Appendix C

Public Outreach Education Pamphlets, Presentations, Flyers, Advisory/Alert Language, Facility Faxes, News & Media Articles

Appendix C

Exhibits

1. **Dust Storms and Your Health, brochure (English & Spanish Versions)**

2. **Protecting the Air We Share, brochure**

3. **Dust Storms and Your Health, postcard (English & Spanish Versions)**

4. **Tips to Reduce Dust and Particulates, fact sheet**

5. **Air Quality Questions and Answers – Particulate Matter, fact sheet**

6. **Particulate Air Pollution – Particulate Matter Air Pollution From Natural Events, briefing sheet (English & Spanish Versions)**

7. **The Natural Events Action Plan, a presentation by the Clark County Department of Air Quality and Environmental Management**

8. **PM_{10} Monitoring Site Network Map**

9. **Media Advisory - An example of a Air Quality Wind Advisory**

10. **Clark County Department of Air Quality and Environmental Management Standard Operating Procedure (SOP) for a High-Wind Air Quality Advisory Notice to be issued to Dust Control Permit Permittees and Operators of Applicable Stationary Sources with an example of a FAX to Construction Industry Permittees**

11. **Medical Advisory Committee (MAC) Protocol**

12. **News Articles**

Exhibit 1

“*Dust Storms and Your Health*”, brochure

Appendix C
Exhibit 1 – Dust Storms & Your Health Brochure

Air Quality

Protecting the air we share

Clark County Department of
Air Quality & Environmental Management
(DAQEM)
500 South Grand Central Parkway
P.O. Box 555210
Las Vegas, NV 89155-5210

Dust Storms & Your Health

"What Everyone Should Know"

Air Quality

Protecting the air we share

Dust Storm Recap

Why is dust a public health issue?

- Increases breathing problems
- Damages lung tissue
- Aggravates existing health problems

What is the concern about dust and natural events?

The Clark County Department of Air Quality & Environmental Management in partnership with Public Health Officials, developed a plan to protect public health. The plan is called the Natural Events Action Plan (NEAP) for Clark County.

- As described in this document dust can cause a negative health impact. Not all sources of dust are caused by humans or can be controlled. When high winds occur, we all need to be aware of the potential health impacts and how to avoid exposure.

What is Clark County doing as part of the Natural Events Action Plan?

- Notify the public of when the air quality is affected by high-wind events.
- Minimize public exposure to high levels of PM_{10} using notification and health advisory programs.
- Take actions needed to reduce particulate matter (when and where) possible during high-wind events.

For more information visit our web-site at: www.accessclarkcounty.com

A monitoring link at this website will tell you about current air quality conditions in your neighborhood. Below is the Air Quality Index (AQI) used to rate air quality.

GOOD
MODERATE
UNHEALTHY FOR SENSITIVE GROUPS
UNHEALTHY
VERY UNHEALTHY

Protecting the air we share

Air Quality

Appendix C
Exhibit 1 – Dust Storms & Your Health Brochure

The Natural Events Action Plan

The Natural Event Action Plan allows states flexibility to meet the PM_{10} standard, while providing public health protection. The NEAP applies to three categories of natural events that can cause high PM_{10} levels: (1) volcanic; (2) seismic (earthquake) activities; and (3) high-wind events. Under this policy, particulate matter (or dust) exceedances generated by high winds are considered natural events if they occur over natural undisturbed areas or areas that have been disturbed by human activities with appropriate controls in place.

The Clark County Department of Air Quality & Environmental Management, Public Health Officials, and local governmental agencies are encouraged to develop such a plan to protect public health during high-wind events. The plan includes the following:

- Public education about the harmful effects of particulate matter;
- Public notification when air quality is or will be affected by high-wind events;
- Programs to enable the general public and high risk individuals to minimize their exposure to air laden with particulate matter; and
- Actions to reduce particulate matter (when possible) during high-wind events.

Why should I be concerned about dust storms?

Dust storms can cause a number of serious health problems and they can make some health problems worse. Dust is made up of tiny solid particles ("particulate matter") floating in the air. These tiny particles can get past the lungs' natural defenses and build up. This can harm sensitive lung tissue. Of course, during severe dust storms, more dust can get into the lungs. Dust irritates the lungs and can trigger allergic reactions, as well as asthma attacks. For people who already have these health conditions these attacks can be serious and cause breathing problems. Dust can cause coughing, wheezing and runny noses. Finally, breathing a lot of dust over a long period of time can cause chronic breathing and lung problems.

Who should take special precautions?

Everyone!

Anyone can potentially be harmed by breathing too much dust. However, the following groups are at the highest risk:

- Infants, children, teens and elderly
- People with asthma, bronchitis, emphysema, or other respiratory conditions
- People with heart disease
- Pregnant women
- Healthy adults working or exercising vigorously outdoor (for example, agricultural workers, construction workers, and runners)

How will I know if there is a problem?

A child visiting the doctor after a windy day

For you, the easiest way to tell if there may be a problem is if you see a lot of dust in the air. For instance, if the blowing dust is so thick that it's hard to see the mountains, then that could mean that dust levels might be harmful right now. More detail on federal standards plus the previous days particulate matter levels can be found by visiting the Clark County Department of Air Quality & Environmental Management web site.

What causes dust storms?

Dust storms are caused by a combination of weather conditions, features of the natural environment, and human activity. High winds can raise large amounts of dust from areas of dry, loose, exposed soil. In this area, high winds are most common during the months of March through August. Most dust storms last about 4 to 6 hours.

For more information on *Dust Storms and Your Health* contact the Clark County Department of Air Quality & Environmental Management at (702) 455-5942 or log on to: www.accessclarkcounty.com

Air Quality Tips

Health Tips:

- *The best precaution is simply to avoid going outside during severe dust storms*
- *Avoid hard or vigorous exercise outdoors*
- *Wear some type of covering over your nose and mouth, which will provide protection from small particles.*

Prevention Tips:

- *Drive slowly on unpaved roads and other dirt surfaces.*
- *Don't take shortcuts across vacant lots*
- *Avoid OHV riding in nonattainment areas.*
- *Fence-off barren property or cover it with gravel, rock or desert friendly landscaping.*
- *Call the Department of Air Quality's dust complaint hotline at 385-DUST (3878) to report excessive amounts of blowing dust from construction sites and other sources. Every complaint is investigated.*

Appendix C
Exhibit 1 (S) – Dust Storms & Your Health Brochure (Spanish Version)

Air Quality
Protecting the air we share
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Air Quality & Environmental Management
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500 South Grand Central Parkway
P.O. Box 555210
Las Vegas, NV 89155-5210

Las Tormentas de Polvo Y Su Salud

"Lo que todos deben saber"

Air Quality
Protecting the air we share

Un Resumen acerca de las Tormentas de Polvo

¿Por qué el polvo es un tema de salud pública?

- Incrementa los problemas respiratorios
- Daña los tejidos de los pulmones
- Agrava los problemas existentes de salud

¿Cuáles son las consecuencias de las tormentas de polvo y eventos naturales?

El Departamento de Control de la Calidad del Aire y Manejo Ambiental, en colaboración con functionarios de salud pública desarrollaron un plan. Este plan se llama el Plan de Acción ante Eventos de la Naturaleza.

- Tal como se describe en este documento el polvo puede causar un impacto negativo en la salud. No todas las fuentes de polvo son causadas por humanos o pueden ser controladas. Cuando vientos fuertes ocurren, necesitamos estar concientes del posible impacto a la salud y de cómo podemos evitar estar expuestos.

¿Que está haciendo el Condado de Clark, como parte del plan de acción ante Enventos de la Naturaleza?

- Notifica al publico cuando la calidad del aire ha sido afectada por vientos fuertes.
- Minimiza la exposición del público a altos niveles de PM_{10} en el aire, notificando al publico y ofreciendo programas de asesoramiento relacionados con la salud.
- Realiza las acciones necesarias para reducir el material particulado (dónde y cuando sea posible) durante los eventos de vientos fuertes.

Para obtener más información, visite nuestro sitio de la Internet en www.accessclarkcounty.com

Un enlace de monitoreo en este sitio le notificará de las condiciones de la calidad del aire en su vecindario. A continuación está el índice de Calidad del Aire (AQI) que se utiliza para calificar la calidad del aire.

BUENO
MODERADO
INSALUBRE PARA GRUPOS SENSIBLES
INSALUBRE
MUY INSALUBRE

Air Quality
Protecting the air we share

Appendix C
Exhibit 1 (S) – Dust Storms & Your Health Brochure (Spanish Version)

PLAN DE ACCIÓN PARA EVENTOS NATURALES

El Plan de Acción para Eventos Naturales le permite a los estados tener flexibilidad para cumplir con las normas del PM10, mientras proveen protección a la salud pública. El NEAP es procedente a tres categorías de eventos naturales que pueden causar un alto nivel de PM10: (1) volcánicos; (2) sísmicos (terremotos) y (3) vientos fuertes. Según este reglamento, el exceso de material particulado (o polvo) que se genera por medio de vientos fuertes es considerado un acto de la naturaleza si es que ocurre en zonas virgenes o en zonas que han sido alteradas por actividad humana, con debidos controles sobre las mismas.

Se le ha sugerido al Departamento de Control de Calidad del Aire y Manejo Ambiental del Condado de Clark y a las agencias del gobierno local que implementen tal programa para proteger la salud pública cuando ocurren vientos fuertes. El Plan incluye lo siguiente:

- Instrucción Pública acerca de los efectos dañinos de material particulado en el aire;
- Anuncios públicos cuando el aire es o será afectado por vientos fuertes;
- Programas para capacitar al público en general y a los individuos de alto riesgo a que reduzcan su exposición al aire saturado con material particulado; y
- Tomar medidas para reducir el material particulado en el aire (siempre que sea posible) cuando ocurren vientos fuertes.

¿POR QUÉ ME DEBO PREOCUPAR POR LAS TORMENTAS DE POLVO?

Las tormentas de polvo pueden causar un número de serios problemas de salud y también pueden empeorar algunos problemas ya existentes. El polvo está formado de pequeñísimas partículas (material particulado) que flotan en el aire. Estas pequeñas partículas pueden escapar a las defensas naturales de los pulmones y acumularse. Esto puede dañar el tejido sensible de los pulmones. Y desde luego, durante una tormenta fuerte de polvo, más polvo puede entrar en los pulmones. El polvo irrita los pulmones y puede provocar reacciones alérgicas, así como ataques de asma. Para las personas que ya sufren de esas afecciones, estos ataques pueden ser serios y causar problemas respiratorios. El polvo puede provocar tos, dificultad para respirar y secreciones nasales. Y por último, el respirar mucho polvo por un largo periodo de tiempo, puede causar problemas crónicos del pulmón y respiratorios.

¿QUIÉN DEBE TOMAR PRECAUCIONES ESPECIALES?

¡TODOS!

Cualquier persona puede perjudicarse por respirar demasiado polvo. Sin embargo, los siguientes grupos, son los de más alto riesgo:

- Infantes, niños, adolescentes y ancianos.
- Personas con asma, bronquitis, enfisema, u otras afecciones del sistema respiratorio.
- Personas con problemas cardíacos.
- Mujeres embarazadas.
- Adultos sanos que trabajan o se ejercitan vigorosamente al aire libre (por ejemplo: agricultores, trabajadores de la construcción y corredores).

¿CÓMO SABE SI EXISTE UN PROBLEMA?

Un niño visitando un doctor despues de un dia ventoso

Para usted, la forma más fácil de saber que puede haber un problema es ver si hay mucho polvo en el aire. Por ejemplo, si el polvo que acarrea el viento es tanto que es difícil ver las montañas, entonces eso puede indicar que los niveles de polvo pueden ser dañinos en ese momento. Información más detallada sobre las normas federales además de los niveles de material particulado en el aire en días previos, se puede encontrar visitando el sitio en la Internet del Departamento de Control de Calidad del Aire y Manejo Ambiental del Condado de Clark.

¿QUÉ PROVOCA LAS TORMENTAS DE POLVO?

Las tormentas de polvo pueden ser causadas por una combinación de condiciones del clima, características del medio ambiente natural y la actividad humana. Los vientos fuertes pueden levantar grandes cantidades de polvo de áreas secas, tierra suelta y expuesta. En esta zona, los vientos son comunes durante los meses de Marzo hasta Agosto. La mayor parte de las tormentas de polvo, duran como entre 4 y 6 horas.

Para recibir mas informacion acerca de *las tormentas de polvo y su salud*, póngase en contacto con el Departamento de Control de las Calidad del Aire y Manejo Ambiental al (702) 455-5942 o entre al sitio de la internet www.accessclarkcounty.com

CONSEJOS ACERCA DE LA CALIDAD DEL AIRE

Consejos acerca de la salud.

- *La mejor precaución es simplemente evitar salir durante las tormentas severas de polvo.*
- *Evite ejercicio duro y vigoroso al aire libre.*
- *Use algún tipo de protección sobre su nariz y boca lo cual le protegerá de pequeñas partículas.*

Consejos de prevención.

- *Maneje despacio cuando circule sobre caminos no pavimentados y superficies de tierra.*
- *No corte camino por lotes baldíos.*
- *No use vehículos de todo terreno (OHV) en zonas virgenes.*
- *Coloque un cerco en terrenos baldíos o cúbralos con grava, piedra o con jardinería típica del desierto.*
- *Llame al Departamento de Calidad del Aire, a la línea de quejas de polvo al 385-DUST(3878) para reportar niveles alto de polvo en zonas de construcción y otras fuentes. Todas las quejas serán investigadas.*

Exhibit 2

“*Protecting the Air We Share*”, brochure

Appendix C
Exhibit 2 – Protecting the Air We Share Brochure

Air Quality Information

For more information visit our website at: www.accessclarkcounty.com

A monitoring link at this website will tell you about current air quality conditions in your neighborhood. Below is the Air Quality Index (AQI) used to rate air quality.

GOOD
MODERATE
Unhealthy for Sensitive Groups
Unhealthy
Very Unhealthy

Contact Information

Department of Air Quality Management
Public Information
Phone: (702) 455-5942

Air Quality and Pollen Report Recording
Phone: (702) 385-4613

Dust Control Hotline
Phone: (702) 385-DUST (3878)

Smog Hotline
Phone: (702) 642-SMOG (7664)

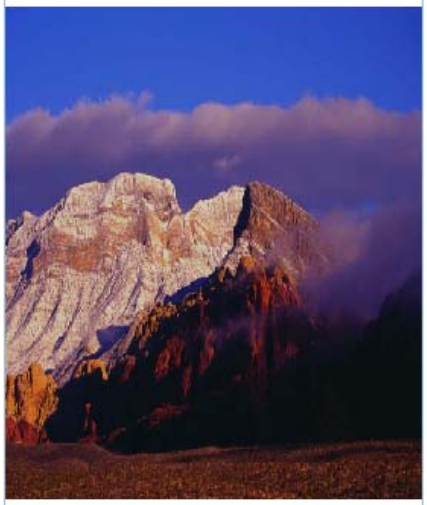
Small Business Assistance Program
(702) 262-9047 x117

Protecting the air we share
Air Quality

Clark County
Department of Air Quality Management
500 South Grand Central Pkwy
P.O. Box 551776
Las Vegas, NV 89155-1776

Protecting the air we share
Air Quality

Clark County Department of Air Quality Management



"Protecting the Air We Share"

Picture Courtesy of Brian Battaglia

Appendix C
Exhibit 2 – Protecting the Air We Share Brochure

Mission

The mission of the Department of Air Quality Management is to evaluate and improve the air quality through:

- Active public participation
- Air quality monitoring
- Outreach and education
- Regulation and compliance assurance
- Long-term planning

We implement clean air programs for the health and welfare of Clark County!

Air Quality Tips

- ✓ Drive on paved roads only
- ✓ Don't take short cuts across vacant lots
- ✓ Fence-off barren property or cover it with gravel, rock or desert-friendly landscaping
- ✓ Limit drive time by combining errands and car-pooling when possible
- ✓ Avoid driving your car on days when air quality is poor
- ✓ Limit use of wood-burning fireplaces, especially on bad air quality days
- ✓ Call DAQM's dust complaint hotline to report excessive amounts of blowing dust at 385-DUST (3878)
- ✓ Call DMV's smog hotline to report smoking vehicles on the road ways at 642-SMOG (7664)
- ✓ Take advantage of the RTC's local rideshare programs and public transit options. Call 228-7433 for CAT-RIDE or CLUB-RIDE information

Pollutants of Concern in Clark County

$PM_{2.5}$ & PM_{10}—Particulate Matter (smaller than the width of a human hair)
Sources: disturbed vacant lands/open areas, dust from unpaved roads, construction, burning wood, fuels, off-road vehicles; industrial plants

O_3—Ozone
Sources: chemical reaction of pollutants; VOCs and NO_x

VOC—Volatile Organic Compounds
Sources: burning fuel, boats, planes, trains, solvents, paints, glues and other products

NO_x— Oxides of Nitrogen
Sources: burning fuels, natural gas, coal, oil, etc.

CO—Carbon Monoxide
Sources: burning of fuels, natural gas, coal, oil, etc.

SO_2—Sulfur Dioxide
Sources: burning of coal and oil, especially high-sulfur coal from the Eastern United States; industrial processes (paper, metals)

Clark County's Air Quality Program

In 1970, the United States Congress passed the Clean Air Act. Together with amendments passed in 1977 and 1990 this law, administered by the U.S. Environmental Protection Agency, is the foundation of air pollution control efforts in the United States. The Nevada Division of Environmental Protection and the Department of Air Quality Management regulates sources of air pollution in Clark County to insure compliance with the Clean Air Act.

Exhibit 3

“*Dust Storms and Your Health*”, postcard

Appendix C Exhibit 3 – Dust Storms and Your Health Postcard

Clark County Department of Air Quality & Environmental Management

Dust Storms & Your Health

Particulate Matter, also known as "dust" is a big problem in Clark County. Dust is among the most harmful of all air pollutants. Activities such as construction and driving on unpaved roads cause dust to become airborne. Dust can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infection.

TIPS TO REDUCE DUST

- √ Drive slowly on unpaved roads and other dirt surfaces.
- √ Don't take short cuts across vacant lots.
- √ Avoid ORV riding in nonattainment areas.
- √ Fence off barren property or cover it with gravel, rock or desert friendly landscaping.
- √ If you own or operate an industrial source of PM, comply with local rules that apply to your operation. Work with local agencies to develop strategies that will further reduce PM emissions.
- √ Get involved with air quality improvement programs in your community. Call the Department of Air Quality's dust complaint hotline at 386-DUST (3878) to report excessive amounts of blowing dust.

Air Quality — Protecting the air we share

500 S. Grand Central Parkway
P.O. Box 555210
Las Vegas, NV 89155
(702) 455-5942
www.accessclarkcounty.com

Air Quality — Protecting the air we share

Clark County Department of Air Quality
& Environmental Management
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Las Vegas, NV 89155-5210

PLEASE PLACE STAMP HERE

Back of the Postcard

Appendix C Exhibit 3 (S) – Dust Storms and Your Health Postcard (Spanish Version)

Departamento de Control de Calidad del Aire y Manejo Ambiental del Condado de Clark

Las Tormentas de Polvo Y Su Salud

El Material Particulado, también conocido como "polvo" es un gran problema en el Condado de Clark. De los contaminantes del aire, el polvo es uno de los mas dañinos. El trabajo en la construcción y el conducir en calles no pavimentadas causan que el polvo se levante en el aire. El polvo puede aumentar el número y la severidad de ataques de asma, causar o empeorar bronquitis y otras enfermedades pulmonares, y reducir la habilidad del organismo para combatir infecciones.

Ideas Para Reducir el Polvo

- ✓ Maneje despacio en caminos y otras superficies no pavimentadas.
- ✓ No corte camino a través de lotes baldíos.
- ✓ No pasee en vehículo de todo terreno (TT), en áreas no capacitadas para ello.
- ✓ Cercar terrenos baldíos o cubrirlos con grava, piedra o crear áreas de jardinería desértica.
- ✓ Si usted es propietario o es operador de una industria donde se origine Material Particulado, cumpla con las normas que son procedentes a su operación. Trabaje con las Agencias locales para desarrollar estrategias que mejoren las emisiones bajo las normas de Material Particulado.
- ✓ Participe con los programas de mejoramiento de control de la calidad del aire en su comunidad.
- ✓ Llame al Departamento de Control de Calidad del Aire, a la línea de quejas al 385-DUST para informar cantidades excesivas de polvo en el aire.

Protecting the air we share
Air Quality

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(702) 455-5942
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Air Quality

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Las Vegas, NV 89155-5210

PLEASE
PLACE
STAMP
HERE

Back of the Postcard

Exhibit 4

“*Tips to Reduce Dust and Particulates*”, fact sheet

Appendix C
Exhibit 4 – Tips to Reduce Dust and Particulates Factsheet

Protecting the air we share

Air Quality

Tips to Reduce Dust & Particulates

- Drive on paved roads only.
- Don't take short cuts across vacant lots.
- Fence off barren property or cover it with gravel, rock or desert-friendly landscaping.
- Ride ATV's and other off-road vehicles outside the valley's non-attainment area.
- Call the Department of Air Quality's dust complaint hotline at 385-DUST (3878) to report excessive amounts of blowing dust from construction sites and other sources. Every complaint is investigated.
- Combine vehicle trips to reduce how often you start your car and the number of miles you travel.
- Car pool and/or use alternative methods of transportation when possible. For bus-route and CLUB Ride Commuter Services information, contact the Regional Transportation Commission at 228-7433, CAT-RIDE.
- Reduce wood burning, especially on high dust days.
- Click on **accessclarkcounty.com** to visit the Air Quality Department's website and find out more about local air quality issues. You can even check out the current air quality of your own neighborhood. Get involved. Want more information? Please call 702-455-5942.

####

Exhibit 5

"Air Quality Questions and Answers – Particulate Matter", fact sheet

Appendix C

Exhibit 5 – Air Quality Questions and Answers – Particulate Matter Fact Sheet

Protecting the air we share

Air Quality

Air Quality Questions & Answers – Particulate Matter:

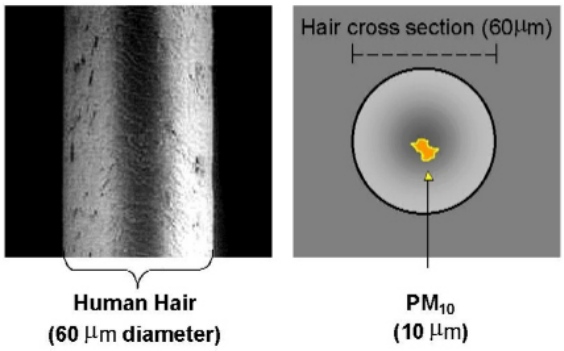
What is particulate matter?

Particulate matter is a type of air pollution that includes fine dust, dirt, soot and smoke. It can also appear as droplets. Much of the matter is so small you can't see it. It is generally grouped into two sizes:

- PM_{10} stands for particulate matter measuring 10 microns or less, thinner than the width of a human hair.

- $PM_{2.5}$ (Referred to as "P-M two-point five.") identifies particulates smaller than 2.5 micrometers. These particles can stay airborne several days and make up as much as half the haze you see around the valley.

HOW SMALL IS PM_{10}?



How does particulate matter get into your body?

When you inhale, you breathe in air as well as any particles that are floating in the air. The particles can travel into your respiratory system, and get lodged in your airway or lungs.

What effects can particulate matter have on my health?

Research suggests particulate matter may have more impact on human health than any other type of air pollutant. Exposure aggravates respiratory diseases like asthma and may cause coughing, wheezing and shortness of breath.

Which type of particulate matter is worse for you?

Researchers say the smaller $PM_{2.5}$ particles may be more hazardous to your health because they can travel deeper into your lungs. Clark County's Department of Air Quality Management has collected data on $PM_{2.5}$ since 1996. The valley remains in attainment with new $PM_{2.5}$ national air pollution standards set by the U.S. Environmental Protection Agency.

What is a State Implementation Plan?

States are required to develop a State Implementation Plan (SIP) if they don't comply with national air quality standards involving one of six major air pollutants: carbon monoxide, particulate matter, ozone, lead, sulfur dioxide, and nitrogen dioxide. Elevated concentrations of these pollutants beyond national standards pose health risks. State Implementation Plans typically include a collection of new regulations a state will use to improve air quality in an affected area. The plan development process must involve public hearings.

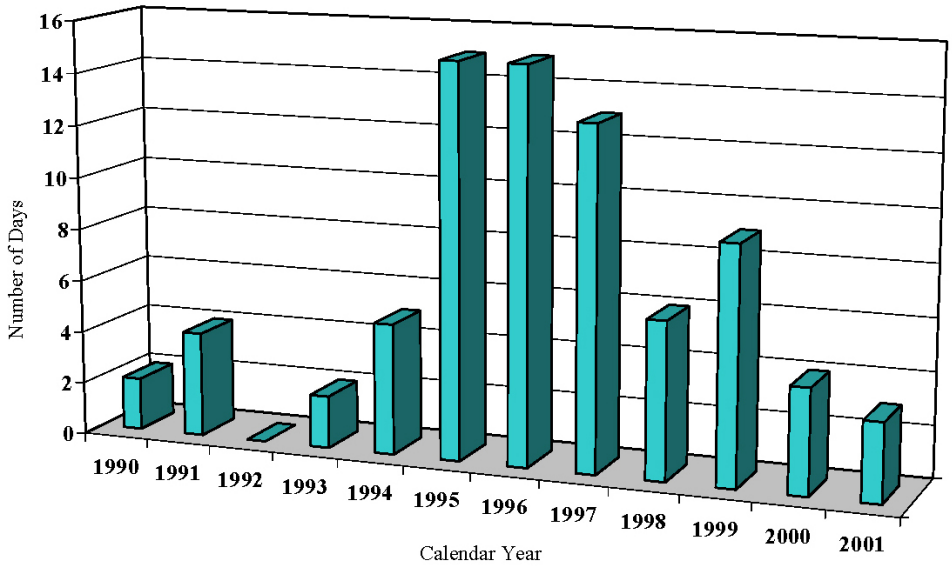
Which pollutants are of most concern in Clark County?

In Clark County, concentrations of lead, sulfur dioxide and nitrogen oxide are well below national air quality standards, but local air quality officials have completed State Implementation Plans to address PM_{10} and carbon monoxide.

Appendix C

Exhibit 5 – Air Quality Questions and Answers – Particulate Matter Fact Sheet

- The Las Vegas Valley was designated as a serious nonattainment area for PM_{10} on Jan. 8, 1993. However, officials expect the EPA to approve the county's SIP to control PM_{10} soon. The plan requires the valley to demonstrate attainment of the EPA's 24-hour standard for PM_{10} by 2006.



PM_{10} Violation Days (1990-2001)

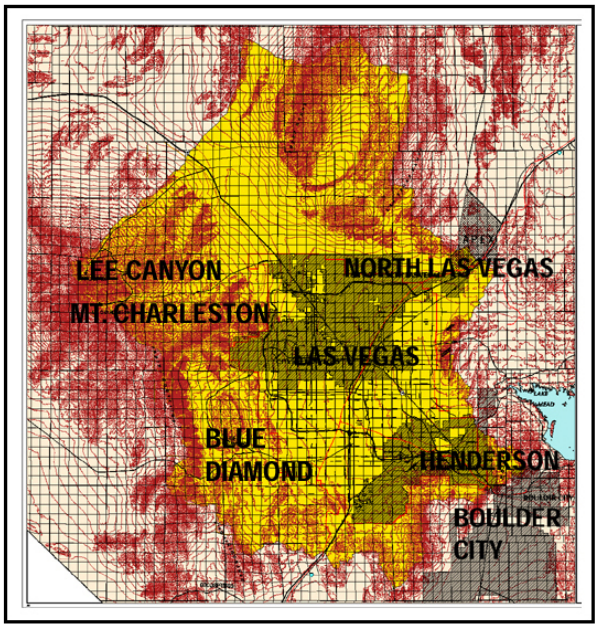
- The Las Vegas Valley was designated as a serious nonattainment area for carbon monoxide on Nov. 3, 1997. Carbon monoxide is a colorless, odorless gas created from the burning of fossil fuels such as gasoline, oil or wood. Automobiles produce 85 percent of the valley's carbon monoxide emissions. The county submitted a SIP to control carbon monoxide in August 2000. Officials hope EPA approval of the plan will come in the spring of 2003. Southern Nevada has not violated national carbon monoxide standards since 1999.

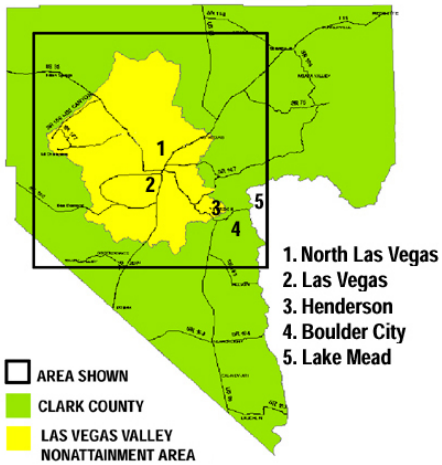
- Ozone is a concern in the valley, especially during the summer months. Ten to 30 miles above the earth, ozone protects us from the sun's harmful rays, but formation of the gas at lower altitudes

can trigger coughing, reduce lung function and worsen respiratory illnesses like asthma or bronchitis. Ozone is created from a complex chemical reaction involving sunlight, high temperatures and man-made pollutants in smog. On April 15, 2004, Clark County and almost 300 other communities in the United States were designated as nonattainment for failing to meet the EPA's new, eight-hour ozone standard. Clark County was classified as basic nonattainment, which is the least severe of the possible classifications. However, the designation means Clark County has three to five years to meet the new standard or face sanctions, including the loss of millions of dollars in federal highway funds.

How big is the valley's nonattainment area?

Southern Nevada's nonattainment area for both carbon monoxide and PM_{10} extends 1,500 square miles and covers all urban areas in the Las Vegas Valley, including the cities of Las Vegas, Henderson and North Las Vegas.





Appendix C

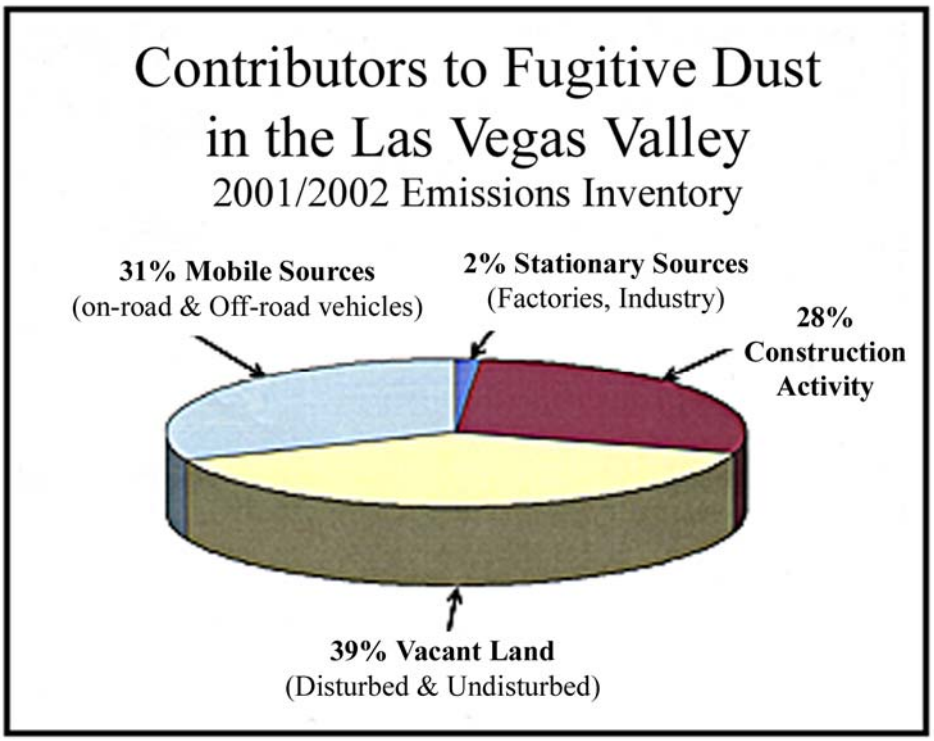
Exhibit 5 – Air Quality Questions and Answers – Particulate Matter Fact Sheet

Protecting the air we share

Air Quality

What are the major sources of dust in the valley?

Most PM_{10} emissions are due to wind-blown dust from a variety of sources, including construction, unpaved roads, urban mining operations, and off-road riding on vacant lands. Combustion particles from car and truck emissions also play a role.



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Note: For more information, please call the department at 702-455-5942

Exhibit 6

“*Particulate Air Pollution – Particulate Matter Air Pollution From Natural Events*”, briefing sheet

Appendix C
Exhibit 6 - Particulate Air Pollution – Particulate Matter Air Pollution From Natural Events – Briefing Sheet

Revised in August 2004

Particulate Air Pollution

Particulate Matter Air Pollution From Natural Events

BACKGROUND

Particulate matter (PM) air pollution is caused by tiny dust particles that float in the air. Small particles, ten (10) microns or less in size, are called PM_{10}. Ten (10) microns is equal to about one-seventh of the diameter of a human hair. These tiny particles are small enough for us to breathe deeply into our lungs. We usually associate air pollution from particulate matter with human activities like construction; disturbing vacant land; driving on unpaved roads; and soot from industry. Natural events like windstorms, volcanic eruptions, earthquakes and wildfires also affect air quality. These natural events produce airborne particles of dust and soot that can cause health problems. The United States Environmental Protection Agency (U. S. EPA) regulates particulate matter through health-based air quality standards.

HEALTH CONCERN ASSOCIATED WITH PARTICULATE AIR POLLUTION

PM_{10} includes a variety of substances, such as dust, smoke, and soot. These tiny particles are small enough to bypass our natural defenses and go deep into our lungs. High amounts of PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Infants, children, the elderly, people suffering from chronic lung diseases, and anyone who is exercising (because they breathe in more air, and therefore more particles), are the most at risk.

In addition to health concerns, dust generated from certain activities, like high winds, reduce visibility, and can cause accidents. Particulate matter pollution can impair the health of animals and vegetation, cause property damage, and in general reduce the quality of life.

THE PROBLEM

Clark County is working very hard to meet the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM_{10}). However, dust storms generated by high winds have caused unhealthful levels of airborne particulate matter within Clark County. Drier conditions, lower precipitation regionally, and windy conditions that often exceed the threshold of 25 mph with wind gusts of 40 miles per hour and higher, overwhelm natural and developed lands to

create exceedances of the NAAQS for PM_{10}. The frequency and severity of these exceedances in Clark County are well above the national standards. While much of the dust in the Clark County area is caused by natural events such as high wind speeds and dry conditions throughout the area, the numbers of man-made dust sources are also increasing as Clark County becomes more populated and development increases.

To protect public health, the U. S. EPA designates areas where particulate matter levels exceed the standard as "nonattainment areas." State and local governments must then adopt plans to reduce air pollution in these areas to protect public health. Federal requirements for these areas are focused on reducing air pollution from industries and motor vehicles. Federally enforceable state and local requirements control dust sources. However, the traditional approach of controlling factories, processes, tailpipe emissions, and dust sources do not fix a PM_{10} problem created by natural events such as blowing dust caused by high winds. Scientific studies and real world experience demonstrate that high winds overwhelm even the most effective dust control measures. High wind events also cause exceedances of the NAAQS for PM_{10}, on native desert areas that have not been disturbed by human activity. Because of this, in 1996 the western states requested a new U. S. EPA policy for air pollution caused by natural events.

U. S. EPA'S POLICY ON NATURAL EVENTS

At the urging of western states, the U. S. EPA agreed to try a common sense approach to the problem. In May 1996, the U. S. EPA adopted a new policy for natural events. The Natural Events Policy (NEP) allows states flexibility to meet the PM_{10} standard, while providing public health protection. The NEP applies to three categories of natural events that can cause high PM_{10} levels: (1) volcanic and seismic (earthquake) activities; (2) wildfires; and, (3) high wind events. Under this policy, particulate matter (or dust) exceedances generated by high winds are considered natural events if they occur over natural undisturbed areas or areas that have been disturbed by human activities with appropriate controls in place. These "natural events" exceedances may be excluded when making a determination on air quality compliance with the federal standard. However, if controls are not in place for human caused sources of windblown dust, the exceedances due to high winds cannot be excluded.

This policy outlines requirements in general terms and urges local stakeholder involvement in developing the actual plan. These general requirements include public health education, public notification, and control of human-caused sources of windblown dust where feasible and effective. If a state, with stakeholder involvement, develops and implements a plan that responds to public health effects influenced by natural events, the U. S. EPA allows exclusion of natural event exceedances in the determination of an area's air quality designation.

The Clark County Department of Air Quality and Environmental Management and local governmental agencies are encouraged to develop such a plan to protect public health during natural events. The plan includes:

- public education about the harmful effects of particulate matter;
- public notification when air quality is or will be affected by high-wind events;
- programs to enable the general public and high risk individuals to minimize their exposure to air laden with particulate matter; and
- actions to reduce particulate matter (when possible) during high-wind events.

Since Clark County's exceedances are typically due to blowing dust driven by high winds, these actions could include enhanced public outreach efforts, requirements for additional dust suppression during a wind event and additional enforcement/compliance efforts by air regulatory agencies during wind events.

HOW DOES THIS POLICY AFFECT Clark COUNTY?

Dust storms are the most common natural events causing particulate matter air pollution in Clark County. Clark County could fail to reach attainment of the NAAQS for PM_{10} as projected in the June 2001 PM_{10} State Implementation Plan (SIP). By excluding uncontrollable wind events from consideration in the determination of Clark County air quality attainment status, Clark County will avoid the preparation of additional five percent (5%) per year, State Implementation Plan revisions[1].

FUTURE ACTIONS

Once a natural event action plan is developed and implemented for Clark County, the plan's effectiveness is reviewed and evaluated every five years. The re-evaluation process evaluates the plan's effectiveness and feasibility and makes any necessary changes. Public education continues for both health concerns and available control measures.

FOR MORE INFORMATION

Call the Clark County Department of Air Quality and Environmental Management at (702) 455-5942 or visit our WEB Site at www.co.clark.nv.us/air_quality/index.htm

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[1] Federal Clean Air Act (CAA) SEC. 189. PLAN PROVISIONS AND SCHEDULES FOR PLAN SUBMISSIONS (b) Serious Areas. (d) Failure to Attain. - In the case of a Serious PM_{10} nonattainment area in which the PM_{10} standard is not attained by the applicable attainment date, the State in which such area is located shall, after notice and opportunity for public comment, submit within 12 months after the applicable attainment date, plan revisions which provide for attainment of the PM_{10} air quality standard and, from the date of such submission until attainment, for an annual reduction in PM_{10} or PM_{10} precursor emissions within the area of not less than five percent (5%) of the amount of such emissions as reported in the most recent inventory prepared for such area.

Appendix C
Exhibit 6 - Particulate Air Pollution – Particulate Matter Air Pollution From Natural Events – Briefing Sheet (Spanish Version)

Revised in August 2004

PROTEGIENDO EL AIRE QUE COMPARTIMOS

LA CALIDAD DEL AIRE

CONTAMINACIÓN DEBIDO A MATERIAL PARTICULADO EN EL AIRE

CONTAMINACIÓN DEBIDO A MATERIAL PARTICULADO EN EL AIRE QUE PROVIENE DE EVENTOS NATURALES

ANTECEDENTES

La contaminación por material particulado (PM) en el aire es causado por pequeñas partículas de polvo que flotan en el aire. Esas pequeñas partículas, diez (10) micras o menos en tamaño, se les conoce como PM_{10}. Diez (10) micras corresponden a la séptima parte del diámetro de un cabello humano. Esas pequeñas partículas son lo suficientemente pequeñas como para que las inhalemos profundamente en nuestros pulmones. Generalmente asociamos la contaminación del aire con actividades humanas tales como la construcción, modificación de terrenos baldíos; manejar en caminos no pavimentados y el hollín industrial. Los eventos naturales, tales como ventarrones, erupciones volcánicas, terremotos e incendios forestales, también afectan la calidad del aire. Estos eventos naturales producen material particulado aéreo de polvo y de hollín que pueden causar problemas de salud. La Agencia de Protección del Medio Ambiente de los Estados Unidos (U.S. EPA) regula el material particulado, por medio de las normas que rigen la calidad del aire basados en la salud.

EFECTOS SOBRE LA SALUD ASOCIADOS CON LA CONTAMINACIÓN DE MATERIAL PARTICULADO EN EL AIRE

PM_{10} se compone de una variedad de substancias, tales como polvo, humo y hollín. Esas diminutas partículas, son tan pequeñas que escapan a nuestras defensas naturales y penetran a lo más profundo de nuestros pulmones. Altas cantidades de PM_{10} pueden aumentar la severidad y el número de los ataques de asma, pueden causar una bronquitis más severa y otras enfermedades pulmonares y pueden reducir la habilidad del cuerpo para combatir infecciones. Los infantes, niños, ancianos, personas que sufren de

enfermedades pulmonares crónicas y cualquier persona que hace ejercicio (debido a que aspiran más aire y por lo tanto más partículas contaminantes) son los que corren alto riesgo.

Además de los efectos sobre la salud, el polvo generado por ciertas actividades, como vientos fuertes, reducen la visibilidad y pueden causar accidentes. La contaminante por material particulado puede perjudicar la salud de los animales como también puede perjudicar la vegetación, causar daños a la propiedad y en general reducir la calidad de la vida.

EL PROBLEMA

El Condado de Clark, está trabajando diligentemente para lograr que el nivel del material particulado en el aire (PM_{10}) esté de acuerdo con las Normas Ambientales de la Calidad del Aire a Nivel Nacional. (NAAQS). Sin embargo las tormentas de polvo generadas por los vientos fuertes han creado niveles insalubres en lo que respecta a partículas aéreas dentro del Condado de Clark. Las condiciones de una mayor sequía, baja precipitación regional y vientos que con frecuencia exceden el umbral de 25 MPH con ráfagas de 40 millas por hora y aún más altas, imponiéndose sobre terrenos naturales y desarrollados y así se sobrepasa el NAAQS para PM_{10}. La frecuencia y severidad de esos excedentes en el Condado de Clark, van más allá de las normas Nacionales. Mientras que mucho del polvo en el Condado de Clark es causado por eventos naturales tales como vientos de alta velocidad y condiciones de sequía por toda la zona, el número de fuentes de polvo provocadas por el hombre también están aumentando debido al crecimiento de la población y urbanización del Condado de Clark.

Para proteger la salud del público el U.S. EPA señala zonas en donde los niveles de las partículas del aire exceden las normas como “áreas de incumplimiento.” Entonces los gobiernos estatales y locales deben de adoptar planes para reducir la contaminación del aire en esas zonas para proteger la salud de la población. Los requisitos Federales para esos lugares están enfocados en reducir la contaminación del aire provocada por las industrias y vehículos de motor. Requisitos estatales y locales regidos por el gobierno federal controlan las fuentes de polvo. Sin embargo el enfoque tradicional de controlar industrias, procesos, emisiones de tubos de escape, y de fuentes de polvo no solucionan el problema de PM_{10} creado por eventos naturales, tales como polvaredas causadas por vientos fuertes. Estudios científicos y la experiencia en el mundo real, demuestran que los vientos fuertes pueden vencer aún las mejores medidas de control del polvo. Los vientos fuertes también causan excedentes de NAAQS para PM_{10} en las zonas del desierto natural que no han sido alteradas por la actividad humana. Debido a esto, en 1996 los estados occidentales solicitaron a U.S. EPA un nuevo reglamento para la contaminación ambiental causada eventos naturales.

POLÍTICAS DE U.S. EPA ANTE EVENTOS NATURALES

Ante el pedido urgente de algunos estados occidentales, el U.S. EPA accedió a tratar de resolver el problema usando el sentido común. En Mayo de 1996, el U.S. EPA adoptó

una nueva política ante eventos naturales. Esta nueva política le permite a los estados tener flexibilidad para lograr las normas de PM_{10}, mientras provee al público protección para la salud. El NEP tiene que ver con tres categorías de eventos naturales que pueden ocasionar PM_{10} más altos: 1) erupciones volcánicas y movimientos sísmicos (terremotos); (2) incendios forestales; y (3) vientos de alta velocidad. Según esta política, los excedentes de material particulado (o polvo) generados por ventarrones, son considerados eventos naturales, si esto ocurre en zonas vírgenes o en lugares que han sido alterados por el hombre con regulamentos vigentes adecuados. Estos excedentes de "eventos naturales" se pueden excluír cuando se hace una determinación sobre el cumplimiento de las normas federales de la calidad del aire. Sin embargo, si no existen controles adecuados para los casos donde los humanos son los causantes de que haya polvo en el aire, los excedentes debido a vientos fuertes, no podrán ser excluídos.

Esta política delinea los requisitos en términos generales y urge a los interesados a participar para que en realidad se desarrolle el plan. Estos requisitos generales incluyen instrucción relacionada con la salud pública, notificación al público, y control de las fuentes de polvo que levanta el viento generadas por el hombre, siempre y cuando sea factible y efectivo. Si un estado, con la participación de las partes interesadas, desarrolla e implementa un plan que responda a los efectos de los eventos naturales en la salud pública, el U.S. EPA permite la exclusión de excedentes causados por actos de la naturaleza en la determinación de la designación de la calidad del aire de una zona.

El Departamento de Control de Calidad del Aire en el Condado de Clark y las agencias de gobiernos locales, han sido alentados a desarrollar dicho plan para proteger la salud pública, durante actos de la naturaleza. El plan incluye:

- Instrucción pública, acerca de los efectos dañinos del material particulado.
- Notificación pública cuando la calidad del aire es o será afectada por eventos naturales.
- Programas para permitir que el público en general y los individuos que corren un alto riesgo minimicen su exposición al aire cargado de materia particulada; y
- Tomar acciones para la reducción de materia particulada (cuando sea posible) durante eventos de vientos fuertes.

Puesto que los excedentes en el Condado de Clark se deben típicamente a polvo levantado que acarrean los vientos de alta velocidad, esta acción pudiera incluir un esfuerzo del público en mayor proporción, requisitos para la supresión de polvo adicional durante tormentas de viento y un mayor esfuerzo para cumplir/ejecutar las normas de las agencias que regulan la calidad del aire durante vientos fuertes.

¿CÓMO PUEDE ESTA POLÍTICA AFECTAR AL CONDADO DE CLARK?

Las tormentas de polvo, son los incidentes más comunes que causan contaminación de materia particulada en el Condado de Clark. El Condado de Clark podría fallar en alcanzar las metas establecidas de la NAAQS para PM_{10}, tal como se proyectó en Junio

del 2001, en la Implementación del Plan de PM_{10} para el Estado (SIP). Al excluir los incidentes de viento incontrolables en la consideración para determinar la meta de alcanzar un estado de cumplimiento de la calidad del aire en el Condado de Clark, el Condado de Clark evitará la preparación de un cinco por ciento (5%) adicional de revisiones del Plan Estatal de Implementación.[1]

ACCIONES FUTURAS

Una vez que se desarrolla un Plan de acción para eventos naturales, en el Condado de Clark, la efectividad de dicho plan será evaluado y revisado cada cinco años. El proceso de re-evaluación analiza la efectividad del plan y su viabilidad y hará los cambios necesarios. La instrucción del público continuará, tanto para los efectos sobre la salud como para medidas de control disponibles.

PARA RECIBIR MAYOR INFORMACIÓN

Llame al Departamento de Control de Calidad del Aire del Condado de Clark al (702) 455-5942 o visítenos en nuestro sitio de la Internet en www.co.clark.nv.us-quality-index.htm

[1] La Ley General Federal de Aire Limpio (CAA) SEC. 189 PROVISIONES PARA LOS PLANES Y CALENDARIZACIÓN PARA LA PRESENTACION DEL PLAN. (b) Areas Severas (d) Incumplimiento – En el caso severo, de no lograr un PM_{10} en la zona en la cual la norma del PM_{10} no se logra en la fecha indicada, el Estado puede, en tal zona, después de la debida notificación y oportunidad para que el público haga comentarios, presentar dentro de doce meses después de la fecha indicada para el cumplimiento, un plan con revisiones que provea el logro de las normas del control del aire del PM_{10}, y a partir de la fecha de dicha presentación hasta que sea logrado, para una reducción anual de PM_{10}, o de emisiones precursoras de PM_{10}, dentro de la zona de no menos de un cinco por ciento (5%), de las cantidades de tales emisiones como se informa en el inventario más reciente preparado para tal zona.

Exhibit 7

"The Natural Events Action Plan", a presentation by the Clark County Department of Air Quality & Environmental Management"

Note: Slides are read left to right →

Protecting the air we share

Air Quality

Clark County
Natural Events Action Plan (NEAP) for High-Wind Events

(Las Vegas & Apex Valley's)

U. S. Environmental Protection Agency Requirements

- Natural Events Policy (NEP)
  - May 30, 1996 U. S. EPA Memorandum
- Protecting Public Health when PM_{10} Standards are violated due to Natural Events
- Natural Events:
  - Volcanic and Seismic Activity
  - Wild Land Fires
  - High-Wind Events

Natural Events Policy

- The guiding principles of the Natural Events policy are:
  - Federal, State, and local air quality agencies must protect public health
  - The public must be informed whenever air quality is unhealthy
  - All valid ambient air quality data should be submitted to the U. S. EPA Aerometric Information Retrieval System (AIRS) and made available for public access
  - Reasonable measures safeguarding public health must be taken regardless of the source of PM_{10} emissions
  - 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 (BACM)

High Wind Event Analysis & Justification Requirements

- High-Wind Events in the Las Vegas Valley in 2002, 2003, and 2004 were:
  1. March 1, 2002
  2. March 13, 2002
  3. April 15, 2002
  4. April 17, 2002
  5. October 29, 2003
  6. October 30, 2003
  7. April 28, 2004
  8. May 11, 2004

Note: Slides are read left to right ⟶

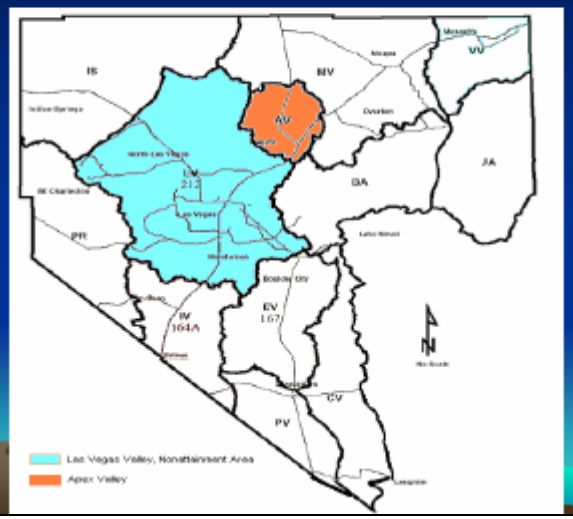
Elements of the Plan

- Public Outreach and Education
  - Notification made to the public of a High-Wind Event (Imminent or Occurring)
- Air Quality Advisory Notice
  - To Media, Public
  - FAX to Selected Stationary Sources, Dust Permit Permittees
- Air Quality Alert/Warning (Issued)
- Best Available Control Measure (BACM) Application
- Compliance/Enforcement Actions

Map of the NEAP Coverage Areas

- Only the Las Vegas Valley (Blue) and the Apex Valley (Brown) are specifically covered by this NEAP
- NEAP will have several elements that will address any events, which may occur in the future and will standardize the methodology in which the events will be handled to protect the health of the public

Map of the NEAP Area – All Clark County Airsheds

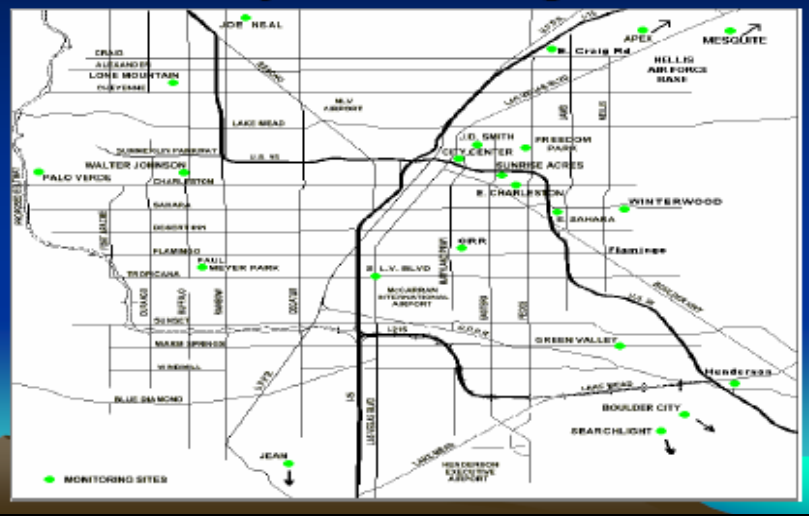


Air Quality Monitoring Network

- Clark County DAQEM operates a total of twenty-two (22) Air Quality Monitoring Sites within the Air Quality Monitoring Network
- Seventeen (17) sites are within the Las Vegas Valley – Hydrographic Area 212
- One (1) site is located in the Apex Valley - Hydrographic Areas 216/217

Note: Slides are read left to right ⟶

Clark County DAQEM Air Quality Monitoring Network



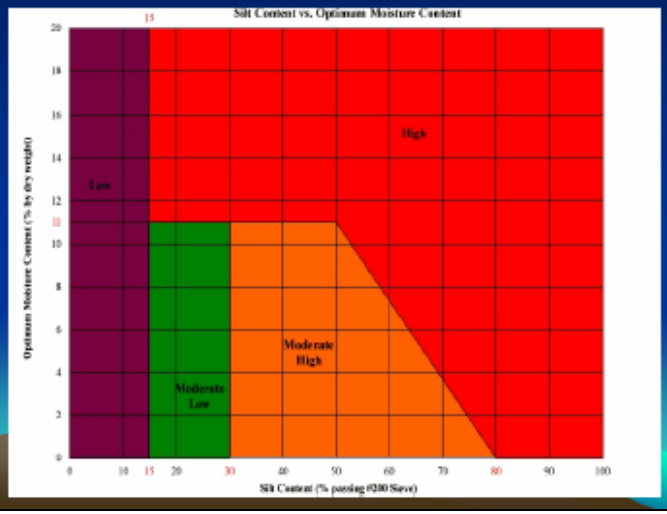
Soil Type Categories

- Soil types are classified into five categories (high, moderately high, moderately low, low, and slight) based on their particulate emission potential (PEP)
- PEP is determined by soil silt content (measured by the soil percentage that will pass through a 200-mesh sieve) and optimum moisture content (measured by the percent of moisture necessary to compact soils)

Soil Type Categories (cont'd)

- A graph, which plots measured optimum moisture content vs. silt content for Las Vegas Valley soils, is used to classify PEP

Silt Content vs. Optimum Moisture Content

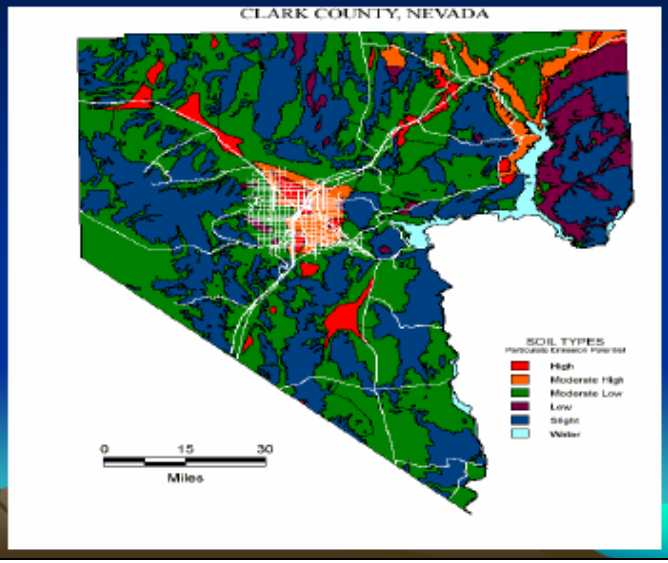


Note: Slides are read left to right →

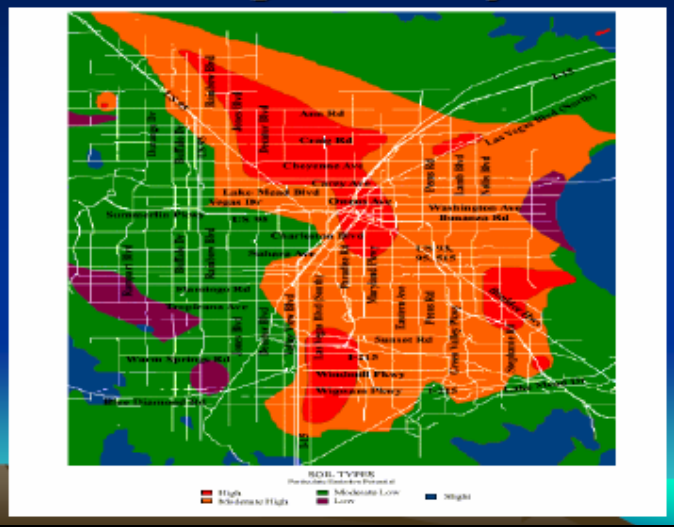
Soil Type Categories (cont'd)

- If optimum moisture content or silt content is not known for a specific project location, maps of Clark County and Las Vegas Valley delineating the five soil type categories are provided next
- Soil type category maps are to be used as a guideline only

County Soils Type Map



Valley Soils Type Map – Las Vegas Valley



Public Notification Program and Health Advisory Program

- The Natural Events Policy states that advisories should inform the public that a dust episode is imminent, currently taking place, or likely to occur

Note: Slides are read left to right →

Media Advisory

Public Communications • 500 S. Grand Central Parkway, 6th Fl., Las Vegas, NV 89155-1111 • Fax: (702) 455-3558

Contact: Stacey Welling
Sr. Public Information Analyst

Phone: (702) 455-3201
Cell: (702) 249-3823
E-mail: stac@co.clark.nv.us

For Immediate Release **Wednesday, March 26, 2003**

Air Quality Officials Issue Wind Advisory

Wednesday Forecast Calls for 45-Mile-Per-Hour Gusts

With strong winds expected in Southern Nevada this afternoon and tonight, Clark County Air Quality officials are advising residents and operators of local construction sites to brace for blowing dust and higher levels of PM-10.

The Las Vegas office of the National Weather Service predicts sustained winds of 25 to 35 miles an hour by Wednesday evening in Southern Nevada, with some gusts reaching 45 miles an hour. Under those conditions, Air Quality officials say people with asthma, emphysema and other respiratory diseases should consider staying indoors. As part of this advisory, officials also encourage construction site operators to take steps to check and stabilize their property for blowing dust and debris as required by local air quality regulations.

High winds in excess of 25 miles per hour tend to make the valley's PM-10 problems worse. PM-10 stands for particulate matter, primarily dust, 10 microns or less, which is smaller than the diameter of a human hair. It's a type of inhalable air pollution that aggravates respiratory diseases such as bronchitis or asthma. **During windy conditions, children, seniors and people with chronic respiratory problems are urged to stay indoors; Air Quality officials also advise all residents to limit outdoor exercise.**

The Las Vegas Valley currently does not meet the federal 24-hour air quality standard for PM-10. The U.S. Environmental Protection Agency, however is reviewing a plan that meets those standards. An important component of the plan is for the county's Air Quality Department to step up efforts to educate the public about the health hazards of dust and the possible economic consequences of not meeting federal air quality standards.

"The Las Vegas Valley faces the loss of millions of dollars in federal highway funding and other sanctions if we as a community don't do a better job controlling dust," said Christine Robinson, director of the Air Quality Management Dept. "We may not be able to control Mother Nature, but we certainly can work with residents and local industry to cut down on man-made sources of dust contributing to the problem."

Residents are encouraged to call Air Quality's dust-complaint hotline at 385-DUST to report excessive amounts of blowing dust. To find out more about local air quality issues, visit the department's website at www.accessclarkcounty.com.

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News release also available on the Internet at www.accessclarkcounty.com

Mary Kincaid-Chauncey, Chairwoman • Chip Maxfield, Vice Chairman • Yvonne Atkinson Gates • Mark A. Jacobs • Rory Reid • Myrna Williams • Bruce L. Woodbury / Thom Reilly, County Manager

Mail-Out Education Campaign

(English Version)

Clark County Department of Air Quality & Environmental Management

Dust Storms & Your Health

Particulate Matter, also known as "dust" is a big problem in Clark County. Dust is among the most harmful of all air pollutants. Activities such as construction and driving on unpaved roads cause dust to become airborne. Dust can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infection.

TIPS TO REDUCE DUST

- √ Cover dirt piles or unpaved roads and other dust sources.
- √ Don't take dust into your vehicle.
- √ Avoid ATV riding in sensitive areas.
- √ Water off heavy equipment or cover it with sheet, rock or dense breathable landscaping.
- √ If you own or operate an industrial source of PM, comply with local rules that apply to your operation. Work with local agencies to develop strategies that will further reduce PM emissions.
- √ Be involved with air quality improvement programs in your community. Call the Department of Air Quality's dust complaint hotline at 385-DUST (3878) to report excessive amounts of blowing dust.

Air Quality

Protecting the air we share

500 S. Grand Central Parkway
P.O. Box 555210
Las Vegas, NV 89155-5210
(702) 455-5942
www.accessclarkcounty.com

Mail-Out Education Campaign

(Spanish Version)

Departamento de Control de Calidad del Aire y Manejo Ambiental del Condado de Clark

Las Tormentas de Polvo Y Su Salud

El Material Particulado, también conocido como "polvo" es un gran problema en el Condado de Clark. De los contaminantes del aire, el polvo es uno de los más dañinos. El trabajo en la construcción y el conducir en calles no pavimentadas causan que el polvo se levante en el aire. El polvo puede aumentar el número y la severidad de ataques de asma, causar o empeorar bronquitis y otras enfermedades pulmonares, y reducir la habilidad del organismo para combatir infecciones.

Air Quality

Protegiendo el aire que nos rodea

500 S. Grand Central Parkway
P.O. Box 555210
Las Vegas, NV 89155-5210
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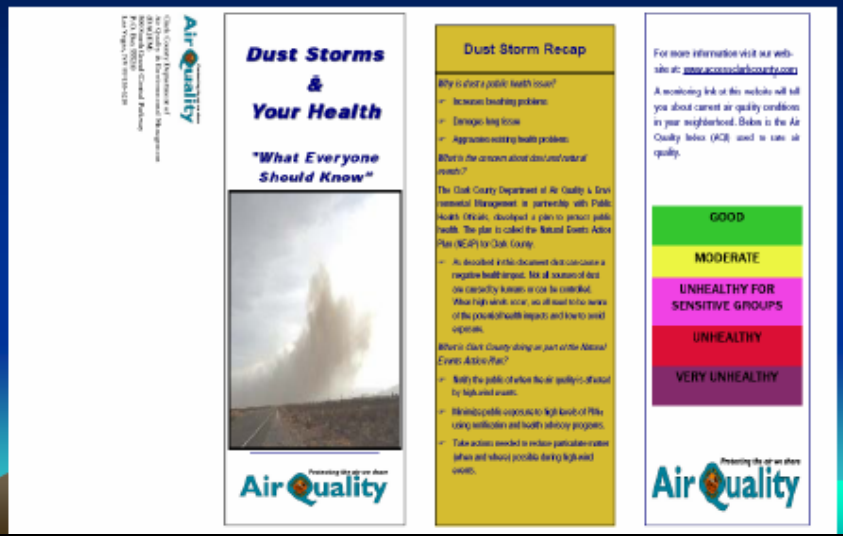
www.accessclarkcounty.com

Educational Brochures

(English Version)



Air Quality

Clark County Department of Air Quality & Environmental Management
500 South Grand Central Parkway
P.O. Box 555210
Las Vegas, NV 89155-5210

Dust Storms & Your Health

"What Everyone Should Know"

Air Quality

Protecting the air we share

Dust Storm Recap

Why is dust a public health issue?

- Increases breathing problems
- Damages lung tissue
- Aggravates existing health problems

What is the concern about dust and natural events?

The Clark County Department of Air Quality & Environmental Management in partnership with Public Health Officials, developed a plan to protect public health. The plan is called the Natural Events Action Plan (NEAP) for Clark County.

- As described in this document dust can cause a negative health impact. Not all sources of dust are caused by humans or can be controlled. When high winds occur, we all need to be aware of the potential health impacts and how to avoid exposure.

What is Clark County doing as part of the Natural Events Action Plan?

- Notify the public of when the air quality is affected by high wind events.
- Minimize public exposure to high levels of PM by using notification and health advisory programs.
- Take action needed to reduce particulate matter (when and where possible during high wind events.

For more information visit our website at: www.accessclarkcounty.com

A monitoring link on this website will tell you about current air quality conditions in your neighborhood. Below is the Air Quality Index (AQI) used to rate air quality.

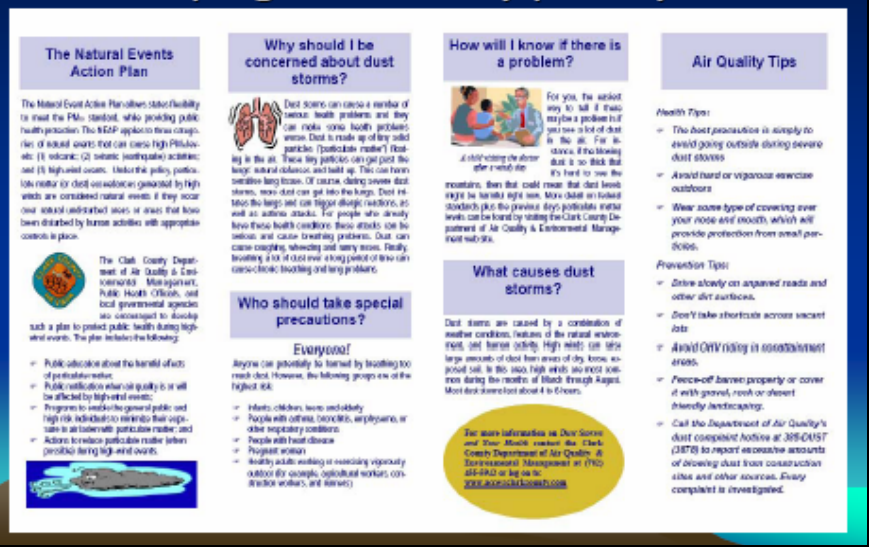
GOOD
MODERATE
UNHEALTHY FOR SENSITIVE GROUPS
UNHEALTHY
VERY UNHEALTHY

Air Quality

Protecting the air we share

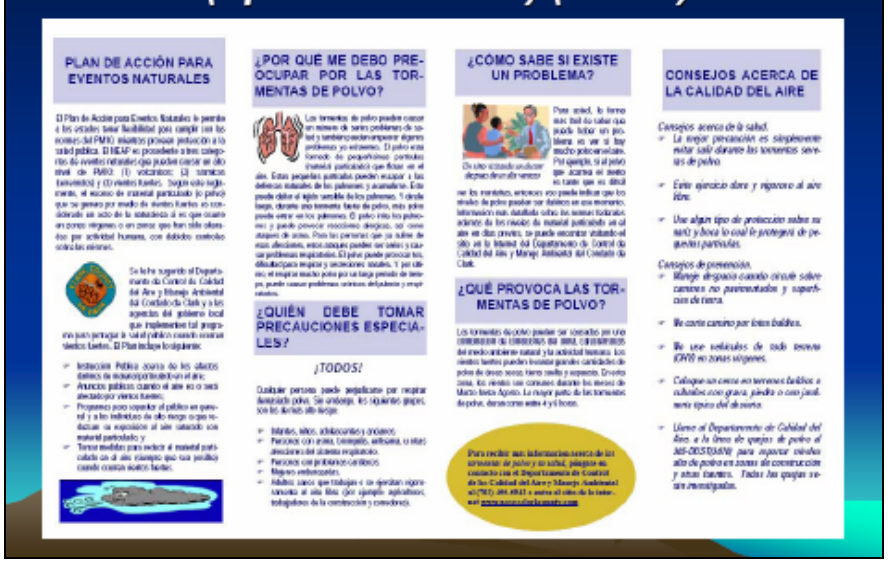
Note: Slides are read left to right →

Educational Brochure
(English Version) (Inside)



Educational Brochures
(Spanish Version)

Educational Brochures
(Spanish Version) (inside)



Questions ?

Please call:

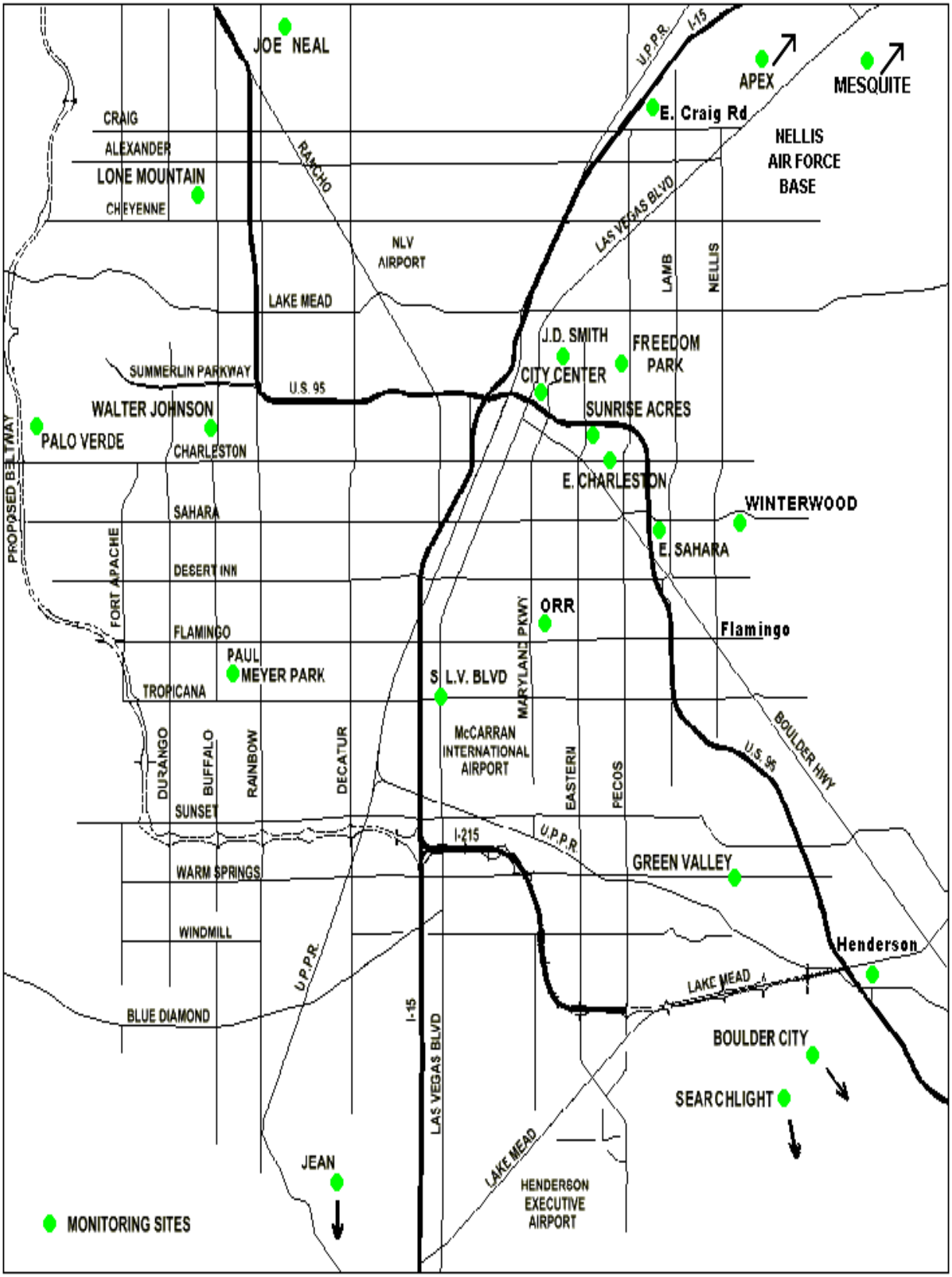
Department of Air Quality & Environmental Management

(702) 455-5942

Exhibit 8

"PM_{10} Monitoring Site Network Map"

Appendix C
Exhibit 8 - PM_{10} Monitoring Site Network Map



Clark County Department of Air Quality Management – Air Quality Monitoring Division, Monitoring Sites Las Vegas Valley & Outline Areas

Exhibit 9

"Media Advisory" - An Example of a Air Quality Wind Advisory

Media Advisory

Public Communications ■ 500 S. Grand Central Parkway, 6th Fl., Las Vegas, NV 89155-1111 ■ Fax: (702) 455-3558

Contact: **Stacey Welling**
Sr. Public Information Analyst

Phone: **(702) 455-3201**
Cell: **(702) 249-3823**
E-mail: **stac@co.clark.nv.us**

For Immediate Release **Wednesday, March 26, 2003**

Air Quality Officials Issue Wind Advisory

Wednesday Forecast Calls for 45-Mile-Per-Hour Gusts

With strong winds expected in Southern Nevada this afternoon and tonight, Clark County Air Quality officials are advising residents and operators of local construction sites to brace for blowing dust and higher levels of PM-10.

The Las Vegas office of the National Weather Service predicts sustained winds of 25 to 35 miles an hour by Wednesday evening in Southern Nevada, with some gusts reaching 45 miles an hour. Under those conditions, Air Quality officials say people with asthma, emphysema and other respiratory diseases should consider staying indoors. As part of this advisory, officials also encourage construction site operators to take steps to check and stabilize their property for blowing dust and debris as required by local air quality regulations.

High winds in excess of 25 miles per hour tend to make the valley's PM-10 problems worse. PM-10 stands for particulate matter, primarily dust, 10 microns or less, which is smaller than the diameter of a human hair. It's a type of inhalable air pollution that aggravates respiratory diseases such as bronchitis or asthma. **During windy conditions, children, seniors and people with chronic respiratory problems are urged to stay indoors; Air Quality officials also advise all residents to limit outdoor exercise.**

The Las Vegas Valley currently does not meet the federal 24-hour air quality standard for PM-10. The U.S. Environmental Protection Agency, however is reviewing a plan that meets those standards. An important component of the plan is for the county's Air Quality Department to step up efforts to educate the public about the health hazards of dust and the possible economic consequences of not meeting federal air quality standards.

"The Las Vegas Valley faces the loss of millions of dollars in federal highway funding and other sanctions if we as a community don't do a better job controlling dust," said Christine Robinson, director of the Air Quality Management Dept. "We may not be able to control Mother Nature, but we certainly can work with residents and local industry to cut down on man-made sources of dust contributing to the problem."

Residents are encouraged to call Air Quality's dust-complaint hotline at 385-DUST to report excessive amounts of blowing dust. To find out more about local air quality issues, visit the department's website at www.accessclarkcounty.com.

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News release also available on the Internet at www.accessclarkcounty.com

Clark County Board of Commissioners
Mary Kincaid-Chauncey, Chairwoman ■ Chip Maxfield, Vice Chairman ■ Yvonne Atkinson Gates ■ Mark A. James ■ Rory Reid ■ Myrna Williams ■ Bruce L. Woodbury / Thom Reilly, County Manager

Exhibit 10

***"Clark County Department of Air Quality & Environmental Management Standard Operating Procedure (SOP) for a High-Wind Air Quality Advisory Notice to be issued to Dust Control Permit Permittees and Operators of Applicable Stationary Sources"* with an example of a FAX to Construction Industry Permittees**

Appendix C
Exhibit 10 – High-Wind Advisory Protocol with Example of FAX Sent to Dust Control Permittees

Clark County Department of Air Quality & Environmental Management (DAQEM) Standard Operating Procedure (SOP) for a High-Wind Air Quality Advisory Notice to be issued to Dust Control Permit Permittees and Operators of Applicable Stationary Sources

The following outlines the standard operating procedure for implementation of the system to notify DAQEM permittees of a forecasted high-wind event.

The DAQEM staff serving as: The NEAP Coordinator and the Assistant Planning Manager from the Planning and Projects Section will monitor the National Weather Service (NWS) forecast. A forecast of 25 mph sustained winds and/or gusts of 40 mph or greater, initiates a discussion about the need to issue an (High-Wind) Air Quality Advisory by the DAQEM.

The DAQEM decision authority members are: the NEAP Coordinator; Compliance Manager; Compliance Supervisor; Assistant Planning Manager, and the Public Information and Education Coordinator (PIEC).

A majority vote, with all members present, **is not** necessary for the authority to enact a High-Wind Air Quality Advisory. At a minimum, the NEAP coordinator, Compliance representative and the PIEC will be involved. In the event of a tie in the decision vote, the Compliance Manager will make the final decision.

The decision to issue a High-Wind Air Quality Advisory Fax will be made within a reasonable time frame (30 minutes).

National Weather Service (NWS) Wind Advisory Language

The standard wind advisory language issued by the NWS varies with each forecasted event or alert. The Wind Advisory always lists the applicable area affected by the advisory and a length of time that the advisory is in effect. Further, the NWS posts the direction, wind speed and expected gusts resulting from the event. An example of a NWS advisory is as follows:

"WIND ADVISORY FOR THE LAS VEGAS VALLEY FOR LATE TONIGHT THROUGH SUNDAY AFTERNOON"
Urgent – Weather Message National Weather Service Las Vegas NV 3:41 PM PST Mon Mar 17 2003

…*A Wind Advisory Has Been Issued For Tonight Through Sunday Afternoon…*

Southwest Winds of 20 to 30 Mph with Gust to 40 mph Will Increase Overnight Tonight Ahead Of A Strong Cold Front. Winds Will Then Shift To The Northwest And Become 25 to 35 Mph With Gust To Over 45 Mph Behind The Front. These Winds Will Begin To Decrease Sunday Afternoon.

In conjunction with the advisory above, the NWS posts this statement:

The Clark County Department of Air Quality & Environmental Management Has Also Issued A Health Advisory For The Las Vegas Valley Due To The Potential For Unhealthful Levels Of Inhalable Particulate Matter Resulting From Wind Gust Exceeding 40-Miles Per Hour. Sensitive Persons With Chronic Respiratory Conditions…Including Both Elderly Citizens And Young Children…Should Stay Indoors Until The Wind Subsides.

The National Weather Service High-Wind Advisory language above triggers the procedures as discussed in the next section.

<u>High-Wind Air Quality Advisory Procedure for Clark County</u>:

A High-Wind Air Quality Advisory Fax is sent via Clark County's mass faxing server to all Dust Control Permit Permittees and selected Operators of Stationary Sources 12 to 24 hours in advance of the event. Access to the fax server is provided to the DAQEM staff positions listed above. The Compliance Manager is designated to initiate the fax and in his absence the Compliance Supervisor is responsible for the issuance of the Fax.

The PIEC, or designee, is responsible for notifying the Clark County, Public Information Officer, to issue a high-wind air quality **Advisory**, or high-wind air quality **Alert.** The Clark County PIO issues a prepared public health advisory or public health alert to the media.

1. **ADVISORY –** The Las Vegas Office of the National Weather Service confirms forecasted wind events of sustained winds of 25 miles per hour or more with frequent gusts of 40 miles per hour or more.
2. **ALERT –** Meteorological and ambient monitoring data confirm that the high-wind event is happening.

DAQEM Compliance Responsibilities:

Twelve (12) to twenty-four (24) hours in advance of a forecasted high-wind event by the National Weather Service (NWS), the Compliance Supervisor, or designee, is responsible for ensuring the deployment of all available Compliance Officers not already in the field. The purpose of ensuring this deployment is to reiterate the importance of aggressive compliance/enforcement in the field in addition to their routine duties prior to high winds occurring. Furthermore, the Compliance Supervisor, or designee, is responsible for initiating the Fax to Dust Control Permit Permittees and Stationary Source permit holders, initiating the telephone contact list to selected contractors.

During a weekend/holiday high-wind events, the Compliance Supervisor is responsible for ensuring deployment, of a minimum of four (4) Compliance Officers, as designated for compliance and enforcement activities during the event for enforcement / compliance activities, in case not all Permittees or Construction sites received the pre-wind event facsimile. Additionally, during the High-Wind Event, the Compliance Officers are responsible for documentation gathering (digital photography, statements of occurrences, witness statements, etc.) to assist the DAQEM Planning and Projects Staff in the justification submittal packages required for an event.

Distribution of the mass Fax or press releases may trigger return calls to DAQEM. These calls shall be routed to the Compliance Manager or the Compliance Supervisor.

DAQEM Information Technology (IT) responsibilities:

1. Maintain the Fax to Dust Permit Permittees and the selected Stationary Source list and update as necessary, to ensure validity of the list.

DAQEM Public Information and Education Coordinator (PIEC) responsibilities:

1. Maintain “Boiler Plate” (template) press releases in cooperation with the Clark County Public Information Officer (PIO) representative.

Exhibit 10 – Example FAX sent to Dust Control Permittees

Protecting the air we share

Air Quality

CLARK COUNTY NEVADA

HIGH WIND NOTICE
Attention Dust Control Permit Holders
Contractors and Stationary Sources

The National Weather Service has forecast strong sustained winds in excess of 25 mph with higher gust for Tuesday April 1, 2003.

The Department of Air Quality & Environmental Management (DAQEM) directs each permittee to immediately inspect their site and employ Best Available Control Measures (BACM) to stabilize all disturbed soils to reduce wind blowing dust. Permittees with multiple sites should contact each site Superintendent to ensure compliance with the DAQEM Air Quality Regulations.

DAQEM Compliance Officers will inspect construction and stationary source sites during the wind episode and any observed air quality violation will receive a Notice of Violation (NOV).

Please direct questions about this Wind Advisory to a DAQEM Compliance Supervisor at 702-455-5942.

Exhibit 11

Medical Advisory Committee (MAC) Protocol

Appendix C
Exhibit 11 - Medical Advisory Committee (MAC) Protocol

Medical Advisory Committee (MAC) PROTOCOL

1. Introduction

To reduce the health impacts of dust pollution on the community the Department of Air Quality and Environmental Management (DAQEM) established the *Natural Events Action Plan (NEAP)* for the Las Vegas Valley. The NEAP provides for early warning to the community of high-wind events that may cause increased amounts of dust pollution in the air. The NEAP program also provides early warning to and also directs permitted sources (construction sites) to restrict or curtail activities during high-wind events.

DAQEM and the local municipalities, including the cities of Las Vegas, North Las Vegas, Henderson, and Boulder City recognized the need to provide public health information about the effects of wind-blown dust. The Medical Advisory Committee (MAC), established by this section, provides a source of this information. Members of the MAC will provide timely public health information to the public, including members of the media, local schools and government entities.

2. Membership

Memberships of the Medical Advisory Committee will, as much as practicable, include physicians from such disciplines as pulmonology, family and general medicine, geriatrics, pediatrics and industrial health. The DAQEM in cooperation with the Clark County Public Information Office and the Clark County Health District Public Information Office will maintain a list of the current membership.

3. MAC Operation

Members of the MAC will be contacted by DAQEM or the county's Public Information Office upon request for health-related information following the issuance of an air quality advisory. General information will either be disseminated by an available physician or via DAQEM staff who have consulted a committee member based on the requested information.

The following receive Air Quality Advisories:

- Local media (TV, radio and newspapers),
- Construction sources,
- Clark County School District,
- Clark County Health District,
- Clark County Parks and Community Services
- Cities of Las Vegas, N. Las Vegas, Henderson, and Boulder City

4. Inquiries

Inquiries directed to the member physicians are limited to *air quality* health-related information that is pertinent to the public. Although the inquiry may target a high-risk group, such as individuals with respiratory illness, the health advice will be for the general good and will not contain specific or individual diagnosis. All inquiries shall be directed the DAQEM Outreach Coordinator or the staff of the Clark County Public Information Office, which will contact the member physicians and coordinate/facilitate the response or interview.

5. Contact Information

DAQEM Outreach Coordinator	455-5942
Clark County Public Information Office	455-3530

Exhibit 12

News Articles

March 18, 2003

High winds expected to continue in valley

By Mary Manning
<manning@lasvegassun.com>LAS VEGAS SUN

Winds gusting over 50 mph were expected to rake the Las Vegas Valley today, and the National Weather Service has issued an advisory for people with respiratory problems and vehicles affected by wind, such as trucks and vans, to avoid the bluster.

After local downpours and pea-sized hail pelted Southern Nevada Monday, the storm system that dumped 0.22 an inch of rain on the valley moved eastward.

That brought the jetstream over the valley and with it the wind, Weather Service meteorologist Brian Fuis said.

About 11 p.m. winds blew from the northwest across the valley, reaching 16 mph at the North Las Vegas Airport and gusting above 20 mph in the western section of the valley.

While recent rains have settled Southern Nevada's normally dusty conditions, those with allergies still were feeling the effect of mulberry tree pollen that was very high despite the rain, with more than 10,000 grains per cubic yard of air.

After a low of 44 degrees Monday night, the high for today was expected to be in the low 60s with lows in the lower 40s.

Monday's high of 57 degrees was 12 degrees below average.

The blustery winds are expected to last through Wednesday with another chance of rain on Thursday, when a new storm system is expected to drop southward from the Pacific Northwest.

By the weekend, however, forecasters expect clear skies and temperatures warming into the low 70s.

Las Vegas SUN

March 19, 2003

Residents warned of dangers of dust

By Mary Manning
<manning@lasvegassun.com>
LAS VEGAS SUN

There's more to Southern Nevada's springtime than warmer temperatures and longer days.

That extra something is dust, and it prompted Clark County officials to issue an air quality watch Tuesday, advising construction operators to control dust clouds on working sites.

"Our windy season usually starts in March and lasts through May, but dust storms can happen any time of year, depending on weather conditions," said Christine Robinson, director of Clark County's Air Quality Division.

Air quality officials issue health advisories for blowing dust when peak wind gusts exceed 40 mph and average hourly wind speeds are greater than 25 mph, Robinson said.

Under an advisory, children, seniors and people with chronic respiratory problems are urged to stay indoors.

Health officials also advise against exercising outdoors during wind and dust storms because of an increased risk of inhaling dust particles.

When spring officially arrives in Southern Nevada at about noon on Friday, a drying trend could begin that will raise dust and pollen through the summer months, forecasters said.

Conditions ranging from warm, sunny days to cooler, windier and wetter weather are typical of spring in the Las Vegas Valley.

Dust tips

Here are some ways to help reduce dust:

- DIRT ROADS Drive on paved roads only. If you must drive on an unpaved road, go slowly.

- VACANT LOTS Fence off empty lots or cover them with gravel or desert-friendly landscaping.
- OFF-ROAD Ride ATVs and other off-road vehicles outside urban areas.
- FIREPLACES Reduce wood burning, especially on dusty days.
- WEBSITE Click on www.accessclarkcounty.com to find out more about local dust.
- HOTLINE The Clark County Air Quality Department has a 24-hour hotline to report dust pollution. It is 385-DUST (3878).

Bursts of showers across the valley since Saturday had dropped enough moisture on desert surfaces to keep dust to a minimum during Tuesday's winds, National Weather Service meteorologist Brian Fuis said.

But winds gusted above 40 mph on Tuesday, prompting the air quality watch. The winds peaked at 49 mph at Nellis Air Force Base on Tuesday.

High winds stir up airborne particles that are smaller than the width of a human hair and can become lodged in the lungs. Inhaled dust aggravates respiratory diseases such as bronchitis and asthma.

The Las Vegas Valley currently does not meet the federal 24-hour air quality standard for dust. The federal Environmental Protection Agency, however, is reviewing a plan that meets those standards by 2006, Robinson said.

"Clark County has developed one of the most stringent dust-control programs in the country, but a government agency can't solve this problem alone," Robinson said. "We need the community's help."

Residents can help officials clear the county's air by reporting blowing dust clouds. The hotline is designed to help field compliance officers locate sources of dust plumes and blowing debris, Robinson said.

Las Vegas SUN main page

Questions or problems? Click here.

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April 11, 2003

Wind prompts dust advisory

LAS VEGAS SUN

Clark County officials issued an air quality advisory today as high winds were forecast for the weekend.

Officials were advising construction site operators and residents about the potential for dust in the air due to the winds and were advising construction site operators to take steps to lessen the dust.

County officials said children, seniors and people with chronic respiratory problems to stay indoors. To report a dust problem, call the county's dust-control hotline at 385-DUST.

Questions or problems? Click here.

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Wednesday, April 02, 2003
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Winds might cause dust problems today

REVIEW-JOURNAL

Clark County officials warn seniors and people with chronic respiratory problems to use caution today because of possible dust storms in the Las Vegas Valley.

Wind gusts of up to 35 mph are expected by this afternoon, Clark County's Department of Air Quality Management said.

Officials said the high winds could worsen the valley's dust problems and make life miserable for people with respiratory ailments, such as bronchitis or asthma. Residents can call the agency's dust-complaint hot line at 385-DUST to report excessive amounts of blowing dust.

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release
• Send a letter to the editor
• Print the announcement forms

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