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Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Benjamin H. Grumbles  
Director

June 30, 2010

Mr. Jared Blumenfeld  
Regional Administrator  
U.S. Environmental Protection Agency  
Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Mr. Blumenfeld:

This letter responds to concerns raised in your May 21, 2010, letter and at our May 25, 2010, meeting regarding the West 43rd Avenue PM10 monitoring site and the Exceptional Events Rule (EER), 40 C.F.R. § 50.14. I am hopeful that, prior to EPA's publication of a final determination, ADEQ and EPA will find common ground on the information ADEQ should provide to EPA to satisfy the EER.

ADEQ has three principal concerns about EPA's review of our demonstrations under the EER. ADEQ has preliminarily determined that EPA's review:

- Is not always consistent with the EER and the preamble for the final rule.
- Failed to take into account some of ADEQ's supporting data and analysis.
- Is not always consistent with EPA's August 27, 2007, concurrence with California's request to exclude data from the determination of the attainment status for the San Joaquin Valley (SJV).

ADEQ recognizes EPA's review identifies some changes that we could make to strengthen our request. ADEQ therefore intends to develop and submit supplemental requests. The enclosure to this letter provides a comprehensive section-by-section response to the review. It addresses both the difficulties with EPA's review and areas that ADEQ intends to address in its supplemental documentation. ADEQ intends to submit supplemental information regarding the June 4, 2008, event by July 22, 2010, and for the other three events within a few weeks thereafter.

## I. PROCESS ISSUES

The preamble for the EER emphasizes that the EPA regional offices should work cooperatively with states, tribes and local agencies:

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Southern Regional Office  
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The EPA regional offices will work with the States, Tribes, and local agencies to ensure that proper documentation is submitted to justify data exclusion.

The EPA does not believe that an appellate process is necessary because we anticipate that the States and Regional Offices will be working closely through the data and documentation submission process.

The process leading up to EPA's decision was not always in keeping with the spirit of cooperation envisioned by the preamble.

ADEQ first submitted requests for exceptional events exclusions pursuant to the EER on September 16, 2008. These requests addressed exceptional events that occurred in calendar year 2007. EPA did not respond to this request until May 22, 2009, and then only in the form of a draft letter. ADEQ, as discussed below, has attempted to address the issues raised in that correspondence.

ADEQ submitted preliminary assessments for the 2008 events in June 2009 to insure that it met the deadlines established in 40 C.F.R. § 50.14(c)(3)(i) and with the intention of addressing the issues raised in the May 22, 2009, letter in subsequent submissions. In July through September, 2009, ADEQ reformatted the submittals to address the concerns raised in the draft letter and added citations to the EER. ADEQ opened the 30-day public comment period for this submittal on October 15, 2009. EPA submitted no comments.

On November 17, 2009, ADEQ submitted final documentation for the twelve Maricopa County exceptional events that occurred in 2008, including the four that are the subject of EPA's non-concurrence.

At a December 2, 2009, meeting of the Five Percent Plan Technical Committee for the Phoenix Serious PM10 Nonattainment Area, EPA provided an in-person PowerPoint presentation on exceptional events. EPA representatives participated in numerous other Technical Committee meetings discussing the exceptional events.

In response to these discussions, ADEQ prepared a draft supplemental package for the June 4, 2008, event as a model for correcting prior and drafting future submittals of demonstrations under the EER as discussed with EPA. ADEQ submitted this package on March 17, 2010, and sought EPA feedback. Rather than providing the anticipated feedback, EPA proceeded to issue its non-concurrence with ADEQ's requests.

If EPA had instead raised the issues included in the non-concurrence in comments earlier in the process or in response to the March 17, 2010, draft supplemental package, ADEQ could have brought the issues identified below to EPA's attention. ADEQ and EPA could have likely resolved these issues prior to the May 21, 2010, correspondence. ADEQ is hopeful that EPA review of the supplemental information will lead to a mutual understanding of the nature and cause of these events.

## II. EPA's SUBSTANTIVE REVIEW

Under 40 C.F.R. § 50.14(c)(3)(iii), a demonstration to justify the exclusion of data as being due to an exceptional event must provide evidence that:

- (A) The event satisfies the criteria set forth in 40 CFR 50.1(j);
- (B) There is a clear causal relationship between the measurement under consideration and the event that is claimed to have affected the air quality in the area;
- (C) The event is associated with a measured concentration in excess of normal historical fluctuations, including background; and
- (D) There would have been no exceedance or violation but for the event.

Each of these elements is addressed below.

### A. CRITERIA SET FORTH IN 40 C.F.R. § 50.1(j)

Section 50.1(j), defines an exceptional event as one that:

- [1] affects air quality,
- [2] is not reasonably controllable or preventable,
- [3] is an event caused by human activity that is unlikely to recur at a particular location or a natural event,
- [4] is determined by the Administrator in accordance with 40 CFR 50.14 to be an exceptional event[, and]
- [5] does not include stagnation of air masses or meteorological inversions, a meteorological event involving high temperatures or lack of precipitation, or air pollution relating to source noncompliance.

(Emphasis and formatting added.)

The first criterion is satisfied by showing that two other elements of the overall test—a clear causal connection and a measured concentration in excess of normal historical fluctuations—are satisfied. These elements are addressed in sections 0 and 0 below. ADEQ does not claim that the events were caused by human activity that is unlikely to recur. Our discussion of the third criterion, therefore, will focus on whether they qualified as “natural events.” Whether the fourth criterion should be satisfied is of course the subject of this document. With regard to the fifth criterion, there appears to be no question that the events subject to ADEQ’s request did not “include stagnation of air masses or meteorological inversions, a meteorological event involving high temperatures or lack of precipitation.” We will therefore limit our discussion of that criterion to the important question of whether events included “air pollution relating to source noncompliance.”

A central objection raised by EPA in its review of both the second and third criteria—the event is not reasonably controllable or preventable and is a natural event—is that ADEQ failed to identify

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the specific anthropogenic sources that may have contributed to the measured concentrations. In section 4.2 of its review, EPA states that:

Without addressing the types, and locations of sources in the area, however, it is not possible to evaluate whether sources in the area were reasonably controlled.

In section 4.2, EPA contends that:

The lack of analysis regarding anthropogenic contribution upwind of the West 43rd site makes it difficult to determine the contributing role of human activity to the exceedances at the West 43rd site, particularly where it is known that commercial activities such as agriculture, sand and gravel mining and construction are known to take place.

These objections are inconsistent with the EER and past Region 9 practice.

According to the EER preamble:

The EPA's final rule concerning high wind events states that ambient particulate matter concentrations due to dust being raised by unusually high winds will be treated as due to uncontrollable natural events where ... the dust originated from anthropogenic sources within the State, that are determined to have been reasonably well-controlled at the time that the event occurred ...

73 Fed. Reg. at 13576. Thus, the rule does not require identification of specific anthropogenic sources that contributed to particulate matter concentrations. It states that even if wind-blown dust originated from anthropogenic sources, it will be treated as part of a natural event as long as those sources are "reasonably well-controlled."

ADEQ's request demonstrated that this requirement was met in two ways.

First, it referred to the comprehensive control strategy that has been developed and implemented for the Phoenix Serious PM10 nonattainment area. Because of the intractability of the PM10 nonattainment problem in Maricopa County, anthropogenic sources of PM10 in this area have likely received more scrutiny from the State, the public and EPA than any other sources in the country. The control strategy and compliance program developed for the area meet the most stringent planning requirements of the Clean Air Act, including the Best Available Control Measures (BACM) requirement of section 189(b)(1)(B) and the most stringent measures requirement of section. [ADD FR CITES] The control strategy had to include a comprehensive inventory of sources, so any suggestion that there are unknown, uncontrolled sources that could be identified from satellite images (see Review § 4.3 at 7) is unwarranted.

Second, the demonstration included a comprehensive review of all available compliance data for the 72-hour periods leading up to and including the events. Except for two minor violations identified by Maricopa County inspectors on June 4, 2008, no unusual dust-producing activities

were identified. There is no basis for concluding that anthropogenic emissions varied significantly before, during or after the event.

That this type of demonstration satisfies the EER is shown by EPA's concurrence in a September 22, 2006, exceptional event request for the SJV:

Section 50.1(j) of the Exceptional Events Rule requires that for an event to qualify as an exceptional event, whether natural or anthropogenic, a state must show that the event was not reasonably preventable or controllable. Here this requirement is met by demonstrating that despite reasonable and appropriate measures in place, the September 22, 2006, wind event caused the exceedances. During this event there were no other unusual dust-producing activities occurring in the SJV and anthropogenic emissions were approximately constant before, during and after the event. In addition, the State shows that reasonable and appropriate measures were in place, including Regulation VIII (the District's general fugitive dust rules) and Rule 4550 which limits fugitive dust emissions specifically from agricultural operations through Conservation Management Practices. Moreover, EPA has approved the District's best available control measure (BACM) demonstration for all significant sources of PM-10 in the SJV as meeting CAA section 189(b)(1)(B).

72 Fed. Reg. 49046, 49051 (Aug. 27, 2007). EPA's rejection of ADEQ's substantially identical demonstration warrants further dialogue between the agencies.

Other discrepancies in EPA's analysis of the § 50.1(j) criteria are discussed in the enclosure.

#### B. CLEAR CAUSAL RELATIONSHIP

Of the objections EPA raises to ADEQ's showing of a clear causal relationship, the one that deserves by far the greatest attention is EPA's claim that there is no geographical correlation between high winds and high PM10 concentrations on any of the four dates in question.

The first subsection of each causal relationship discussion emphasizes that there was supposedly no correlation between wind speed and PM10 concentrations across a wider geographic area:

The graphs show that hourly PM10 concentrations increase with an increase in maximum recorded wind speed at the West 43rd site, but not at the other three monitoring sites. [§ 5.1.1]

While the hourly PM10 concentrations increase with an increase in maximum recorded wind speeds at the West 43rd site, there is not a similar correlation between PM10 and maximum wind speed at the other monitoring sites in the area. [§§ 5.2.1 and 5.3.1]

The graphs show that, at the West 43rd site, the hourly PM10 concentrations increase with an increase in maximum recorded wind speeds at the West 43rd site; however, there does not seem to be a similar correlation between PM10 and maximum wind speed for the other monitoring sites in the area until later in the evening. [§ 5.4.1]

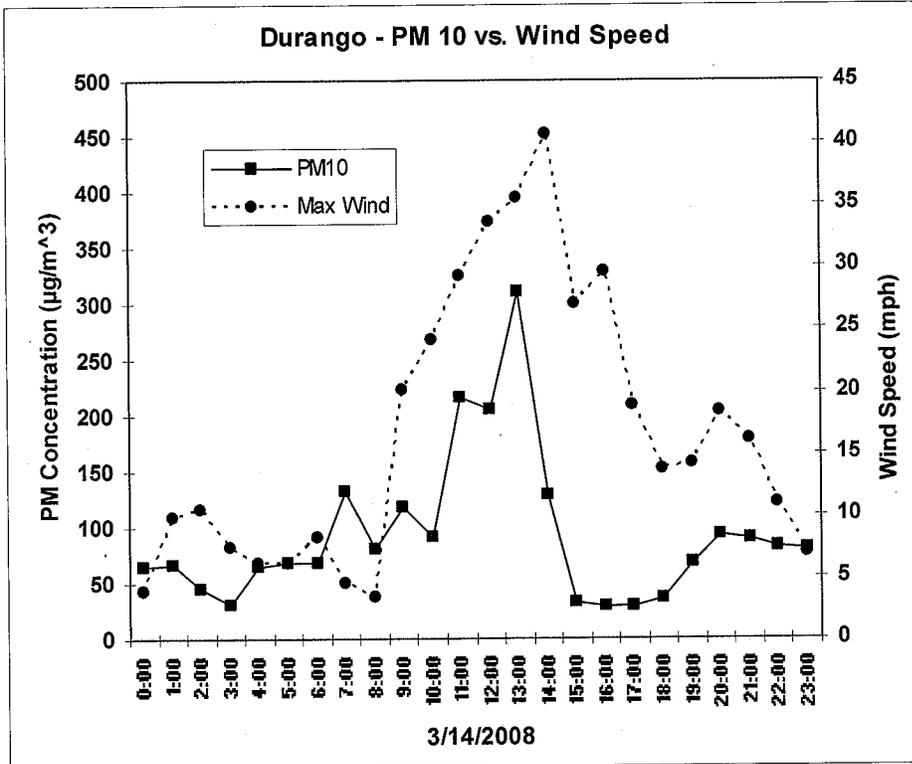
After each of these statements, the same EPA conclusion follows:

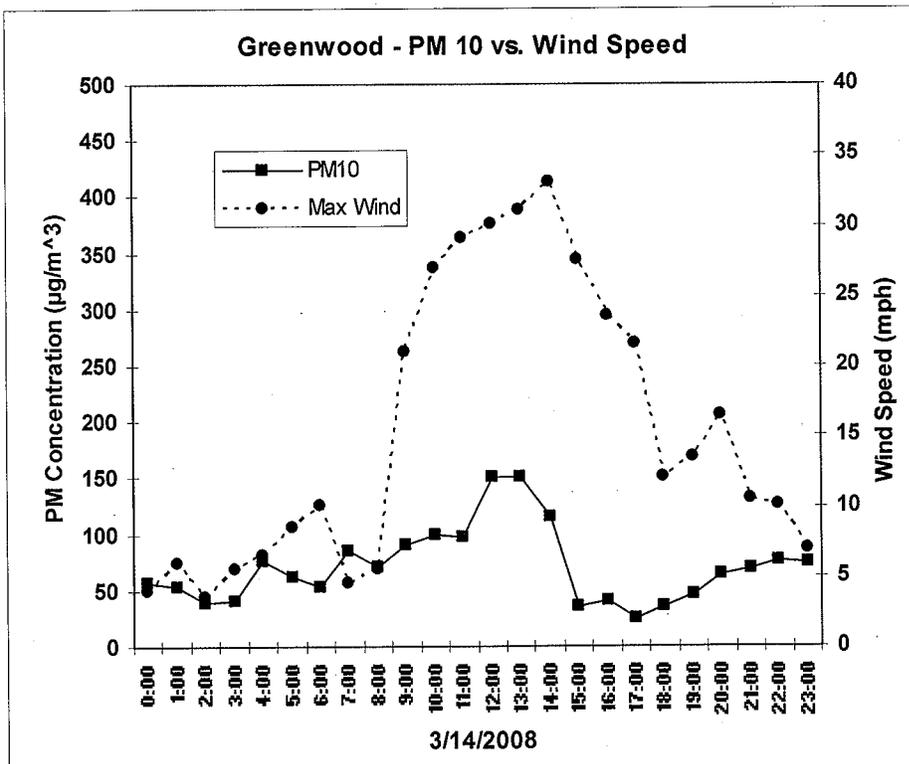
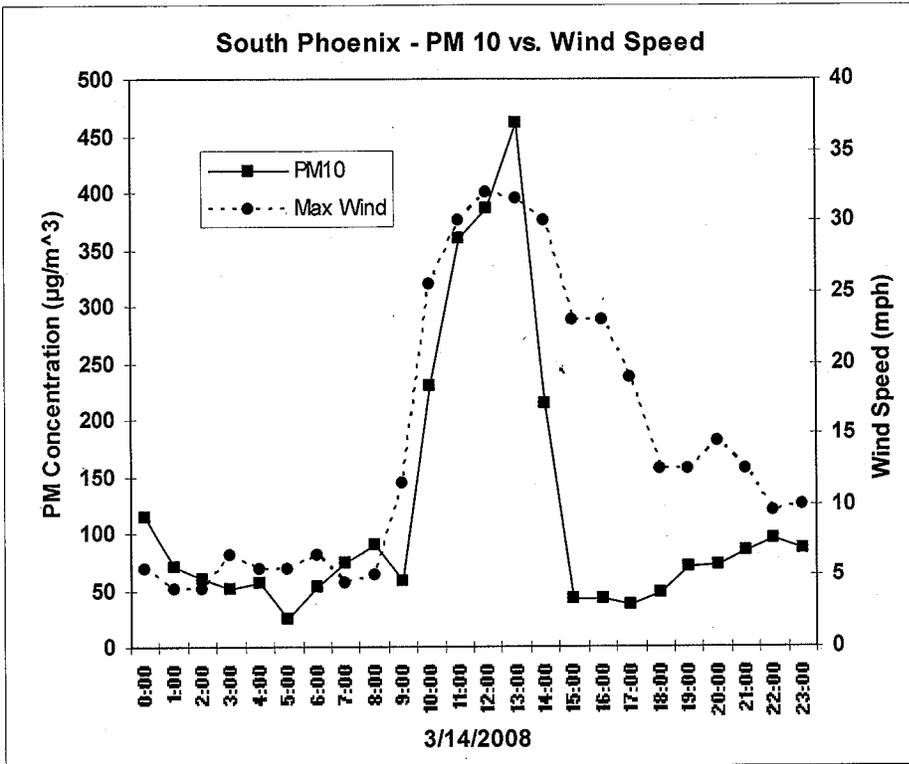
These facts suggest that the elevated PM10 concentrations at West 43rd may have been caused by local upwind sources and were not regional in nature. [§5.1.1, 5.2.1, 5.3.1; cf. § 5.4.1]

This point is emphasized again in EPA's conclusion for each causation section:  
The data show that the spatial extent of PM10 during this day was isolated and not regional in nature. The data also show differences in the measured PM10 concentrations at the West 43rd site and the remaining sites in the Phoenix area. [§§ 5.1.7, 5.2.7, 5.3.7]

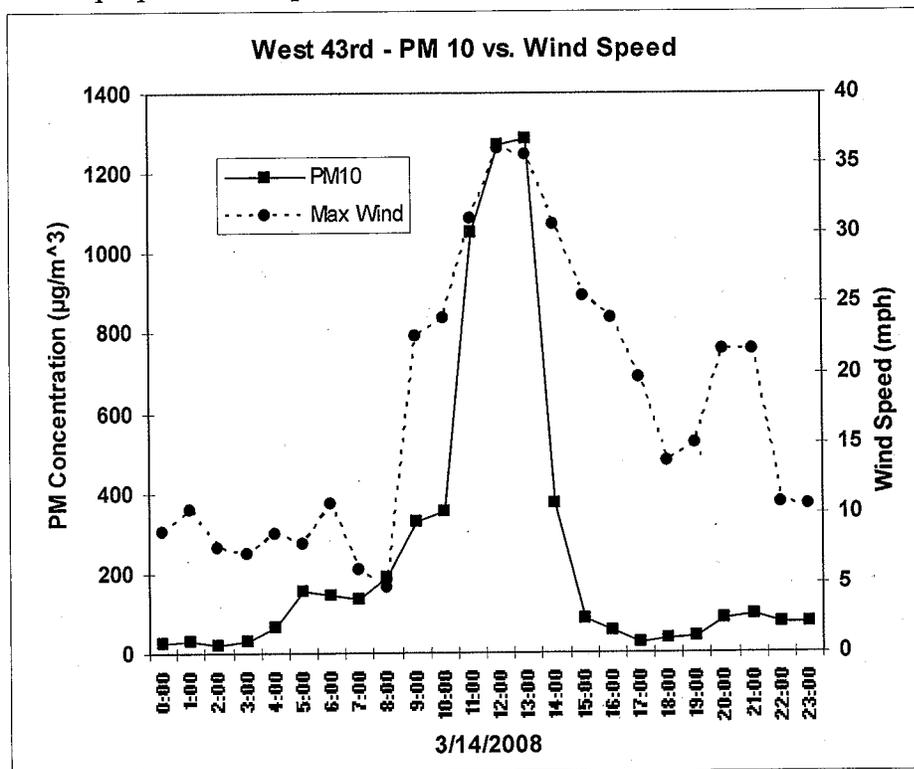
The data show that the spatial extent of PM10 during the early portion of the day was isolated and not regional in nature. [§ 5.4.9]

This objection is simply not true. Both the data and graphs included in ADEQ's request and the graphs in EPA's own review show that high wind speeds were, in fact, correlated with higher PM10 concentrations at all four monitoring locations. Although the correlation is evident in the original graphs, it is easier to see when the scale is adjusted to reflect the generally lower concentrations at the other three sites, as in the following adjusted graphs for the March 14, 2008, event:





For the purpose of comparison, this is the original chart for the West 43rd Avenue site:



Thus, EPA's statement that the "graphs show that hourly PM10 concentrations increase with recorded wind speed at the West 43rd site, but not at the other three monitoring sites" is not supported by the facts. The concentrations did increase with an increase in wind speed, and in many cases the hourly measurements exceeded the 24-hour NAAQS by a substantial margin. The only difference between the West 43rd Avenue monitor and the others is that the 24-hour concentrations recorded at the other three did not exceed the NAAQS.

The source of the discrepancy between the magnitude of the concentration increases at the monitors is evident from ADEQ's submissions. Because of its location, the West 43rd monitor is especially susceptible to dust generated by high winds traveling from a west or southwest direction along the Gila and Salt River channels and at their confluence.

EPA's conclusion that the concentrations at the West 43rd Avenue monitor "may have been caused by local upwind sources and were not regional in nature" is not substantiated by the facts. In any case, this conclusion, even if justified, would not legally support EPA's determination that there was not a clear causal connection between the winds and the concentrations. As already noted, local, anthropogenic sources may be considered part of an exceptional high wind event, so long as they are reasonably controlled. As discussed above, there

is ample basis for concluding that the sources in the vicinity of the West 43rd Avenue monitor satisfied this requirement.

A section-by-section response to all of EPA's statements relating to causation is included in the enclosure.

C. A MEASURED CONCENTRATION IN EXCESS OF NORMAL HISTORICAL FLUCTUATIONS

In section 6.0 its review, EPA acknowledges that all of the measurements ADEQ seeks to exclude were well above the 95th percentile values for the West 43rd Avenue monitor.

EPA then states:

There is no specific threshold test for this requirement, but concentrations in the high percentiles can provide supporting evidence and informs EPA's weight of evidence analysis of the exceptional events in question.

The rule, however, calls for a determination of whether concentrations are in excess of normal fluctuations as a distinct element of the exceptional event requirements. Concentrations in the high percentiles are not simply data points to be considered in determining whether other elements, such as causation, are satisfied. They are direct evidence that this specific element is satisfied.

D. NO EXCEEDANCE BUT FOR THE EVENT

A critique of EPA's analysis of the "but-for" test is included in the enclosure. As demonstrated in the enclosure, EPA's conclusion that ADEQ failed to establish this element is not supported by the facts.

Thank you for your consideration of this information. If your staff has questions or would like to discuss this further, please have them contact Nancy Wrona, who can be reached at (602) 771-2311.

Sincerely,



Benjamin H. Grumbles  
Director

Enclosure

cc: Deborah Jordan (with Enclosure)  
Colleen McKaughan (with Enclosure)