Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us

Stephen A. Owens
Director

February 9, 2006

Deborah Jordan, Director
Air Division
U.S. Environmental Protection Agency, Region IX
Air-1
75 Hawthorne
San Francisco, CA 94105

Re: Natural Events Action Plan (NEAP) Relying on Existing Rules and Programs

Dear Ms. Jordan:

ADEQ is submitting this letter to comply with the requirements of the U. S. Environmental Protection Agency's (EPA) Policy as specified in the May 30, 1996, Memorandum of Mary D. Nichols, Assistant Administrator for Air and Radiation. If a Natural Events Action Plan (NEAP) for Salt River PM_{10} Area were developed, it would have to be submitted by February 13, 2006; however, since the Salt River Area is currently part of the serious nonattainment area of Maricopa County, Arizona, for which a SIP supplement was submitted on October 7, 2005, a formal NEAP is not being developed.

Requirements of the NEAP, as identified in the 1996 NEAP policy, are included in the State Implementation Plan (SIP) and subsequent revisions as submitted by the Arizona Department of Environmental Quality (ADEQ), Air Quality Division (AQD), Planning Section, and in other new ADEQ Programs described below.

Arizona has made several SIP submittals that collectively address the Clean Air Act's (CAA) planning requirements for serious PM_{10} nonattainment areas for both PM_{10} standards.

EPA approved Arizona's 1997 SIP revision, and additional required controls proposed by Maricopa County Air Quality Department (MCAQD)[1] on August 4, 1997 (62 FR 41856), EPA's Aerometric Information Retrieval System (AIRS) continued to show exceedances at the Maricopa County PM_{10} Nonattainment Area Salt River site, recording exceedances in 1999, 2000, and through three quarters of 2001. EPA required Arizona to submit a SIP revision to identify and implement corrective PM_{10} control provisions in the Salt River Study Area, and for similar, significant sources in the rest of Maricopa County PM_{10} Nonattainment Area (67 FR 44369, July 2, 2002). Arizona's SIP revision was due to EPA 18 months following the effective date of EPA's SIP call, or by February 2, 2004, to provide for attainment at the Salt River site, no later than December 31, 2006, in accordance with CAA §§ 189(b)(1)(A), and 188(e).

[1] The Maricopa County Air Quality Department was formerly a department of the Maricopa County Environmental Services Department (MCESD)

In July 2002, EPA approved Arizona's Serious Area PM_{10} Plan for the Maricopa County part of the metropolitan Phoenix (Arizona) PM_{10} nonattainment Area. EPA also granted Arizona's request to extend the CAA deadline for attainment of the annual and 24-hour PM_{10} standards from 2001 to 2006; and approved the MCAQD's fugitive dust rules, Residential Woodburning Restrictions Ordinance, and commitments by Maricopa County jurisdictions to implement PM_{10} controls. [2]

The PM_{10} concentrations measured on August 13, 2004, were significantly affected by a Regional Natural Exceptional Event (RNEE) and the PM_{10} concentration measured on September 18, 2004, was the result of a Natural Exceptional Event. Both dates of exceedances were flagged accordingly in EPA's Air Quality Standard (AQS) data base. The data for all three monitors (Higley, 43rd Avenue, and Durango) on August 13, 2004, and the Buckeye monitor on September 18, 2004, exceeded the National Ambient Air Quality Standard (NAAQS). On February 11, 2005, ADEQ's request for concurrence for the August 13, 2004, was submitted to EPA. EPA concurred with the flaggings in their correspondence to ADEQ dated April 8, 2005. ADEQ submitted a request to EPA for concurrence for the September 18, 2004, exceedance on March 17, 2005, and received concurrence on June 8, 2005.

These PM_{10} exceedances were the result of exceptional windblown emissions. As described in the September 2005 submittal of the PM_{10} SIP for the Salt River Area, windblown emissions primarily come from area sources. Each Salt River PM_{10} SIP revision identified the primary categories for windblown dust as (1) construction, (2) agriculture, (3) open areas and vacant lots, and (4) the Salt River alluvial channel.

According to the National NEAP Policy, the NEAP plan includes five primary components. The five NEAP components are listed below:

1. The establishment of a program for public notification and education of short-term and long-term health effects of PM_{10};
2. The establishment of a program to minimize exposure to high concentrations of PM_{10} due to future natural events;
3. The establishment of a program to abate or minimize contributing controllable sources of PM_{10};
4. The establishment of a program to identify, study and implement practical mitigating measures as necessary; and
5. The establishment of a program to periodically reevaluate the effectiveness of the NEAP.

A description of implementation of the five required elements of NEAP Plans pursuant to the submitted SIP and subsequent revisions appear below.

1) Establish public notification and education programs:

Public Notification

Every Sunday through Friday, meteorologists at ADEQ develop air pollution forecasts by examining ambient air quality and meteorological data, and meteorological models. When the data are analyzed and the potential exists for PM_{10} concentrations to approach or exceed the NAAQS the next day, the forecast and a recommendation to call an air pollution Health Watch or High Pollution Advisory (HPA), respectively, is shared with the Director of the Air Quality Division (AQD). The Director or her designee is responsible for the approval of the issuance of the Health Watch or HPA.

---

[2] See 67 FR 48718, July 25, 2002

Once an approval is obtained from AQD management, the meteorologists post the forecast to the ADEQ website (http://www.azdeq.gov/environ/air/ozone/ensemble.pdf), and use a telephone tree to call Maricopa County, Valley Metro, and other program participants. Attachment 1 is an example of the air pollution forecast report as it appears on the Web page. The forecast also includes information about health impacts and sensitive populations.

There is an Air Quality Forecast link on the ADEQ home page (http://www.azdeq.gov). This forecast for PM_{10}, $PM_{2.5}$, Ozone (O_3), and Carbon Monoxide (CO) is updated by 1:00 p.m. and is valid for areas within and bordering Maricopa County.

Table 1, attached to this letter, identifies the dissemination of the forecast information. As seen in Table 1, the forecast is generated by the ADEQ meteorologists, approved by AQD management, and then posted to the ADEQ website. A High Pollution Advisory warning is disseminated by a telephone call to each recipient and causes the activation of the Notification Plan. The meteorologists also send electronic copies of the forecast to several ADEQ staff members, including the ADEQ Public Information Officer.

A warning is issued when levels are predicted to exceed the NAAQS. A watch is issued when conditions are right for an exceedance. The ADEQ Public Information Officer is responsible for disseminating a HPA for the summer months. The MCAQD Community and Media Relations Officer is responsible for disseminating a HPA or Health Watch forecast for the winter months. MCAQD's website, (http://www.maricopa.gov/AQ/), has a direct link to ADEQ's forecast by first entering the Air Status page, then clicking on the **"***Today's forecast*" link.

The "Particle Pollution Health Information Summary" of the Dust Control Action Forecast is more detailed than that given in the air quality forecast. The Summary has been developed to inform the reader of the short-term and long-term affects of exposure to PM_{10} as well as list methods of how to minimize exposure. That portion of the affected public and private citizenry that does not have access to the Internet, may receive notice alerts through multi-media public service announcements from radio and television meteorologists, *Arizona Republic* weather page, and *USA Today* weather page.

Valley Metro Transportation Authority informs the Arizona Department of Transportation (ADOT) to post warnings of High Pollution Advisories on the Dynamic Message System (DMS) signs located overhead along United States (U.S.) Interstate 17 (I-17), U.S. Interstate 10 (I –10), Loop 101, Loop 202, Arizona State Road 51 (SR–51), and U.S. Highway 60 (U.S.–60).

In addition to posting the forecast, ADEQ has developed for posting and distribution to major dust sources a Dust Control Action Forecast. A draft copy of the Dust Control Action Forecast is included as Attachment 2 to this letter. The Dust Control Action Forecast provides a three-day forecast to enable major dust sources to minimize their impacts on the general public by implementing Agricultural Best Management Practices (AgBMP), Best Available Control Measures (BACM), and Most Stringent Measures (MSM). ADEQ sends the forecast to several MCAQD staff members and Arizona Department of Agriculture (AZDA) staff members, who then disseminate the Dust Control Action Forecast to the farmers, road construction crews and contractors as Table 2 explains.

Attachment 3, the flow chart, explains how the Dust Control Action Forecast is disseminated from ADEQ meteorologists to local jurisdictions and major dust sources.

Public Education

The Forecast is used to educate the public about the health effects of polluted air. In addition to describing the health effects associated with high PM_{10} levels, the forecast website recommends several PM_{10} reduction tips.

During the month of October 2005, 5,404 users accessed the ADEQ Forecast Web site. During the month of November 2005, 13,326 users accessed the ADEQ Web site. In addition to utilizing the Web site as a public information source, ADEQ is working with the federal government, local governments, and non-profit organizations to develop a general education training seminar to raise the public's awareness about both the health effects of PM_{10} pollution and steps citizens can take to reduce the creation of excessive dust.

Those groups of the population that have access to computers have several Web sites available for health information. Those without access to computers can obtain recorded Forecasts by calling (602) 771-2367. The ADEQ Web site and other Web sites to visit for air quality information in Maricopa County are listed below:

1. American Lung Association: www.lungusa.org;
2. Asthma Link: www.epa.gov/asthma/links.html; and
3. Maricopa County: www.maricopa.gov/aq/

The City of Phoenix (www.phoenix.gov/) maintains an Air Quality education and information site (http://phoenix.gov//ENVPGM/airqual.html). On this site, the city discusses several programs it has instituted to reduce PM_{10} in the city. The programs include:

1. Dust control programs on city-owned parking lots and vacant lots;
2. Dust control programs on city streets;
3. Dust-efficient street sweepers; and
4. Street maintenance crack seal equipment.

A more detailed explanation of control measures appear in Section 3 of this letter

2) Minimize public exposure to high concentrations of PM_{10} due to future natural events:

As a part of outreach activities, ADEQ commits to develop and implement a program to minimize the exposure to high PM_{10} levels. This program will:

1. Identify the people most at risk;
2. Notify at risk populations that a natural event is imminent or currently taking place;
3. Suggest actions to be taken by the public to minimize exposure to high concentrations of PM_{10}; and
4. Suggest precautions to take if exposure cannot be avoided.

ADEQ plans to work with the local newspapers, city and county officials, and other interested organizations to issue notices on specific days when high winds are forecasted so the susceptible members of the public are reminded that they should limit outdoor activities for that day.

3) Abate or minimize contributing controllable sources of PM_{10}:

Chapter 3 (3.1 Introduction) of the Final Revised PM_{10} State Implementation Plan for the Salt River Area, September 2005, hereafter referred to as September 2005 SIP, identifies the four major PM_{10} source categories as:

1. Point Sources – The point source category includes major stationary sources, defined as all facilities emitting greater than five tons per year (TPY) PM_{10}. Point source emissions include emissions from combustion, process operations, material transfers, storage pile wind erosion, and paved and unpaved roads within facility grounds.
2. Area Sources – The area source category includes smaller anthropogenic stationary sources that are not included in the point source inventory, for example: small industrial facilities, agricultural tillage and harvesting, construction activity, and wind erosion of areas with disturbed topsoil. It also considers PM_{10} emissions from non-point, non-anthropogenic sources.
3. On-road Mobile Sources – The on-road mobile source category includes vehicles certified for highway use: cars, trucks, and motorcycles. Re-entrained road dust from paved roads and dust from unpaved roads are also considered.
4. Off-road Mobile Sources – The off-road mobile source category includes a wide variety of gasoline and diesel equipment that either moves under its own power or can be moved from site to site, consisting of equipment not licensed or certified as highway vehicles and which will move or be moved at least once during a 12-month period. Off-road mobile sources include equipment used in agriculture, construction, mining, commercial and industrial operations, lawn and garden maintenance, aircraft, airport ground support, locomotives, railroad, recreational equipment, and water craft.

Emissions from point sources are regulated through the permit process. All industrial sources in the Salt River SIP Study Area were evaluated for compliance with BACM/MSM. Only those sources that did not meet BACM/MSM were evaluated further. The vast majority of these emissions come from the non-metallic mineral products industry. Current controls for the non-metallic products industry warranted further evaluation. Industrial source control measures are focused on the non-metallic mineral products processing industry.

Section 4.3.3 of the September 2005 SIP titled “Area Source Control Measures” identifies the potential control measure as better enforcement of Maricopa County Rule 310 (Rule 310) pertaining to the control of fugitive dust.

Section 4.3.5 of the September 2005 SIP titled “On-Road Mobile Source Control Measures” identifies the most significant sources of PM_{10} emissions in the Salt River Study Area related to paved roads as dust loading from windblown emissions, soil trackout and emissions from earth moving and other dust generating processes in areas of high industrial, construction, and agricultural activity.

This Section of Chapter 4 identified the potential control measures to address the problems of silt loading and trackout on paved roads as enhanced enforcement of MCAQD Rules 310 and 316 and implementation of agency and political subdivision-specific control measures for dust emissions from targeted paved roads in the Salt River Study Area and the Maricopa County PM_{10} Nonattainment Area.

In the 2001, EPA approved as RACM a general permit rule (A.R.S. 49-457) providing for the implementation of Best Management Practices (BMPs) to reduce PM_{10} from agricultural sources in the

Maricopa County PM_{10} Nonattainment Area, in a revision to the Arizona State Implementation Plan,[3] therefore, complying with the requirements of CAA § 189(a)(1)(C).

In 2002 the Agricultural BMP program was approved by EPA as BACM/MSM.[4]

The selected control measures to minimize windblown PM_{10} emissions from agricultural fields are the Agricultural BMPs described above and as specified in the Agricultural PM_{10} General Permit for the Maricopa County PM_{10} Nonattainment Area and codified in *Arizona Administrative Code* (AAC) R18-2-611. A commercial farmer is required to implement at least one BMP from each of the three agricultural categories: tillage and harvest, non-cropland, and cropland.

According to the September 2005 SIP, Section 3.2, the amount of agricultural land, and emissions from agricultural tillage, are projected to decrease 80 percent due to conversion of agricultural land to residential and commercial uses.

4) Identification of pending study of reentrained PM_{10} on paved roads in the Phoenix area:

In January 2005, the Maricopa Association of Government (MAG) issued a Request for Proposal for a silt loading study. The study is being undertaken to determine the amount of re-entrained PM_{10} on paved roads the Maricopa County PM_{10} nonattainment area. A portion of the study will be in the Salt River Study Area. MAG issued the Notice to Proceed for the silt loading study to the College of Engineering, Center for Environmental Research and Technology, University of California, Riverside (CE-CERT) on December 2, 2005. It is anticipated that the study will develop an alternative approach to that published in the *Public Health Service Publication 999-AP-42, Compilation of Air Pollutant Emission Factors (AP-42)* for determining PM_{10} emission factors for paved roads in the Maricopa County PM-10 nonattainment area.

CE-CERT will employ its SCAMPER (System of Continuous Aerosol Monitoring of Particulate Emissions from Roadways) vehicle, which has the necessary equipment installed to measure PM_{10} concentrations in real time. As part of the study, CE-CERT will survey 100-120 miles of paved road for five consecutive days during four different times of a year. Roads in the Salt River Study Area will comprise part of the surveyed route.

The SCAMPER route will be designed to represent types of roads and conditions typical of the Maricopa County PM_{10} nonattainment area. It is expected to include some freeways, some arterial streets, and some residential streets in a number of cities in the area.

MAG anticipates that the study will take approximately a year, concluding in January 2007.

5) Periodically re-evaluate:

As required in a NEAP, ADEQ commits to re-evaluate these elements within the next 5 years, to determine the effectiveness of these elements and to make revisions as appropriate, even if a SIP revision is not required.

---

[3] Approval published in 66 FR 51869, October 11, 2001

[4] See 67 FR 48718, July 25, 2002

Arizona appreciates your consideration of this submittal. If you have questions or need more information, your staff should contact Nancy Wrona, Director of the Air Quality Division, at (602) 771-2308, or Diane L. Arnst, Air Quality Planning Section Manager at (602) 771-2375.

Sincerely,

Nancy C. Wrona
Director Air Quality Division

Enclosures

NCW:AEC:MBL

cc: Diane Arnst, ADEQ, w/o enclosures
Colleen McKaughan, EPA Region IX, w/o enclosures
Bob Pallarino, EPA Region IX, w/o enclosures
Karen Irwin, EPA Region IX, w/o enclosures
Doris Lo, EPA Region IX, w/o enclosures

Table 1. Air Quality Forecast – Health Warning or Health Watch

Title/Position	Agency	Disseminates What	Disseminates to Whom
Environmental Program Specialist (Meteorologist)	ADEQ[1] Air Quality Division Air Assessment Section Special Projects Unit	PM_{10} ($PM_{2.5}$ and Ozone also) is within NAASQ[2] standards	Emails are sent to persons requesting daily reports regardless of the health risk.
		PM_{10} Health Watch	Emails are sent to: ADEQ staff[3] ADOA Valley Metro Pinal County City of Phoenix Media Maricopa County Community and Media Relations personnel
		PM_{10} High Pollution Advisory[4]	Phone calls are made to: All of the above contacts local newspapers local television and local radio.[5]

1 ADEQ is the acronym for Arizona Department of Environmental Quality.

2 NAAQS is the acronym for National Ambient Air Quality Standard.

3 ADEQ staff notified are – Director ADEQ, Air Quality Division Director, Air Quality Division Deputy Director, Compliance Section Manager, Environmental Program Supervisor Assessment Section, Environmental Program Specialist (back-up to Meteorologists), Environmental Engineer Specialist, Deputy Director Communication ADEQ; Asthma Outreach Coordinator during study.

4 High Pollution Advisory means that the highest concentration of PM_{10} (and $PM_{2.5}$ or Ozone) may exceed the federal health standard.

5 The contacts who receive the notices from the Maricopa County Community and Media Relations personnel are: Printed media sources include – Arizona Republic, Arizona Tribune Arizona Family, and Clear Channel. Broadcast television media sources include: Channel 12 – KPNX/NBC, Channel 15 – KNXV/ABC, and Univision. Broadcast radio media include: Arizona News Radio, KDRX, WXC and KTAR.

Table 2. Dust Control Action Forecast Dissemination List

Title/Position	Agency	Disseminates What	Disseminates to Whom
Environmental Program Specialist (Meteorologist)	ADEQ[1] Air Quality Division Air Assessment Section Special Projects Unit	Dust Control Forecast	Various MCAQD personnel (including the Dust Compliance Division Manager
Dust Compliance Division Manager	MCAQD[2]	Dust Control Forecast message	Various MCAQD personnel MCDOT[3] City of Phoenix Public Works Dept. ARPA contacts HBACA contacts AZAGC contacts Abby Pratt-Proehl development[4]
Stationary Source Compliance Supervisor	MCAQD	Advisory notice of hi risk forecast for PM_{10}	Stationary Source Compliance Program staff
Community and Media Relations	MCAQD	The dust control action forecast when it's high.	Valley Metro all local print all local television and radio[5]
Air Quality Program Manager	AZDA Agricultural Consultation and Training	Received forecast information from ADEQ	A broadcast fax is sent to 288 different farmers

[1] ADEQ is the acronym for Arizona Department of Environmental Quality.

[2] MCAQD Dust Compliance Division Manager and Stationary Source Compliance Program Supervisor and Staff.

[3] MCDOT is the acronym for Maricopa County Department of Transportation.

[4] ARPA is the acronym for Arizona Rock Products Association; HBACA is the acronym for Home Builders Association of Central Arizona; AZAGC is the acronym for Arizona Chapter of Associated General Contractors.

[5] The contacts who receive the notices from the Maricopa County Community and Media Relations personnel are: Printed media sources include – Arizona Republic, Arizona Informant, Associated Press, The Business Journal (Phoenix), East Valley Tribune, Prensa Hispana, La Voz, and Sun City News. Broadcast television media sources include: Channel 3 – KTVK, Phoenix Channel 5 – KPHO/CBS, Channel 10 – KSAZ/FOX, Channel 12 – KPNX/NBC, Channel 15 – KNXV/ABC, Telemundo, and Univision. Broadcast radio media include: Arizona News Radio, KTAR, KFYI, Metro Networks (a satellite service which provides news to radio stations across the state), Radio Onda (the only locally generated Hispanic radio news in town), Skyview Satellite, Plus, other local radio stations with news divisions.

Attachment 1
Example of AQI Forecast Report

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

VERY UNHEALTHY (201-300)

UNHEALTHY (151-200)

UNHEALTHY FOR SENSITIVE GROUPS (101-150)

MODERATE (51-100)

GOOD (0-50)

For more information visit:
http://www.epa.gov/airnow/aqibroch

AIR QUALITY FORECAST FOR THURSDAY, DEC 01, 2005

This report is updated by 1:00 p.m. Sunday thru Friday and is valid
for areas within and bordering Maricopa County in Arizona

FORECAST DATE	YESTERDAY TUE 11/29/2005	TODAY WED 11/30/2005	TOMORROW THU 12/01/2005	EXTENDED FRI 12/02/2005
NOTICES (*SEE BELOW FOR DETAILS)	PM-10 HEALTH WATCH	PM-10 HIGH POLLUTION ADVISORY	PM-10 HIGH POLLUTION ADVISORY	PM-10 HIGH POLLUTION ADVISORY POSSIBLE
AIR POLLUTANT	Highest AQI Reading/Site (Preliminary data only)	NWS AIR STAGNATION ADVISORY	NWS AIR STAGNATION ADVISORY	NWS AIR STAGNATION ADVISORY
O3*	27 FOUNTAIN HILLS	32 GOOD	32 GOOD	33 GOOD
CO*	31 WEST INDIAN SCHOOL	45 GOOD	43 GOOD	43 GOOD
PM-10*	93 WEST FORTY THIRD	104 UNHEALTHY FOR SENSITIVE GROUPS	112 UNHEALTHY FOR SENSITIVE GROUPS	102 UNHEALTHY FOR SENSITIVE GROUPS
PM-2.5*	60 PHOENIX SUPERSITE	56 MODERATE	66 MODERATE	63 MODERATE

* O3 = Ozone CO = Carbon Monoxide PM-10 = Particles 10 microns & smaller PM-2.5 = Particles smaller than 2.5 microns

*"Ozone Health Watch" means that the highest concentration of OZONE may approach the federal health standard.
"PM-10 or PM-2.5 Health Watch" means that the highest concentration of PM-10 or PM-2.5 may approach the federal health standard.
"High Pollution Advisory" means that the highest concentration of OZONE, PM-10, or PM-2.5 may exceed the federal health standard.
"DUST" means that short periods of high PM-10 concentrations caused by outflow from thunderstorms are possible.

Attachment 1
Example of AQI Forecast Report

Health message for Wednesday, Nov 30: People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.

Health message for Thursday, Dec 01: People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.

Synopsis and Discussion

THE PM-10 HIGH POLLUTION ADVISORY IN EFFECT FOR TODAY HAS BEEN EXTENDED THROUGH THURSDAY DECEMBER 01 2005

At 10:25 a.m. ACARS sounding data indicates that the best mixing depth has lowered to less than 2900' today and that dispersion is POOR with a transport wind speed of four mph. Continued warming aloft – coupled with cold air near the surface – has produced persistent inversions both at the surface and aloft that are trapping increasing concentrations of particle pollutants. Preliminary monitoring data at the West Forty Third site showed a PM-10 (coarse particle) concentration of 427ug/m3 at 7:00 a.m., while at 8:00 a.m. a 424ug/m3 reading occurred at the Durango site and 378ug/m3 at the Higley site. It appears that 24-hour average concentrations at these sites will be close to or within the Unhealthy for Sensitive Groups range of the Air Quality Index today. Persons within the metro area with heart or lung disease should avoid prolonged or heavy exertion today and again on Thursday since stagnation of the air mass is projected to continue with an upper level ridge axis overhead at that time. A weak weather system may bring an increase in winds and dispersion late on Friday, but this is far from certain; the HPA may have to be extended again. -Reith

MONITORING SITE MAPS: STATIC MAP – http://www.azdeq.gov/environ/air/monitoring/images/winter.jpg
INTERACTIVE MAPS – http://www.maricopa.gov/aq/airday/ozair_map.asp
http://www.airnow.gov/

POLLUTION MONITOR READINGS FOR TUESDAY, NOV 29, 2005

O3 (OZONE)

SITE NAME	MAX 8-HR VALUE (PPB)	MAX AQI	AQI COLOR CODE
Apache Junction	24	19	
Blue Point	22	17	
Central Phoenix	17	13	
Fountain Hills	34	27	
North Phoenix	25	20	
Phoenix Supersite	15	12	
Pinnacle Peak	26	20	
South Phoenix	21	16	
South Scottsdale	26	20	
West Phoenix	16	13	

CO (CARBON MONOXIDE)

SITE NAME	MAX 8-HR VALUE (PPM)	MAX AQI	AQI COLOR CODE
Buckeye	0.4	05	
Central Phoenix	2.0	23	
Dysart	0.6	07	
Glendale	1.8	20	
Greenwood	1.8	20	
Mesa	1.4	16	
North Phoenix	1.3	15	
Phoenix Supersite	1.9	22	
South Phoenix	1.5	17	
South Scottsdale	1.6	18	
Tempe	1.5	17	
West Chandler	1.3	15	
West Indian School	2.7	31	
West Phoenix	2.2	25	

Attachment 1
Example of AQI Forecast Report

PM-10 (PARTICLES)

SITE NAME	MAX 24-HR VALUE (ug/m3)	MAX AQI	AQI COLOR CODE
Buckeye	72	59	
Central Phoenix	49	45	
Durango	108	77	
Higley	88	67	
Maricopa (Pinal County)	NOT AVBL	NOT AVBL	NOT AVBL
Phoenix Supersite	40	37	
Stanfield (Pinal County)	NOT AVBL	NOT AVBL	NOT AVBL
West Forty Third	139	93	
West Phoenix	67	57	

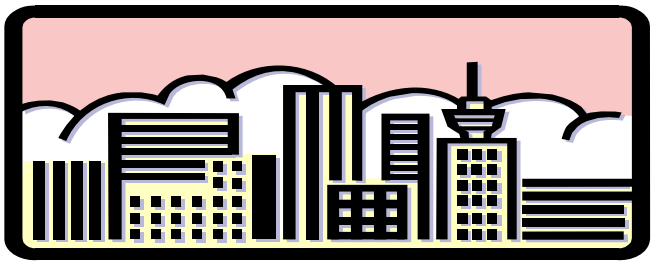
PM-2.5 (PARTICLES)

(Some data derived from light-scattering equipment)

For maps go to: http://www.airnow.gov/

SITE NAME	MAX 24-HR VALUE (ug/m3)	MAX AQI	AQI COLOR CODE
Durango	10.1	33	
Dysart	13.3	43	
Estrella Mountain Park	10.6	34	
Phoenix Supersite	20.2	60	
Vehicle Emissions Lab	11.5	37	
West Phoenix	18.6	57	

LOCAL AIR POLLUTANTS IN DETAIL



O3 (OZONE):

Description – This is a secondary pollutant that is formed by the reaction of other primary pollutants (precursors) such as VOCs (volatile organic compounds) and NOx (Nitrogen Oxides) in the presence of heat and sunlight.

Sources – VOCs are emitted from motor vehicles, chemical plants, refineries, factories, and other industrial sources. NOx is emitted from motor vehicles, power plants, and other sources of combustion.

Potential health impacts – Exposure to ozone can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate pre-existing respiratory diseases such as asthma. Other effects include decrease in lung function, chest pain, and cough.

Unit of measurement – Parts per billion (ppb).

Averaging interval – Highest eight-hour period within a 24-hour period (midnight to midnight).

Reduction tips – Curtail daytime driving, refuel cars and use gasoline-powered equipment as late in the day as possible.

CO (CARBON MONOXIDE):

Description – A colorless, odorless, poisonous gas formed when carbon in fuels is not burned completely.

Sources – In cities, as much as 95 percent of all CO emissions emanate from automobile exhaust. Other sources include industrial processes, non-transportation fuel combustion, and natural sources such as wildfires. Peak concentrations occur in colder winter months.
Potential health impacts – Reduces oxygen delivery to the body's organs and tissues. The health threat is most serious for those who suffer from cardiovascular disease.
Unit of measurement – Parts per million (ppm).
Averaging interval – Highest eight-hour period within a 24-hour period (midnight to midnight)
Reduction tips – Keep motor vehicle tuned properly and minimize nighttime driving.

PM-10 & PM-2.5 (PARTICLES):

Description – The term "particulate matter" (PM) includes both solid particles and liquid droplets found in air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. Particles less than 10 micrometers in diameter tend to pose the greatest health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers in diameter are referred to as "fine" particles and are responsible for many visibility degradations such as the "Valley Brown Cloud" (see http://www.phoenixvis.net/). Particles with diameters between 2.5 and 10 micrometers are referred to as "coarse".
Sources – Fine = All types of combustion (motor vehicles, power plants, wood burning, etc.) and some industrial processes. Coarse = crushing or grinding operations and dust from paved or unpaved roads.
Potential health impacts – PM can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases, such as asthma and chronic bronchitis.
Units of measurement – Micrograms per cubic meter (ug/m3)
Averaging interval – 24 hours (midnight to midnight).
Reduction tips – Stabilize loose soils, slow down on dirt roads, carpool, and use public transit.

ADEQ
Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

Attachment 2
Example of ADEQ's Dust Control Action Forecast

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

MARICOPA COUNTY
DUST CONTROL ACTION FORECAST
ISSUED MONDAY, NOV 21, 2005
Three-day weather outlook:

The main storm track has migrated well to the north of Arizona. Mostly light winds and relatively shallow mixing depths will equate to less than favorable dispersion for the foreseeable future. This, combined with already elevated PM-10 levels, will contribute to a HIGH risk of coarse particle levels for the next few days, perhaps longer.

R I S K F A C T O R S

	WINDS		STAGNATION		RISK LEVEL
Day #1: Tue 11/22/2005	Variable to 10 mph.	+	Very stagnant with slight improvement by afternoon.	=	**HIGH**
Day #2: Wed 11/23/2005	Variable to 10 mph.	+	Very stagnant with slight improvement by afternoon.	=	**HIGH**
Day #3: Thu 11/24/2005	Variable to 10 mph.	+	Quite stagnant with some improvement by afternoon.	=	**MODERATE**

The Maricopa County Dust Control Action Forecast is issued to assist in the planning of work activities to help reduce dust pollution. To review the complete air quality forecast for the Phoenix metropolitan area and the health effects of air pollution, please see ADEQ's Air Quality Forecast at http://www.azdeq.gov/environ/air/ozone/ensemble.pdf, or call 602-771-2367 for recorded forecast information.

Attachment 2
Example of ADEQ's Dust Control Action Forecast

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

PARTICLE POLLUTION HEALTH INFORMATION SUMMARY

What is particle pollution?

Particle pollution is a mixture of microscopic solids and liquid droplets suspended in air. This pollution, also known as particulate matter, is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores).

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into your lungs, and some may even get into your bloodstream. Exposure to such particles can affect both your lungs and your heart. Larger particles are of less concern, although they can irritate your eyes, nose, and throat.

Small particles of concern include "fine particles" (such as those found in smoke and haze), which are 2.5 micrometers in diameter or less; and "coarse particles" (such as those found in wind-blown dust), which have diameters between 2.5 and 10 micrometers.

Are you at risk from particles?

People with heart or lung disease, older adults, and children are considered at greater risk from particles than other people, especially when they are physically active. Exercise and physical activity cause people to breathe faster and more deeply and to take more particles into their lungs.

People with heart or lung diseases such as coronary artery disease, congestive heart failure, and asthma or chronic obstructive pulmonary disease (COPD) are at increased risk, because particles can aggravate these diseases. People with diabetes also may be at increased risk, possibly because they are more likely to have underlying cardiovascular disease.

Older adults are at increased risk, possibly because they may have undiagnosed heart or lung disease or diabetes. Many studies show that when particle levels are high, older adults are more likely to be hospitalized, and some may die of aggravated heart or lung disease.

Children are likely at increased risk for several reasons. Their lungs are still developing; they spend more time at high activity levels; and they are more likely to have asthma or acute respiratory diseases, which can be aggravated when particle levels are high.

It appears that risk varies throughout a lifetime, generally being higher in early childhood, lower in healthy adolescents and younger adults, and increasing in middle age through old age as the incidence of heart and lung disease and diabetes increases. Factors that increase your risk of heart attack, such as high blood pressure or elevated cholesterol levels, also may increase your risk from particles. In addition, scientists are evaluating new studies that suggest that exposure to

high particle levels may also be associated with low birth weight in infants, pre-term deliveries, and possibly fetal and infant deaths.

How can particles affect your health?

Particle exposure can lead to a variety of health effects. For example, numerous studies link particle levels to increased hospital admissions and emergency room visits—and even to death from heart or lung diseases. Both long- and short-term particle exposures have been linked to health problems.

Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death.

Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short-term exposures, although they may experience temporary minor irritation when particle levels are elevated.

What are the symptoms of particle exposure?

Even if you are healthy, you may experience temporary symptoms, such as irritation of the eyes, nose, and throat; coughing; phlegm; chest tightness; and shortness of breath.

If you have lung disease, you may not be able to breathe as deeply or as vigorously as normal, and you may experience coughing, chest discomfort, wheezing, shortness of breath, and unusual fatigue. If you have any of these symptoms, reduce your exposure to particles and follow your doctor's advice. Contact your doctor if symptoms persist or worsen. **If you have asthma,** carefully follow your asthma management plan when particle levels are high. Your doctor can help you develop a plan if you don't have one.

If you have heart disease, particle exposure can cause serious problems in a short period of time even heart attacks with no warning signs. So don't assume that you are safe just because you don't have symptoms. Symptoms such as chest pain or tightness, palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these symptoms, *follow your doctor's advice*.

How can you avoid unhealthy exposure?

Your chances of being affected by particles increase the more strenuous your activity and the longer you are active outdoors. If your activity involves prolonged or heavy exertion, reduce your activity time or substitute another that involves less exertion. Go for a walk instead of a jog, for example. Plan outdoor activities for days when particle levels are lower. And don't exercise near busy roads; particle levels generally are higher in these areas.

Particle levels can be elevated indoors, especially when outdoor particle levels are high. Certain filters and room air cleaners can help reduce indoor particle levels. You also can reduce particle levels indoors by not smoking inside, and by reducing your use of other particle sources such as candles, wood-burning stoves, and fireplaces.

Attachment 2
Example of ADEQ's Dust Control Action Forecast

ADEQ
Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

PARTICLE POLLUTION REDUCTION TIPS

You Can Help Keep the Air Cleaner!

Every day tips:

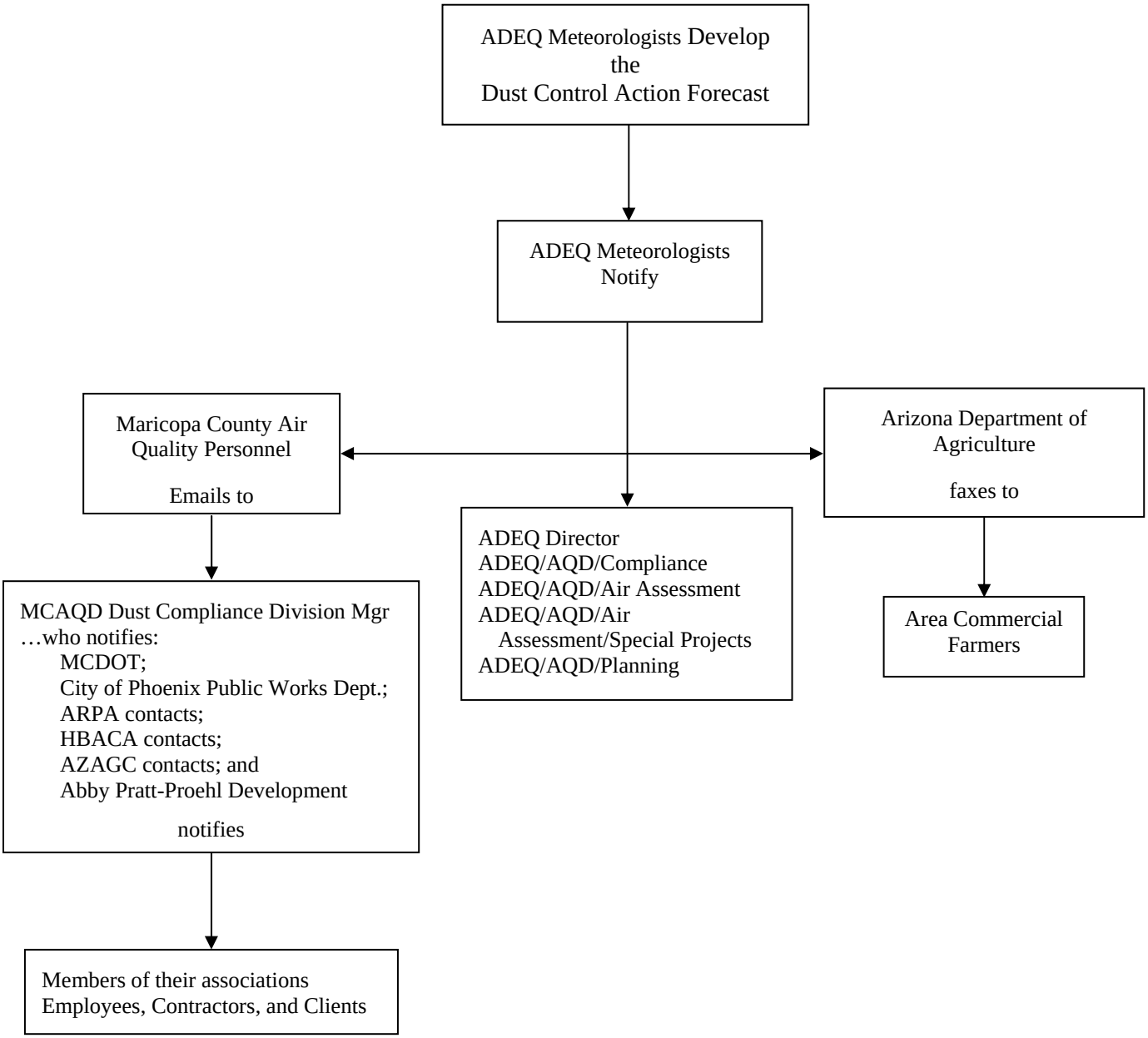
- Conserve electricity. Consider setting your thermostat a little higher in the summer and lower in winter. Participate in local energy conservation programs. Look for the ENERGY STAR label when buying home or office equipment.
- Keep car, boat and other engines properly tuned, and avoid engines that smoke.
- Car pool, use public transportation, bike or walk when possible.
- Combine errands to reduce "cold starts" of your car and avoid extended idling.
- Consider using gas logs instead of wood. If you use a wood-burning stove or fireplace insert, make sure it meets EPA design specifications. Burn only dry, seasoned wood.
- Mulch or compost leaves and yard waste.

Tips for days when particle pollution is expected to be high:

- Reduce the number of trips you take in your car.
  Slow down on or avoid dirt roads.
  Stabilize loose soils.
- Reduce or eliminate fireplace and wood stove use.
- Avoid using gas-powered lawn and garden equipment.
- Avoid burning leaves, trash and other materials.

CKR 11/23/2005

Attachment 3
Flowchart of Dust Control Action Forecast Notification



Acronyms used in Flowchart

ADEQ is the acronym for Arizona Department of Environmental Quality
AQD is the acronym for Air Quality Division
ARPA is the acronym for Arizona Rock Products Association;
AZAGC is the acronym for Arizona Chapter of Associated General Contractors
HBACA is the acronym for Home Builders Association of Central Arizona;
MCAQD is the acronym for Maricopa County Air Quality Department
MCDOT is the acronym for Maricopa County Department of Transportation