RAPID RESPONSE ACTION PLAN TEMPLATE AND TOOL KIT

This template has been prepared to help identify key steps necessary in the formation of a Rapid Response Action Plan intended to prevent PM-10 exceedances at monitoring sites and throughout the region. The template is primarily designed to assist cities and towns and may also be helpful to other jurisdictions.

Get prepared in advance. Here are some steps to take to raise awareness and get resources in place prior to responding to a Arizona Department of Environmental Quality (ADEQ) Maricopa County High Risk Dust Forecast notification or elevated monitor concentrations:

1. Identify appropriate departments and personnel responsible for receiving the notifications and watching real time monitor readings from the Maricopa County Air Quality Department monitor network.

2. Check your internal operations that are dust-generating to ensure that dust control measures are in place.

3. Distribute monitor and "hotspot" area maps to the departments, contractors that do work for your jurisdiction, and contractors that come in for permits.

4. Develop an internal outreach strategy to increase awareness of notifications and dust emissions within each of your relevant departments.

5. Determine the authority, expertise and resources each of your departments can employ to reduce dust emissions from sources under their control. Develop protocols to ensure communication between departments as well as department-specific field protocols to be implemented in response to ADEQ notifications.

6. Know your dust control ordinances and code regulations. Talk with your legal counsel to identify and confirm the existing authorities you possess. The following provisions are currently required of cities and towns in Area A:
    - A.R.S. Section 9-500.04.5 – Ban leaf blower debris in public roadways.
    - A.R.S. Section 9-500.04.6 – Adopt codes requiring dustproof paving or stabilization at parking, maneuvering, ingress and egress areas at developments other than residential buildings with four or fewer units.
    - A.R.S. Section 9-500.04.7 – Adopt codes requiring paving or stabilization of parking, maneuvering, ingress and egress areas 3,000 square feet or larger at residential buildings with four or fewer units.
    - A.R.S. Section 9-500.04.8 – Adopt codes restricting vehicle parking and use on unpaved or unstabilized lots.
    - A.R.S. Section 9-500.27 – Adopt an ordinance that prohibits the operation of any vehicle, including an off-highway vehicle, an all-terrain vehicle or an off-road recreational motor vehicle, on an unpaved surface that is not a public or private road, street or lawful easement and that is closed by the landowner by rule or regulation of a federal agency, this state, a county or a municipality or by proper posting if the land is private land. This section does not apply to the operation of vehicles used in the normal course of business or the normal course of government operations. It does not prohibit or preempt the enforcement of any similar ordinance that is adopted by a city or town in Area A before March 31, 2008 for purposes of dust abatement.

7. Identify areas under your control that are most likely to produce dust emissions throughout your jurisdiction. The MAG Tool Kit contains (1) land use maps within a four-mile radius around PM-10 monitors, as during high wind events sources as far away as four miles can contribute to the dust concentrations at the monitor; (2) a description and picture of the monitor(s) located in your jurisdiction; and (3) a brochure describing the types of areas likely to produce windblown dust.[1]

8. Know who to contact when dust emissions are noted from sources not under your control. The following associations can be partnered with for help with industrial, business and agricultural sources:

    - Arizona Chapter, Associated General Contractors
      602-252-3926
    - Arizona Rock Products Association
      602-271-0346
    - Home Builders Association of Central Arizona
      602-274-6545
    - Maricopa County Farm Bureau
      602-437-1330

9. Utilize your communications and public relations departments to increase awareness of dust emissions and actions the public can take to reduce dust emissions.

Implement your action plan. Utilize the resources you have assembled to respond to a predicted high risk dust forecast notification or elevated monitor concentrations. The following are some suggested tips to help implement your action plan:

1. The day before a forecasted high risk event, inspect internal dust-generating operations and trouble-shoot any issues at known hotspot areas under your control.

2. Make sure personnel receiving the ADEQ notifications and elevated monitor readings can quickly notify departments and field personnel responsible for responding to these events.

3. During an event, verify all internal dust-generating operations are implementing appropriate control measures and deploy field personnel to known hotspots and areas under your control that are susceptible to dust emissions.

4. Utilize the Maricopa County Air Quality Department's website to frequently check on monitor concentrations during the event. Current web address for monitoring data:
   http://aqwww.maricopa.gov/AirMonitoring/SitePollutionMap.aspx

5. Mobilize your department personnel to quickly respond to and address/abate observed dust emissions from sources under your control. Notify appropriate associations of dust emissions from sources not under your control.

6. After an event, conduct a "lessons learned" session to evaluate the effectiveness of your response plan in identifying and controlling sources of dust emissions.

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[1] For entities that operate in multiple jurisdictions, copies of all monitor maps and descriptions are included.

Identifying Locations and Conditions that Produce Windblown Dust

Listed below are specific locations and conditions that have the greatest potential of producing windblown dust. Focusing efforts on controlling and monitoring these areas will have the greatest impact in reducing windblown dust emissions.

- **Bare, unvegetated surfaces.** Open areas with little or no natural cover from rocks and vegetation are primary sources of windblown dust. Widely separated vegetation has more potential for dust emissions than more continuous vegetation.

- **Smooth surfaces.** Smooth areas lack the sheltering effect of rocks and vegetation and thus are subject to the full energy of surface winds.

- **Long fetch.** The longer the stretch of open land parallel to the wind (washes, river beds, desert "streets"), the greater the potential for windblown dust.

- **Disturbed soils.** Soils disturbed by mechanical activities (vehicles, motorcycles, ATVs, industrial and construction equipment) emit at rates far higher than undisturbed soils under the same wind speeds.

Bare, smooth and disturbed surface

- **Thick deposits of soils.** Most soils emit the majority of windblown dust during the initial minutes of a high-wind event. Areas that have a large supply or reservoir (loose soils without a crust, heavily disturbed areas) can continue to emit for as long as high winds persist.

- **Soil composition.** Any dry, desert soil has the potential to emit windblown dust. However, the texture of a soil may affect it's ability to produce windblown dust according to these general principles: Sandy soils tend to emit because these soils are less likely to produce crusts. Soils high in silt and clay content can emit heavily if their natural crust has been disturbed.

- **Soil moisture.** As soils dry out, their ability to aggregate and form crusts is hampered.

- **Topography that converges winds.** Areas that can funnel winds like riverbeds, washes and other low-lying areas.

Adapted from: *A Qualitative Geophysical Explanation for "Hot Spot" Dust Emitting Regions*, Dale A. Gillette, Contributions to Atmospheric Physics, February 1999