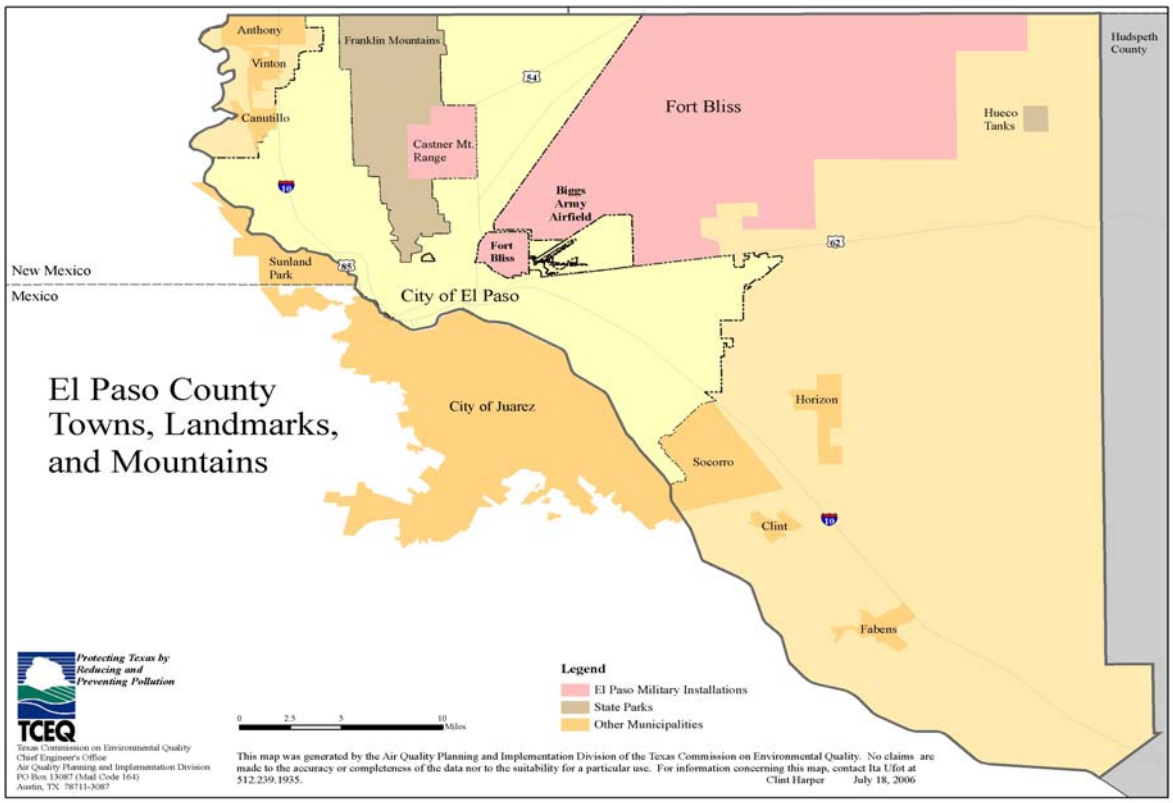
The El Paso NEAP is a plan for managing the exceedences of the PM standards that can be attributed to uncontrollable natural events such as unusually high winds. The NEAP includes the following elements: documentation and analysis of the PM monitoring data, description of local public outreach programs, and steps to limit public exposure to PM emissions during natural events episodes. In addition, the plan will help protect public health, educate the public about high wind events, mitigate health impacts on the community during uncontrollable natural events, and identify and implement appropriate Best Available Control Measures (BACM) for man-made sources of windblown dust.

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

El Paso is located in the far western part of the State of Texas along the border with Mexico. The El Paso international metropolitan area includes El Paso's sister city across the border, Ciudad Juarez, Chihuahua, and the City of Sunland Park, which lies in the southeast corner of Dona Ana County, New Mexico. The Greater El Paso Chamber of Commerce 2006 information identified El Paso as the fourth most populous city in Texas with a population of about 700,000. The combined population of the international metropolitan area exceeds two million people, which makes this region a large dynamic international community. Unique to the El Paso region is its geographically isolated location, since no other large metropolitan areas are located within 250 miles in any direction within the USA boundary. There is a rich history of strong interdependence between these communities, which is a major driver of today's environmental, economic, political, and cultural characteristics of the region.

Figure 1-1: Map of El Paso County



El Paso is the only area in the State of Texas to have been designated as nonattainment for three pollutants: ozone, carbon monoxide (CO), and particulate matter (PM_{10}). The El Paso area implemented a number of actions that led to emission reductions that have helped improve the air quality in the region.

The area has been designated as attainment for the eight-hour ozone standard. A CO redesignation request and maintenance plan was submitted to EPA in early 2006. The NEAP will provide for better PM_{10} and $PM_{2.5}$ planning and allow the state and local governments to focus on mitigating PM emissions for those sources that are controllable, while acknowledging when natural events cause exceedances.

The current federal standards for PM_{10} and $PM_{2.5}$ are listed in Table 1-1, *National Ambient Air Quality Standards for Particulate Matter (PM)*.

Table 1-1: National Ambient Air Quality Standards for Particulate Matter (PM)

Pollutant	Current Standards (in micrograms per cubic meter)	
	Annual	24-Hour
$PM_{2.5}$	15.0 μg/m^3	65 μg/m^3
		35 μg/m^3 as of 12/18/2006
PM_{10}	50 μg/m^3 Revoked 12/18/2006	150 μg/m^3

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1.2 EPA NATURAL EVENTS POLICY

On May 30, 1996, EPA issued the Natural Events Policy (NEP) in a memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation. This memorandum announced EPA's new policy for protecting public health when the PM_{10} NAAQS is violated due to natural events. See Appendix A, *The EPA Natural Events Policy, May 30, 1996*. The usual consequence when pollutant levels in an area violate one of the NAAQS is that EPA designates the area as nonattainment for that pollutant. The state must then develop a State Implementation Plan (SIP) outlining measures to reduce emissions of the pollutant and bring the ambient levels of the pollutant within the standard. Such plans typically include pollution control measures for new and existing sources of the pollutant.

Federal law and policies, including Sections 188(f) (42 U.S.C. § 7513) and 319(b)(4) of the Clean Air Act (42 U.S.C. § 7619), recognize that designating an area nonattainment and requiring stringent controls on local sources are not appropriate responses where natural events contribute significantly to exceedances of the standard. EPA's NEP memorandum of May 30, 1996, sets forth the requirements for a more appropriate approach for natural events. Under this policy three categories of natural events were identified as affecting the PM_{10} NAAQS:

1. volcanic and seismic activity;
2. wildland fires; and
3. high wind events (dust storms).

The NEP defines high winds natural events as follows:

> High Winds: Ambient PM_{10} concentrations due to dust raised by unusually high winds will be treated as uncontrollable natural events under the following conditions: (1) the dust originated from nonanthropogenic sources, or (2) the dust originated from anthropogenic sources controlled with best available control measures (BACM).[1]

1.3 EPA NEAP DEVELOPMENT GUIDANCE

The following summarizes EPA's guidance for development of a NEAP, as provided in the NEP:

Analysis and documentation of the event should show a clear causal relationship between the measured exceedance and the natural event. The type and amount of documentation provided should be sufficient to demonstrate that the natural event occurred, and that it impacted a particular monitoring site in such a way to affect the PM_{10} concentration reading and data measured. Documentation of natural events and the measured impact on air quality should be made available to the public for review.

The EPA policy states that NEAPs should include commitments to:

1. Establish public notification and education programs. Such programs may be designed to educate the public about the short-term and long-term harmful effects that high concentrations of PM_{10} could have on their health and inform them that: (a) certain types of natural events affect the air quality of the area periodically, (b) a natural event is imminent, and (c) specific actions are being taken to minimize the health impacts of events.

2. Minimize public exposure to high concentrations of PM_{10} due to future natural events. Programs to minimize public exposure should: (a) identify the people most at risk, (b) notify the at-risk population that a natural event is imminent or currently taking place, (c) suggest actions to be taken by the public to minimize their exposure to high concentrations of PM_{10}, and (d) suggest precautions to take if exposure cannot be avoided.

3. Abate or minimize appropriate contributing controllable sources of PM_{10}. Programs to minimize PM_{10} emissions may address sources of dust from high winds by application of Best Available Control Measures (BACM) to any sources of soil that have been disturbed by anthropogenic activities. The BACM application criteria require analysis of the technological and economic feasibility of individual control measures on a case-by-case basis. The NEAP should include analyses of BACM for contributing sources. The BACM for windblown dust include, but are not limited to, application of chemical dust suppressants to unpaved roads, parking lots and open areas, dust suppression at construction sites; use of conservation farming practices on agricultural lands; tree rows and other physical wind breaks; restricting or prohibiting recreational off-road vehicle activities; and use of surface coverings. If BACM are not defined for the anthropogenic sources in question, then step 4 below is required.

4. Identify, study, and implement practical mitigating measures as necessary. The NEAP may include commitments to conduct pilot tests of new emission reduction techniques. For example, it may be desirable to test the feasibility and effectiveness of new strategies for minimizing sources of windblown

[1] Mary D. Nichols, United States Environmental Protection Agency, Areas Affected by PM-10 Natural Events, Memorandum, at 8 (May 30, 1996).

dust through pilot programs. The plan must include a timely schedule for conducting such studies and implementing measures that are technologically and economically feasible.
5. Periodically reevaluate: (a) the conditions causing violations of a PM_{10} NAAQS in the area, (b) the status of implementation of the NEAP, and (c) the adequacy of the actions being implemented. The State should reevaluate the NEAP for an area every five years at a minimum and make appropriate changes to the plan.

6. Develop the NEAP in conjunction with the stakeholders affected by the plan. The NEAP should be made available for public review and comment and may be (but is not required to be) adopted as a revision to the State Implementation Plan (SIP) if current SIP rules are not revised. Finally, the NEAP should be submitted to the EPA for review and comment.[2]

[2] Nichols Memorandum

CHAPTER 2: NEAP ELEMENTS

2.1 DOCUMENTATION AND ANALYSIS

2.1.1 Monitoring Network

The TCEQ operates a network of monitoring stations to measure the concentration of criteria pollutants, one of which is particulate matter. The TCEQ maintains a network of ambient PM monitoring instruments throughout El Paso County. Figure 2-1: *Map of PM_{10} Monitors in El Paso,* and Figure 2-2: *Map of $PM_{2.5}$ Monitors in El Paso,* show the locations of the monitors in the area. This network, described in Table 2-1: *PM Monitors in El Paso*, uses a mix of non-continuous federal reference method (FRM), continuous federal equivalent method (FEM), non-continuous FRM speciated monitors, non-FRM/FEM continuous monitors, and continuous special purpose $PM_{2.5}$ monitors (non-reference, none equivalent method) to provide important air quality information to the El Paso air quality community.

The non-continuous FRM and FEM monitors used by the TCEQ for PM_{10} and $PM_{2.5}$ are electrically powered air samplers that draw ambient air at a constant volumetric flow rate into a specially shaped inlet and through an inertial particle size separator (or impactor). The suspended particulate in the appropriate size range (PM_{10} or $PM_{2.5}$) is separated for collection on a filter over a specified sampling period – twenty four hours. After temperature and moisture conditioning, these filters are weighed (before and after sampling). Based on the observed weight of particulate matter collected and the known volume of air, a particulate matter concentration can be determined. The TCEQ made a decision to change the inlet for the FRM monitors resulting in conversion of FRM to FEM monitors.

To monitor PM concentrations on a continuous basis, the TCEQ uses a technology known as Tapered Element Oscillating Microbalance (TEOM) Monitors. TEOM monitors measure particulate matter concentrations on a “continuous” basis and data is usually reported on an hourly basis. These monitors work by drawing samples from ambient air through a port that is heated to rid the air of humidity. The sample is then directed into a filter cell that leads to a tube with a tapered end. The tube naturally oscillates, but as particles accumulate on the tube, the frequency of its oscillations diminishes. By measuring the change in frequency, the quantity of particles can be estimated. Combined with a known volume of air, the particle quantity can be used to generate an estimate of the particulate concentration. This method of measurement is designated as FEM for PM_{10} but not $PM_{2.5}$.

The final element of the PM monitoring network, FRM speciated monitors, sample in a manner very similar to the twenty-four hour non-continuous FRM monitors. The primary difference for these samples is that they are subjected to further chemical analysis to determine the primary chemical components of the particulate matter being sampled. With this information, air quality planners can develop much more effective control strategies.

Monitoring sites are selected according to a variety of factors. Many are set up in population centers where many people could be exposed should high levels of pollution occur. Others are in areas where pollutant levels are likely to be high. Monitoring data is tracked, quality assured and exceedances analyzed. The monitoring data is then compiled and submitted to EPA.

Table 2-1: PM Monitors in El Paso

AQS #	CAMS ID	Name, Location	Latitude	Longitude	Pollutants Monitored & Monitoring System
481410002	C413	EPCCHED Tillman 222 S. Campbell St.	31.75	-106.48	PM_{10} (FEM)
481410029	C414	EPCCHED Ivanhoe 10834 Ivanhoe	31.78	-106.32	PM_{10} (FEM)
481410033		EPCCHED Kern 301 East Robinson	31.78	-106.50	PM_{10} (FEM)
481410037	C12	El Paso UTEP	31.77	-106.50	PM_{10}(TEOM) $PM_{2.5}$(FEM) (TEOM) & (Spec)
481410038		EPCCHED Riverside 301 Midway Dr.	31.73	-106.37	PM_{10} (FEM)
481410044	C41	El Paso Chamizal 800 S.San Marcial	31.77	-106.46	PM_{10} (TEOM) $PM_{2.5}$ (FEM) & (TEOM)
481410053	C40	El Paso Sun Metro 700 San Francisco Ave	31.76	-106.50	$PM_{2.5}$ (TEOM) & (Spec)
481410055	C37	Ascarate Park SE 650 R E Thomason Loop	31.75	-106.40	($PM_{2.5}$ FEM)
481410057	C49	Socorro 201 South Nevarez Rd.	31.66	-106.30	PM_{10} (FEM) & (TEOM)
481410058	C72	EPCCHED Skyline Park 5050 A. Yvette	31.89	-106.43	PM_{10} (FEM) ($PM_{2.5}$ FEM)
481410059		Clendenin School 2701 Harrison	31.81	-106.46	PM_{10} (FEM)
PM_{10} = FRM non-continuous monitor					
$PM_{2.5}$ (FEM) = equivalent method to FRM non-continuous monitor					
PM_{10} (TEOM) = FEM continuous monitor					
$PM_{2.5}$ (TEOM) = continuous monitor, not an approved reference method					
$PM_{2.5}$ (Spec) = FEM speciation non-continuous monitor AQS = Air Quality System CAMS = Continuous Air Monitoring Station EPCCHED = El Paso City-County Health and Environmental District					

Figure 2-1: Map of PM_{10} Monitors in El Paso

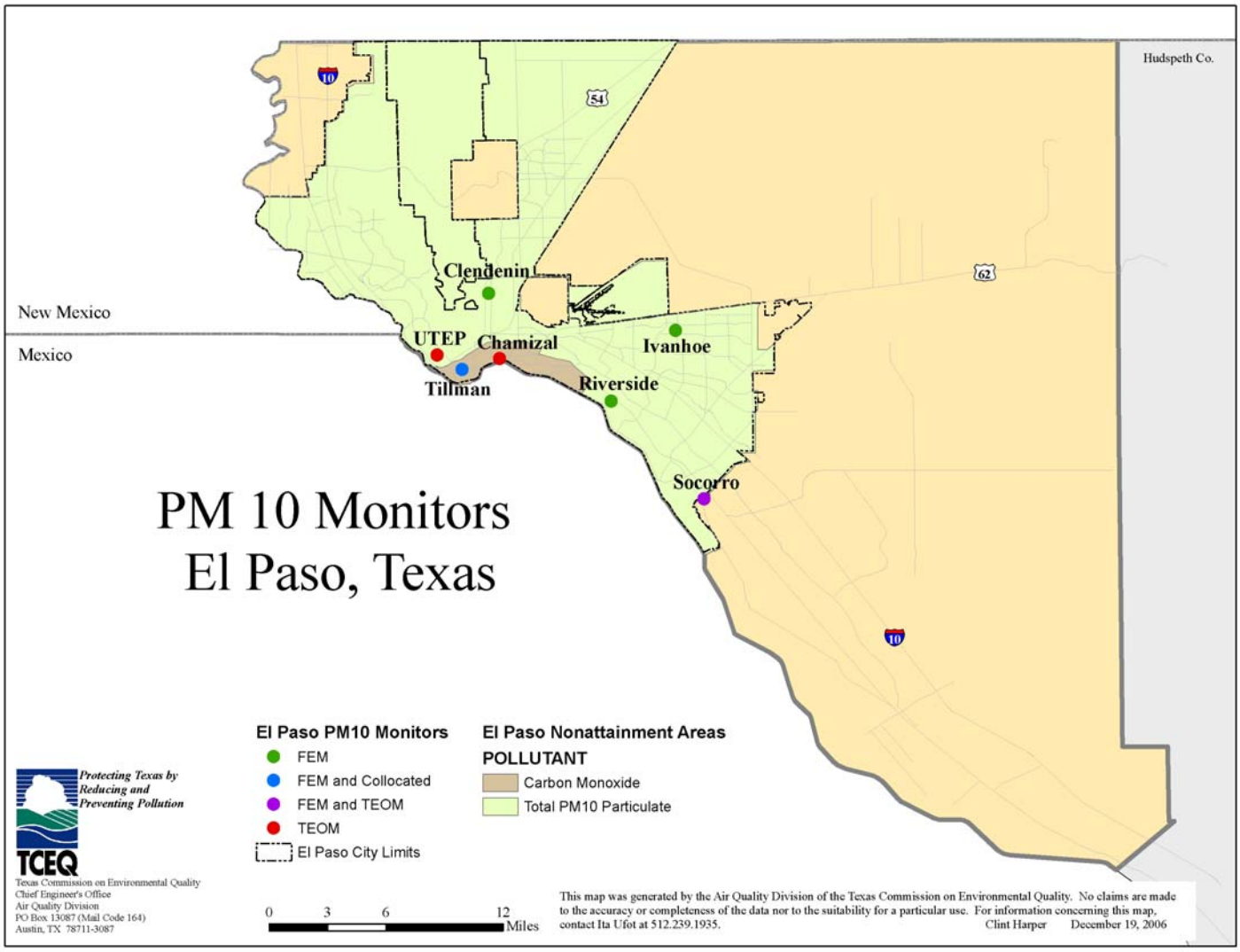


Figure 2-2: Map of $PM_{2.5}$ Monitors in El Paso

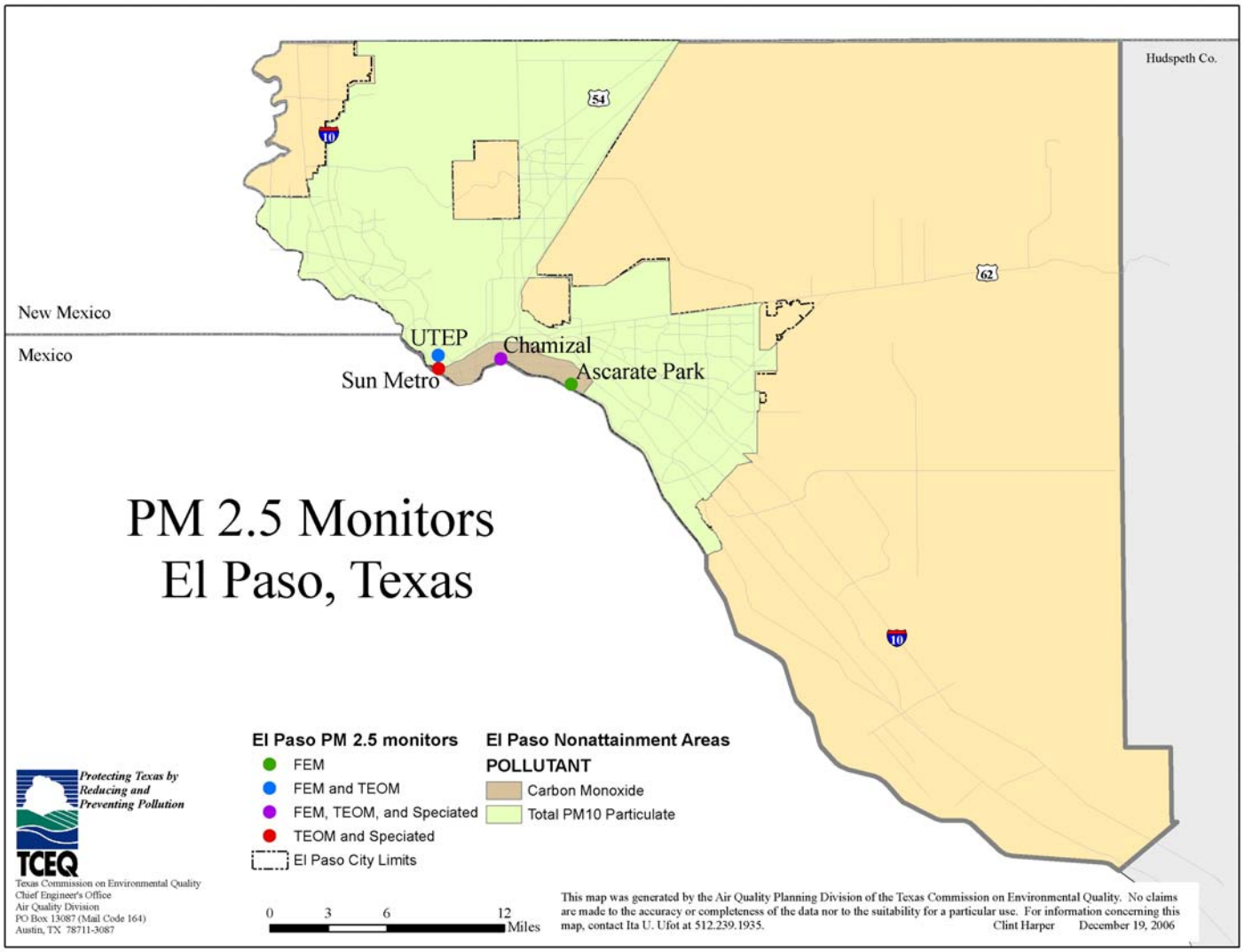
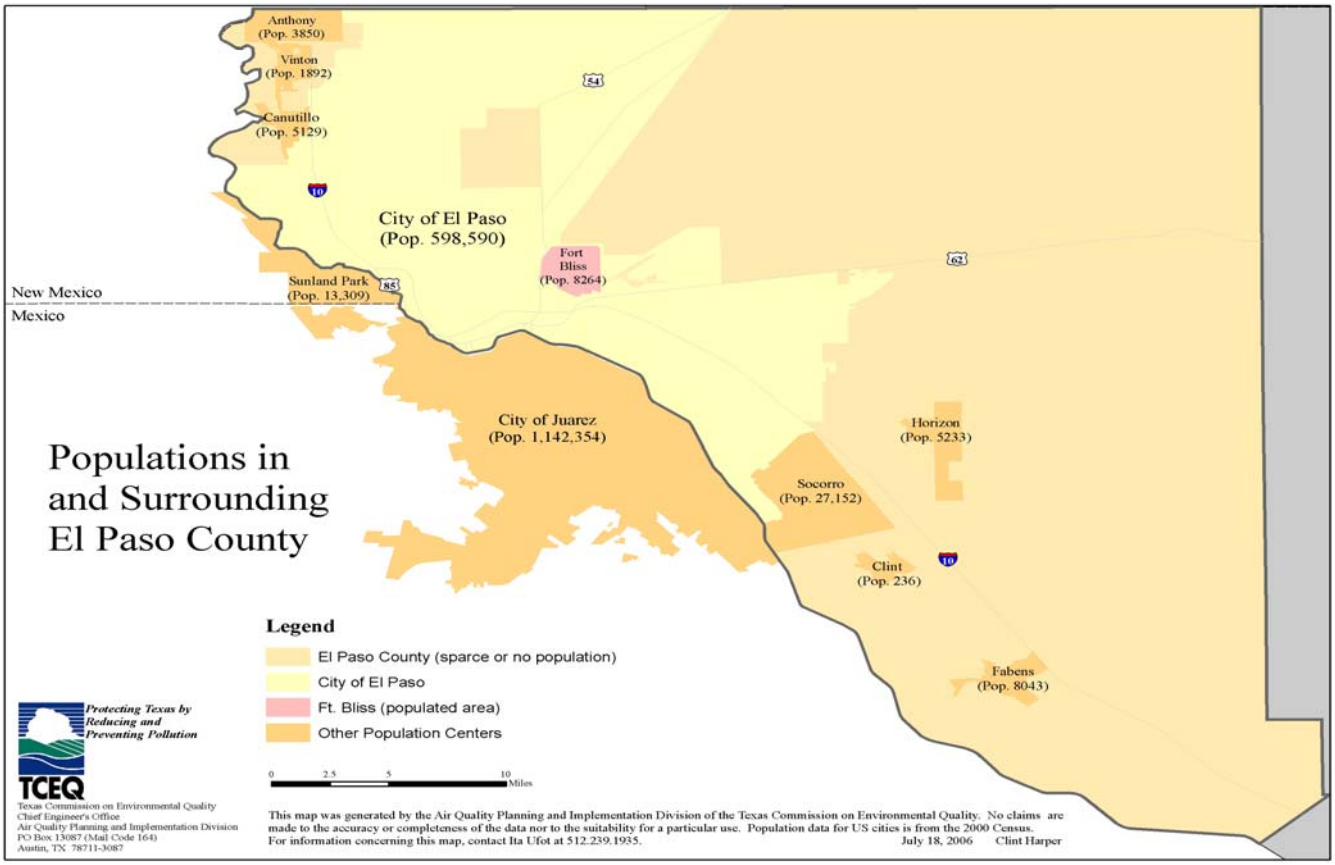


Figure 2-3: Map of Populations in and Surrounding El Paso County



The TCEQ is responsible for identifying exceedances of the NAAQS caused by high winds. Presently, the TCEQ posts air pollution analysis (based on continuous data) on the TCEQ website at http://www.tceq.state.tx.us/compliance/monitoring/air/monops/sigevents05.html. On a daily basis the Monitoring Operations Division of TCEQ reviews cases where the PM_{10} concentration reaches 80% of the NAAQS or higher. The TCEQ currently documents events within a few days of occurrence, although the analyses may be delayed by up to two months in the summer when resources are necessary to analyze high ozone activity within the state. The TCEQ is committed to continue the current practice of using the air pollution events web pages to post summaries of air quality and meteorological data, satellite imagery, occasional radar imagery, and airport visibility observations, as well as webcam imagery when available, to document natural events. The TCEQ's target report time frame for the El Paso NEAP is 90 days after the event for continuous data events and 90 days after the end of the quarter for non-continuous data events. The TCEQ will first mark exceedances due to high winds with a special notation (called a "flag") in the EPA's national database of ambient air monitoring data. The TCEQ will then clearly document its analysis of weather data and other information that shows that the exceedances would not have occurred if not for the high wind events. The State's documentation of these high wind events and their impact on air quality must be made available to the public. The public will have an opportunity to review and comment on the documentation. The EPA has used these web pages in the past to evaluate TCEQ's flagging of data. The postings give the public the opportunity to review and send comments to TCEQ Monitoring Operations, MC 165, P. O. Box 13087, Austin Texas 78711-3087.

Examples of TCEQ's documentation of high wind events may be found on the TCEQ website at http://www.tceq.state.tx.us/compliance/monitoring/air/monops/sigevents03.html

2.1.2 Natural Events: Dust Storm Determination

West Texas, including El Paso, is part of the Chihuahuan Desert, Figure 2-4: *Map of Chihuahuan Desert*, which extends into Arizona, New Mexico and the Mexican state of Chihuahua. This area has very limited rainfall (less than 250 millimeters per year) and scarce vegetation. Many portions of this desert contain dried up lakebeds and playas, which contain loose fine soils. These soils can easily be picked up into the air by moderate to high wind gusts (30 mph or greater). For purposes of this document, West Texas is defined as that portion of Texas west of the 103rd degree meridian. West Texas is one area in the continental United States with a high probability of dust storms.[3]

This document defines wind-entrained soil caused by high wind as "dust storms" if the spatial scale is 4 km or greater and is based on various meteorological activities over different spatial scales. The exact occurrences and intensity of the dust storms are highly dependent on the weather, moisture content of the soils, and other physical properties of the soil particles. These dust storms cause many of the largest PM events and dense hazes that have been measured in Texas. The dust storms occur a number of times each year. Because similar meteorological trends are expected to continue, it is likely that similar dust storms will continue to occur in future years.

The urban scale (4 km to 40 km) dust storms in the El Paso area occur in a bowl formed by the surrounding mountains. The Franklin Mountains are on the northwest side, the Juarez Mountains are on the southwest and south portions, and the Heuco Mountains form the eastern side of this bowl. Much of this bowl area is uninhabited and arid. Only small portions of the Texas portion of this bowl experience soil disturbance.

2.1.3 Data Collection

The determination of a dust storm occurrence depends upon the analysis of many different items. These include:

1. Air Quality Data Collected by Texas

   As discussed in Section 2.1.1 the TCEQ and local air pollution control agencies operate a network of monitoring stations to measure concentrations of criteria pollutants, one of which is particulate matter. These monitoring instruments are operated under EPA operating protocols. The continuous $PM_{2.5}$ and PM_{10} instruments report raw results about one hour after they are taken. The monitors collect samples that are physically collected and sent to a laboratory for analysis. The laboratory analysis measurements are reported to the TCEQ within 90 days.

2. Air Quality Data Collected by the Federal Government

   A joint federal project called the Interagency Monitoring of Protected Visual Environments (IMPROVE) takes haze-related measurements in national parks and national forests. The joint partners include EPA, National Park Service, Forest Service, Fish and Wildlife Service, and the Bureau of Land Management. The monitors measure optical properties and speciated $PM_{2.5}$ and PM_{10} every third day. Because of the complex quality assurance methodology used, it takes about one year

[3] R. Washington *et. al*., *Dust-Storm Source Areas Determined by the Total Ozone Monitoring Spectrometer and Surface Observations*, 93 Annals Ass'n Am Geographers 297-313 (2003).

from the date the sample is collected until the validated measurements are reported on an IMPROVE public website.

3. Data Collected by the National Weather Service

The National Weather Service operates a network of stations measuring meteorology and visibility at most airports in the United States. These include ground based measurements and long range radar. This data is usually reported within one hour of the measurement.

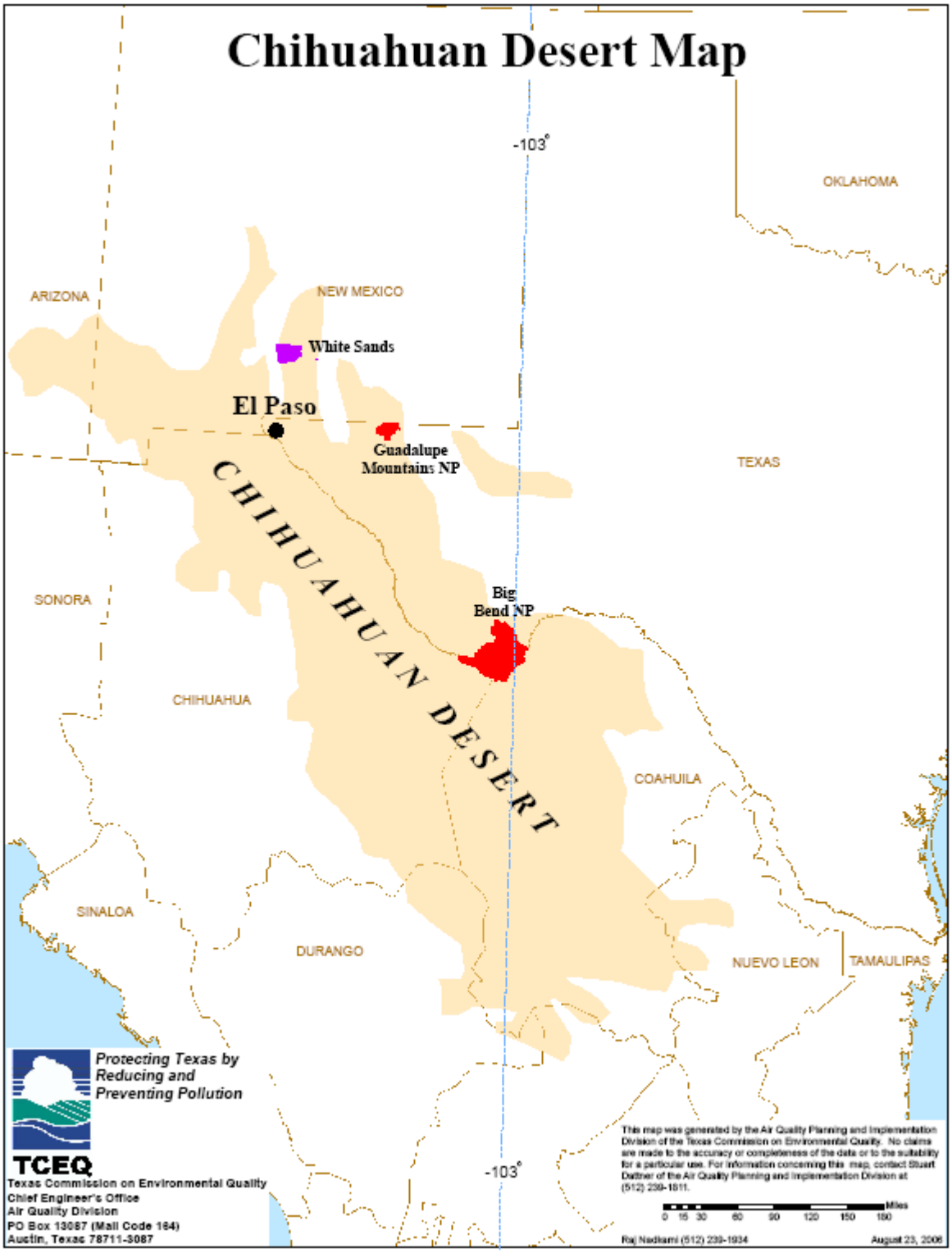
4. Satellite Data

The National Weather Service, the National Oceanographic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA) operate a variety of satellites that measure many meteorological and related parameters. The TCEQ subscribes to data services that provide these satellite measurements. This data is usually available within twenty-four hours of the actual measurements. The satellite Geostationary Operational Environmental Satellites (GOES) takes an image of West Texas every seven or eight minutes.

5. Digital Images

TCEQ and the National Park Service (NPS) operate digital cameras that take images of landscapes to document visual air pollution. These images are sent to a central repository within one hour of being taken. The TCEQ operates several cameras in the El Paso area, which take images every 15 minutes. The NPS operates one camera at Big Bend National Park.

Figure 2-4: Map of the Chihuahuan Desert



2.1.4 Identifying Natural Events: Dust Storm Criteria

Dust Storms for PM_{10} and/or $PM_{2.5}$ are defined as an event meeting three or more of the following criteria:

1. The event can be identified by the meteorological evaluation (high wind speeds at the source of the dust, dry conditions in the source areas prior to the dust storm, radar images, back trajectory analysis, etc.);
2. Continuous PM (and visibility) instruments show a rapid rise in concentrations associated with a weather change (convective modification of the boundary layer, thunderstorm outflows, passage of cold fronts, etc.). The thresholds for one hour are: $PM_{2.5}$ >40 μg/m^3; PM_{10} > 200 μg/m^3; [4]b_{scat} >100 m^{-6}, visual range<10 km (6 statute miles);
3. The 24-hour average PM light extinction exceeds 40 inverse mega meters (16 dv) and crustal material (fine soil and coarse PM) make up at least 50% of the 24-hour particulate light extinction estimated from ambient measurements using the IMPROVE data and the Reconstruction (IMPROVE) Equation;
4. The 24-hour average $PM_{2.5}$ mass is greater than 25 μg/m^3 and more than 50% of its mass is crustal based on the chemical speciation data;
5. The 24-hour average PM coarse mass is greater than 70 μg/m^3 or PM_{10} is greater than 150 μg/m^3 and more than 50% of its mass is crustal;
6. The PM sampling instrument fails due to filter clogging but other data strongly suggest that a dust storm has occurred;
7. Satellite information indicates dust cloud events;
8. Photographic information shows a large scale uniformity of the haze associated with the change in the weather event; or
9. Airport or other observers report "dust storms," "blown dust," "haze", or visibility reduced below 10 km at sites greater than 4 km from the monitoring site under consideration.

A typical dust storm occurred in El Paso and West Texas on April 4, 2005. Detailed analysis of the April 4, 2005, dust storm data is available on the TCEQ website at http://www.tceq.state.tx.us/compliance/monitoring/air/monops/sigevents05.html.
and in Appendix B: *April 4, 2005 Dust Storm*. This information shows that the April 4, 2005, dust storm meets five out of ten of the criteria for a dust storm, including

1 - meteorological evaluation
2 - rapid rise in concentration
7 - satellite information
8 - photographic information
9 - airport observer report

This dust storm event was a natural event for both PM_{10} and $PM_{2.5}$.

2.1.4.1 Distinguishing between Dust Storms and Anthropogenic Events in the El Paso Area

Anthropogenic (caused by human activity) pollutants are transported across the international border to El Paso and can be the result of local transport or long-range transport. Anthropogenic PM events are not identified as part of the NEAP, but they are discussed to illustrate the difference between dust storm events and anthropogenic events.

[4] b_{scat} is a unit of measure for Haze

2.1.4.2 Typical Dust Storm Event in the El Paso Area

Dust storms arising anywhere in the Chihuahuan Desert follow the same natural process whether the dust originates in Arizona, New Mexico, Texas, or Mexico. The natural dust storm events originating from the Chihuahuan Desert or other portions of Northern Mexico are easily documented. The Saharan dust storms are more difficult to analyze once they travel more than a thousand kilometers over land to reach West Texas. The satellite images of dust traveling over land are not as apparent as those Saharan dust storms over the Gulf of Mexico or the Atlantic Ocean. The Chihuahuan Desert dust storms contain many varieties of soil minerals that are similar to those found in Saharan dust. Back trajectory analysis combined with satellite images can differentiate the transport of Saharan dust from the Chihuahuan dust in West Texas. The problem of reliably identifying the impacts of Asian dust storms presents more difficulties than those described for the Saharan dust since they travel greater distances over land to reach West Texas. The particulate matter from the Asian dust storms is usually in low enough concentrations by the time the dust reaches West Texas that it does not cause natural events.

2.1.4.3 Typical Anthropogenic Events in the El Paso Area

El Paso and the Mexican city of Cuidad Juarez are both located in a bowl-shaped valley along with the New Mexican city of Sunland Park. Smoke and dust are frequently transported into El Paso from northeastern Cuidad Juarez by evening down slope winds. This normally occurs on cold weather evenings when heating fires and the combustion of refuse are common in Cuidad Juarez. Cuidad Juarez has minimal controls on the burning of wood, tires, scrap plastics, and construction debris.

In addition, the automobiles in Cuidad Juarez are on average much older than those in El Paso and have greater emissions per vehicle. El Paso and Sunland Park have strict controls on pollution sources from various combustion types that are considered Reasonably Available Control Measures (RACM). Analysis of air quality data show that PM_{10} mass concentrations in Cuidad Juarez are usually greater than those measured in El Paso on the same day. There are no reported $PM_{2.5}$ samplers operating in Cuidad Juarez so more direct comparisons between these cities are not possible at this time.

Local international transport occurs on a small spatial scale. Satellite images do not show them because these transport events occur at dusk or later, so the cameras documenting haze in El Paso fail to produce demonstrative images at the beginning of these events. These events often linger into the early hours of daylight the next day. The back trajectories from the Sun Metro site show that the polluted air masses usually come from the northwest area of the monitoring site. This source area is part of north-eastern Cuidad Juarez. Since the 24-hour $PM_{2.5}$ averages in El Paso include emissions from both cities, the "But For" test may be applied as appropriate. "But For" means that El Paso would meet the standards if not for other sources - in this case Ciudad Juarez. As EPA's proposed rule, 71 FR, 12599, March 10, 2006, is finalized, the transport of $PM_{2.5}$ from international sources will be considered as natural events and addressed in a future submittal.

Figure 2-5: *View of Anthropogenic Haze from Ranger Peak at 8:47a.m on February 13, 2006,* and Figure 2-6: *Anthropogenic Haze Viewed on February 13, 2006 from Chelsea Street Camera,* show an anthropogenic event on the morning of February 13, 2006. These images are shown for the purposes of differentiating between dust storm haze and anthropogenic haze. The anthropogenic haze is due to particulate matter emitted in the bowl with the surrounding mountains trapping it with down slope winds. A finite top of the haze layer lies below the ridgeline of the Juarez Mountains. The haze on this day may be from both PM_{10} and $PM_{2.5}$ sources. While PM^{10} sources may be primarily soil-based, $PM_{2.5}$ sources may be primarily combustion sources. The haze event of February 13, 2006, supports the determination that the haze was an urban scale event. The ridgeline in both pictures is visible above the haze. In both images the haze appears to be on the Mexican side of the Rio Grande River. The anthropogenic haze has

more definite boundaries and is a different color than the naturally occurring dust storm haze found in the April 4, 2005, example, See Appendix B: *April 4, 2005 Dust Storm*.

Figure 2-5: View of Anthropogenic Haze from Ranger Peak at 8:47 a.m. on February 13, 2006

The haze is layered with the top layer below the Juarez Mountains ridge line. An arrow points to the top of this layer. The camera faces the south-southeast. The color is whitish because the camera is facing nearly into the sun. The forward scattering by PM dominates light extinction making the haze appear white.

Figure 2-6: Anthropogenic Haze Viewed on February 13, 2006 from Chelsea Street Camera

This image was taken a few minutes after Figure 2-5: *View of Anthropogenic Haze from Ranger Peak at 8:47 a.m., on February 13, 2006*, by the Chelsea Street Camera in El Paso. This camera faces west-southwest with the sun nearly behind the camera at 9:02 a.m. The brown haze has its discrete top below the ridge line. The color is brown rather than white due to light absorption by the haze and less forward scattering of sunlight. El Paso is in the foreground and Ciudad Juarez is behind the tall buildings.

Figure 2-5: *View of Anthropogenic Haze from Ranger Peak at 8:47 a.m., on February 18, 2006*, and Figure 2-6: A*nthropogenic Haze Viewed on February 18, 2006 from Chelsea Street Camera*, show evidence of the boundary of a local transport anthropogenic event. The anthropogenic haze has more definite boundaries and is a different color than the naturally occurring dust storm haze. The brown haze is indicative of strong light absorption by elemental carbon particles. These particles are byproducts of incomplete combustion.

2.1.5 Days Meeting Dust Storm Criteria in 2005 and 2006

Table 2-2: *Dust Storm Criteria in El Paso and West Texas in 2005*, shows the dust storm days in 2005 and which criteria are met. Also shown are the PM_{10} and $PM_{2.5}$ 24-hour concentrations. Each of the days meets the appropriate criteria (see section 2.1.4) required to be documented as dust storm events. Four of the 2005 days have exceedances of the 24-hour standard for PM_{10} (boldface). None of the days exceeded the $PM_{2.5}$ 24-hour standard.

Table 2-2: Dust Storm Criteria in El Paso and West Texas in 2005

Date	Met data 1	Continuous PM (vis) 2	bsp crustal (soil) 3	Satellite 7	Camera Images 8	Dust report 9	$PM_{2.5}$ TEOM µg/m^3 24-hour average A	PM_{10} TEOM µg/m^3 24-hour average B
01/12/05	x			x		x	8	111
03/29/05	x	(x)	x	x	x	x	11	107
04/04/05	x	x		x	x	x	18	**157**
04/08/05	x	x		x	x		13	107
04/09/05	x	x			x		21	**174**
09/28/05	x	x		x			16	**170**
11/11/05	x	x		x	x		10	122
11/27/05	x	x		x	x	x	16	**275**

A - The NAAQS is 65 µg/m^3. Effective December 18, 2006, the NAAQS is 35 ug/m^3.

B - The NAAQS is 150 µg/m^3.

Criteria numbers 4, 5, or 6 were not met on any days.

Table 2-3: *Dust Storm Criteria in El Paso and West Texas in 2006,* shows the dust storm days in 2006 and which criteria are met. They also show the PM_{10} and $PM_{2.5}$ 24-hour concentrations. Each of the days meets at least three of the criteria (see section 2.1.4) required to be documented as a dust storm. The ten days listed for 2006 have exceeded the 24-hour standard for PM_{10}. None of the days exceeded the current $PM_{2.5}$ 24-hour standard. It should be noted that the 2006 data is still being validated.

Table 2-3: Dust Storm Criteria in El Paso and West Texas in 2006

Date	Met data 1	Continuous PM (vis) 2	Satellite 7	Camera Images 8	Dust report 9	$PM_{2.5}$ µg/m^3 24-hour average A	PM_{10} µg/m^3 24-hour average B
01/09/06	x	x	x	x	x	11	**173**
01/19/06	x	x	x	x	x	31	**280**
02/17/06	x	x	x	x	x	12	**276**
03/08/06	x	x	x	x	x	24	**335**
03/10/06	x	x	x	x		12	**173**
03/11/06	x	x	x	x		8	**157**
03/18/06	x	x	x	x		18	**173**
04/05/06	x	x	x	x	x	23	**370**
04/27/06	x	x	x	x	x	25	**310**
05/11/06	x	x	x	x	x	12	**207**

A - The NAAQS is 65 µg/m^3. Effective December 18, 2006, the NAAQS is 35 ug/m^3.

B - The NAAQS is 150 µg/m^3.

Criteria numbers 3, 4, 5, or 6 were not met on any days.

2.1.6 Natural Events: Wildfires

West Texas is part of the Chihuahua Desert, which extends into New Mexico and the Mexican state of Chihuahua. This area has limited rainfall and scarce vegetation. Wildfires are rare in West Texas, and wildfires that cause high concentrations of PM are much rarer. El Paso infrequently receives smoke from forest fires in New Mexico, Arizona, Utah, or Colorado. Agricultural and wildfire smoke coming from Central America seldom reaches El Paso and West Texas in exceptionally high concentrations. In the rare case when these emissions might result in significant pollutant concentrations, the TCEQ will warn the public of possible health risks using the same alert systems used for dust storms.

2.1.7 Natural Events: Volcanic and Seismic Activities

There are no active volcanoes in or near Texas. The nearest active volcanoes are Mount Saint Helens in Washington State and Mount Popocatepetl south of Mexico City. Mount Saint Helens has been relatively inactive for about 25 years. The eruption in 1981 may have increased PM concentrations in Texas by a small amount.

Mount Popocatepetl erupted during the Big Bend Regional Aerosol and Visibility Observational (BRAVO) study of 1999. Some air quality models show the possibility of some emissions reaching

Texas, but not in concentrations high enough to cause a natural event. If Mount Popocatepetl were to erupt in a much more violent manner than it did in 1999, considerations of alerting the public and determination of exceptional event conditions would depend on the magnitude of the emissions reaching Texas. At the current time, there are no seismic activities in or near Texas that can generate high concentrations of PM_{10} or $PM_{2.5}$. In the rare case that such seismic activity should occur and transport of these emissions result in significantly increased pollutant concentrations, the TCEQ will alert the public of possible health risks, using the same alert systems used for dust storms.

2.2 PUBLIC EDUCATION AND OUTREACH PROGRAM

The purpose of public education and outreach is to inform and educate the public on high wind events that occur in the area, the associated high particulate matter (PM) levels, and potential health effects. The local entities are collaborating to administer and implement the public education and outreach programs in El Paso, with the lead agency being the El Paso City-County Health & Environmental District (EPCCHED) . Elements of the program include:

- informing the public when the air quality in the area is potentially unhealthy;
- explaining what the public can expect when high wind events occur;
- teaching the public ways to minimize exposure to high concentrations of PM during high wind conditions;
- specifying actions required by the public to control dust emissions during future high wind conditions;
- documenting the impact of natural events on PM levels;
- making available to the public information about health effects of short-term and long-term exposure to high PM levels;
- notifying the public about the control of human-caused sources of windblown dust when feasible and effective;
- re-evaluating effectiveness of the program every 5 years;
- providing continued coordination with the El Paso City-County Health & Environmental District (EPCCHED) through the existing TCEQ Memorandum of Agreement with City of El Paso and Implementation of the PM_{10} SIP.

Commitments to perform NEAP Outreach Activities include:

1. The TCEQ will coordinate with the Texas Department of Transportation (TxDOT) to announce high PM advisories on roadway signs. Tx DOT will receive high-wind advisories from TCEQ or the National Weather Service. Tx DOT roadway announcements will indicate when a high PM event is observed or forecast.
2. The TCEQ will coordinate with EPCCHED regarding public service announcements. EPCCHED will issue a Media Advisory to television and radio stations. The media advisory will request that stations announce when a high PM event is in effect or a high wind event is in the weather forecast.
3. The TCEQ will modify the current MOA with EPCCHED to coordinate the implementation of the NEAP and provide public service announcements.
4. The EPCCHED is developing brochures regarding the health effects of PM to be distributed to local health clinics and private sector respiratory health care specialists.
5. The TCEQ and EPCCHED are coordinating with El Paso County School Districts to issue an advisory to schools when a high PM event is observed or forecast.
6. The EPCCHED will request that the school districts voluntarily notify every elementary, middle school, and high school nurse when a high PM event is in the forecast. EPCCHED

will also request that schools take adequate action to protect the health of students with medically diagnosed respiratory illness or those who may encounter difficulty breathing due to exposure to elevated PM levels. The notices from TCEQ and EPCCHED to school districts and from those school districts to appropriate school-based personnel will be conducted via e-mail. The school nurses will be advised to sign on to the EPA AirNOW air quality forecast program called the ENVIROFLASH e-mail notification system to receive additional notices. http://www.airnow.gov/index.cfm?action=airnow.enviroflash

2.3 MINIMIZING THE PUBLIC'S EXPOSURE

An aggressive public education campaign, including distribution of brochures for the public in English and Spanish is being implemented by EPCCHED. In addition, the programs identified in Section 2.2 will include the following information:

1. explain when episodes of unhealthful dust levels are likely to occur, especially during the windy season of late-winter and early-spring;
2. inform individuals that they should take precautionary measures when they see that a dust storm is in progress;
3. explain to individuals that precautionary measures may include staying indoors with windows closed, and avoiding outdoor exercise and activities during dust storms; and
4. inform individuals who wish to become better able to distinguish unhealthful levels of dust how to consult the previous day(s) Pollution Standard Index (PSI) values for PM, published on the TCEQ's web-site, and compare this with their perception of dustiness.

2.4 DETERMINATION AND IMPLEMENTATION OF BEST AVAILABLE CONTROL MEASURES (BACM)

Potential sources of windblown dust in the El Paso area include construction projects, disturbed vacant lands, unpaved roads, dirt playgrounds, dirt parking lots, agricultural lands and unpaved equipment lots. As part of the 1991 El Paso PM_{10} SIP revision, PM emissions were studied and analyzed and resulted in development of control measures. These control measures have been successfully implemented and include local programs and TCEQ rules. Additional control measures are not necessary.
Information is available at
http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/1991-11-ELP/nov91_elp.pdf .

Analysis of particulate matter emissions in the area indicate that other particulate matter sources contributing to natural events continue to be anthropogenic sources. The NEAP requires and reinforces use of BACM to reduce emissions from anthropogenic activities. BACM include methods that vary greatly in effectiveness and cost. These variations may be due to the size of the area requiring dust control, the ground slope of the area, the soil type involved, and the amount of human disturbance activity in an area. Here is a list of measures that have been successfully implemented in similar arid regions:

1. Revegetation and Organic Mulches

Restoring a natural or approved xeriscape vegetative cover can be an excellent method of reducing windblown dust. Native or approved xeriscaping vegetation greatly reduces the impact of wind on exposed soils by increasing organic content and strengthening soil structure, so that wind does not lift soil into the air. Native or approved xeriscaping vegetation also reduces the growth of noxious weeds and reduces the need to blade open areas or use herbicides to control weeds. Using native and approved xeriscaping vegetation increases the beauty of the land and provides a long-term method of decreasing windblown dust.

Common forbs used to revegetate areas include yarrow, penstemon, aster, and primrose. Common native grasses include wheatgrass, grama, muhly, and dropseed. However, care must be taken to avoid introducing or promoting the spread of noxious weeds and plants. Certified and live seed mixtures are required to prevent introduction of these exotic plants. The TCEQ recommends that those wishing to use this method of dust control contact State or University representatives who are knowledgeable about revegetation prior to performing these options.

Organic mulches added to the top layer of soil can be used to control dust because this method reduces windblown dust and help establish new vegetation. Mulch covers help soil to retain moisture. Soils can benefit from increased organic content resulting from the breakdown of organic mulch, which contributes to new vegetation establishment and therefore reduced windblown dust.

2. Erosion Control Mats and Geotextiles

Erosion control blankets or mats and geotextiles are types of erosion control products that are used to reduce wind and water erosion on slopes. They can be made of woven organic materials like straw or wood fibers, woven plastics, or a combination of both, and they help to shield scraped and bare ground from both wind and rain. These blankets and mats are effective when used properly and in some cases may be the only way to control soil erosion on steep slopes or erosion-prone soils. They are usually used under rock or wood mulches to prevent or reduce the amount of weeds that can grow. Erosion control mats are often used in conjunction with revegetation to hold seeds and plants in place while growth is established. They can provide long-term dust control especially for landscaped areas that are being established.

3. Dust Suppressants and Soil Stabilizers

Primarily used for domestic and agricultural purposes, water application to soils has long been used for the control of dust in arid regions. Water use and the cost of water has increased greatly over the last decade in the El Paso area. Often times, large amounts of water applied during short intervals or the use of surfactants are necessary for effective dust control. Water-soluble surfactants are often added to water to increase wetting power by breaking down the initial resistance of dry soils to water. Surfactants are relatively inexpensive and can greatly decrease the amount of water necessary for dust control operations. Chemical dust suppressants and soil stabilizers can be useful in reducing the tendency of fine-grained and loose soils to produce large amounts of windblown dust. They bind fine soil particles into larger particles that are less easily blown into the air; they retain moisture so that soils become more coherent and they can form crusts that mimic the wind resistance of natural soil crusts. Chemical dust suppressants are often added to water, which acts to disperse the chemicals, and evaporates after application. The chemicals left behind coat the particle surfaces and bind the soil particles together.

Soil stabilizers such as mulches increase the organic content of sandy, dry soils. They provide soil structure and the organic materials bind with clay and sand to reduce erosion; they also increase the ability of soils to retain moisture. Some types of mulch require tilling to integrate them into the upper layer of soil, if they are to be effective in dust control.

4. Smart Timing: A Cost-Effective Approach to Dust Control

In many cases, proper timing of land disturbance and/or the application of the control measure may make dust control affordable with little reduction in effectiveness. Based on 2005-2006 data from El Paso, over 70% of the days with unhealthful levels of windblown dust occurred from January through May and about 20% were from June through December. Planning a dust-causing activity so that the erosion susceptibility is within the January to May period would, on average, be 80% effective in controlling dust for activities that temporarily create a potential source of windblown dust. No direct costs (such as for

chemical dust suppressants, water, water trucks, labor, etc.) would be incurred. If indirect costs (relating to financing, lost business opportunities, and so forth) are not prohibitive, this timing can be a highly cost-effective method of dust control. An added benefit is that environmental impacts from water use or introduction of chemicals into the environment are minimized.

For areas that have the potential to be dust sources for many years or indefinitely, repeated application of short-term control measures might be more costly in the long run. Therefore, permanent controls such as paving or revegetation may be more cost effective, even though the permanent controls have a higher initial cost. Cost effectiveness and environmental impact will vary from case to case.

2.4.1 LOCAL PROGRAMS

Local stakeholders and governments are best equipped to manage natural events that occur locally. Local entities should maintain control of development and implementation of solutions, as appropriate.
Since the early 1990s, the City of El Paso, the largest metropolitan area within El Paso County has taken an active role in establishing and implementing programs to limit the amount of particulate matter from sites within the city limits. The City's program commitments in the 1991 SIP included addressing unpaved roads, parking lots and alleys, and re-entrained dust on paved roads. The City of El Paso adopted an ordinance that detailed its plans to address these sources, as well as curtailing operation of residential solid fuel devices during periods of stagnation. An ordinance remains in place today and a copy is included in Appendix D: *Local Programs.*

2.4.2 MEMORANDUM OF AGREEMENT AND STATE PROGRAMS

The Memorandum of Agreement (MOA), between the City of El Paso and the Texas Natural Resource Conservation Commission (predecessor agency to the TCEQ) outlines the understanding of each party's responsibilities as it pertains to certain streets and alleys within the city. The MOA was adopted in 2001. See Appendix C: *Memorandum of Agreement between City of El Paso and the TNRCC*. It states that both parties recognize the extent of unpaved public thoroughfares within the city. The city will use the designated funds for paving and seek additional funding through the Capital Improvement Program. The MOA includes measures to reduce emissions from various sources like unpaved alleys and traffic by city vehicles. The city will continue to enforce local ordinances, and participate in the public information program conducted by the EPCCHED. The city will also continue to notify the local TCEQ office of any violations. The MOA states that the TCEQ recognizes that PM reductions had been achieved as a result of the city's concerted efforts.

2.4.3 STATE PROGRAMS

In addition to the MOA, the TCEQ Rules in 30 TAC Chapter 111 Division 4, were expanded for the 1991 SIP and currently include requirements relating to:

1. Section 111.143 – in El Paso, materials handling, transporting, or storing to be carried out with precautions taken to achieve maximum dust control with complete covering at a minimum.
2. Section 111.145 – restrictions specific to El Paso to achieve control of dust emissions during construction and demolition of land, regardless of the size of land affected;
3. Section 111.147 – paving of roads, streets, and alleys using acceptable methods to achieve maximum dust control and periodic use of street sweepers to remove soil from public throughfares within the central business district of El Paso; and
4. Section 111.149 – in El Paso, permanent parking surfaces with more than 5 parking spaces shall be paved or uniformly covered with gravel. Temporary parking surfaces shall be watered or have a dust suppressant applied. Lots with more than 100 parking spaces shall be paved or covered in an equivalent method.

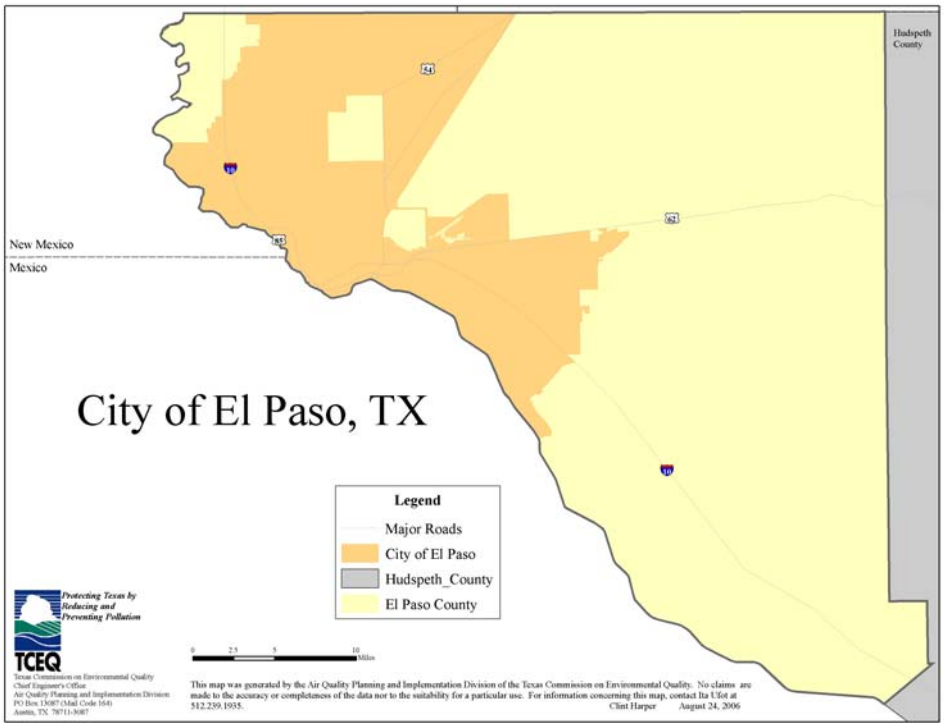
A copy of the regulatory text is available in Appendix E: *TAC Chapter 111 Subchapter A Division 4 Pages 17-19 Materials Handling, Construction, Roads, Streets, Alleys and Parking Lots.*

CHAPTER 3: STAKEHOLDERS

3.1 CITY OF EL PASO

The City has assumed a leadership role in establishing a stakeholder group to identify anthropogenic sources that may contribute to windblown dust within the city. Furthermore, the City worked with the Joint Action Committee (JAC) and the TCEQ to identify stakeholders that may be important to the Best Available Control Measures (BACM) implementation process portion of the NEAP. A list of JAC members is available in Appendix F: *Joint Advisory Committee Members and Resolution*.

Figure 3-1: Map of the City of El Paso



3.2 OTHER GOVERNMENT ORGANIZATIONS

The TCEQ, in its quest to help develop an effective and adequate NEAP for the El Paso area, has been working with the stakeholders (through the JAC) to take voluntary steps to reduce PM_{10} from property and facilities in the area. The TCEQ has sought voluntary support for the El Paso NEAP from the Metropolitan Planning Organization (MPO), the El Paso City-County Health & Environmental District (EPCCHED), Texas Department of Transportation, and others.

3.3 UNIVERSITY OF TEXAS AT EL PASO (UTEP)

UTEP owns portions of land throughout El Paso County and Hudspeth County, which is located east of El Paso County. UTEP's land holdings away from the main campus are either undisturbed or stabilized by cultivation. Soil conservation practices are followed at these sites, so the lands are not likely to generate large amounts of windblown dust. Furthermore, these remote locations are not likely to impact large populations with any dust that may be generated.

The main campus contains areas that are not yet developed and remain undisturbed. While there are some unstabilized areas, they are limited to sites of permitted construction. The construction sites are practicing soil conservation practices, including surface stabilization, as required for completion. People living on the main campus as well as adjoining areas are not impacted by significant wind-generated dust from sources on the UTEP property.

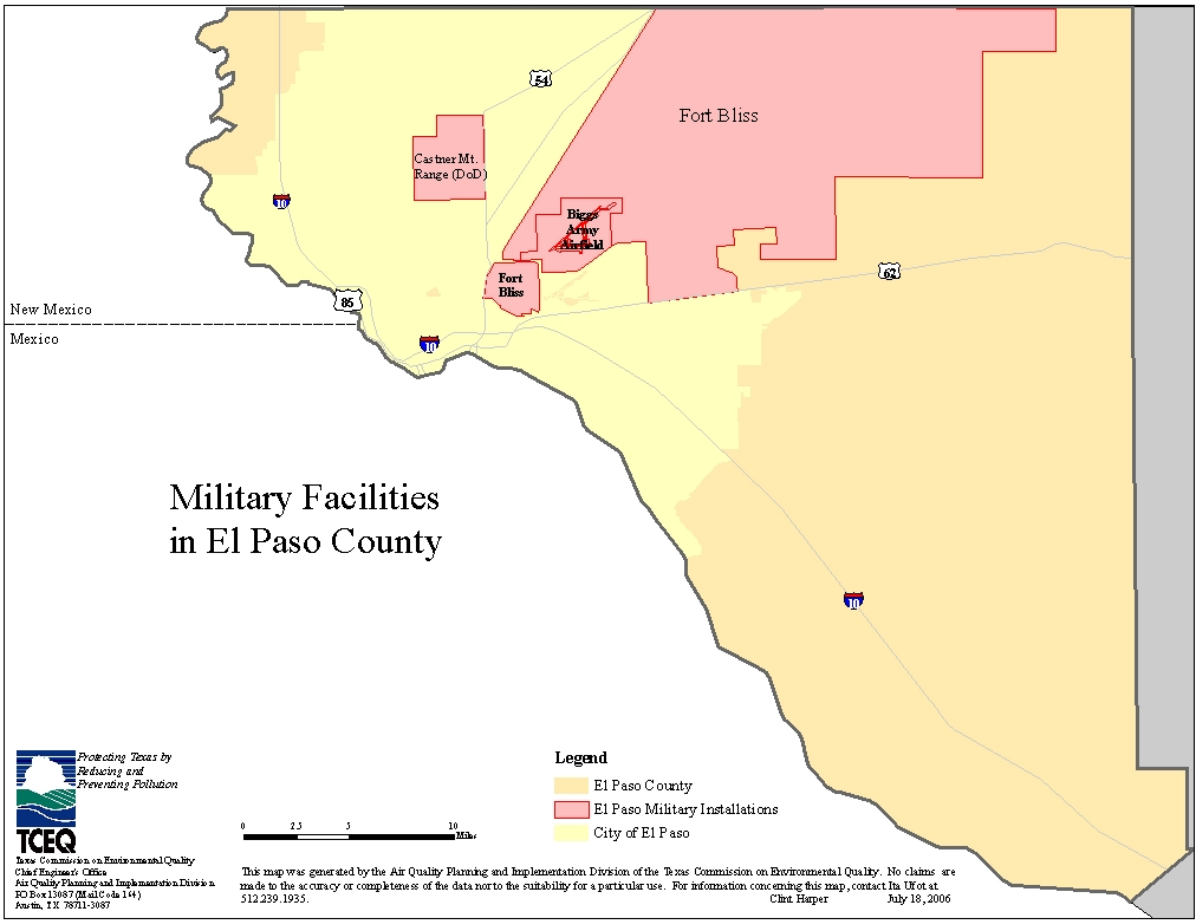
UTEP is committed to analyzing, developing, and implementing appropriate dust control measures, as well as minimizing disturbance of natural areas. To demonstrate that commitment, UTEP has eliminated its unpaved roads and parking lots.

3.4 FORT BLISS

Fort Bliss headquarters as shown in Figure 3-2: *Map of Military Facilities in El Paso County*, is located in El Paso County, Texas, on the east side of the Franklin Mountains. Most of the high wind events creating blowing dust and exceedances of the PM standard have a prevailing westerly or southwesterly wind direction. The land holdings controlled by Fort Bliss are not likely to be a significant source of windblown dust for most of the El Paso populated areas. However, the lands managed and used by Fort Bliss that are located within the city may be a source of dust.

The primary source of dust at Fort Bliss is unpaved roads, and the facility makes efforts to limit dust from these sources. Because Fort Bliss is a military training facility, public access is restricted. Currently the facility controls dust from dirt roads by limiting access and speed. Ground-disturbing activities are limited to training, mobilization, and maneuvers, with little other disturbance. The facility is not open to recreational off-road use, thereby limiting the potential for disturbed soils and fugitive dust.

Figure 3-2: Map of Military Facilities in El Paso County



CHAPTER 4: PUBLIC INVOLVEMENT AND REVIEW

4.1 STAKEHOLDER INVOLVEMENT

This section describes the public process used to develop this NEAP. Stakeholders are defined as "those that have responsibility for control of potentially significant, human-caused sources of windblown dust" and the general public as "interested parties."

- The EPA's NEP development guidance states the NEAP should be developed by the state in conjunction with the stakeholders affected by the plan. The TCEQ has met and communicated with identified stakeholders including members of the JAC, Fort Bliss, TxDOT, MPO, UTEP, EPCCHED, EPA Border Office and the City of El Paso. The ordinances and agreements reflect the control measures that each stakeholder offered in support of the El Paso NEAP. The letters of support documents from the stakeholders are included in Appendix G: *Letters of Support.*

- This NEAP process started with the forming of stakeholder groups to work with government officials and experts on several of the required elements of the NEAP. The TCEQ used existing groups like the JAC and the EPCCHED. The tasks of these groups include development of the plan and materials for the health-related requirements of the NEAP.

- To share the NEAP information with local entities in El Paso, conference call meetings were held. The first conference call meeting took place in April 2006, where the TCEQ described El Paso County's present PM_{10} status, why PM_{10} is a health concern, and what a NEAP has to offer for addressing the problem. Subsequent calls and meetings were held as needed.

- The JAC encouraged discussions during its quarterly meeting on September 14, 2006. All stakeholders identified from the local and state levels were encouraged to attend. The meeting included discussions concerning nonattainment and the NEAP, as well as the PM_{10} and $PM_{2.5}$ status in El Paso.

4.2 PUBLIC COMMENT

The NEAP was made available for public comment and review and the commission held a public hearing to solicit public comment. The hearing was held at the following time and location:

City	Date	Time	Location
El Paso	December 11, 2006	1:30 p.m.	Texas Commission on Environmental Quality Region 6 401 E. Franklin Ave., Ste. 560 El Paso, Texas

Summaries of public comments and the TCEQ responses are included with this plan in Appendix I.

CHAPTER 5: EVALUATION

5.1 PERIODIC EVALUATION

EPA's NEP guidance requires the States to periodically reevaluate a NEAP for:
1. the conditions causing violations of a PM_{10} and $PM_{2.5}$ NAAQS in the area;
2. the status of implementation of the NEAP; and
3. the adequacy of the actions being implemented.

The TCEQ commits to reevaluate the NEAP for the El Paso area at least every 5 years and to make appropriate changes to the plan.