



September 11, 2009

Gina McCarthy, Assistant Administrator  
Office of Air and Radiation  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue  
Washington, D.C. 20004

Subject: Recommendations to improve implementation of the Exceptional Events Rule

Dear Ms. McCarthy:

The Western States Air Resources (WESTAR) Council, an association of fifteen western state air quality management agencies, offers the enclosed recommendations related to the implementation of rules governing the treatment of data influenced by exceptional events – 40 CFR Parts 50 and 51, typically referred to as the Exceptional Events Rule. This rule is especially important in western states where we face significant air quality challenges brought on by chronic wildfires and dust storms. Improvements in the implementation of this important rule would benefit EPA, state and local agencies, and the public by focusing scarce air quality management resources on problems we can solve instead of problems over which we have little or no control.

Many of the problems that have been encountered could be resolved through simple rule revisions while others could be addressed through procedures that would differentiate those cases where expeditious concurrence is warranted from those cases where more rigorous justification is needed. In those cases where additional justification is needed, it is critical that EPA provide early feedback on the elements of an exceptional events request that are either misunderstood or that need further explanation.

Finally, states will always be limited to available data to justify their exceptional events requests. It is unlikely that the available data will be as complete and comprehensive as

would be needed to provide indisputable evidence in support of an exceptional events request. Nevertheless, decisions must be made and it is in all of our interests that those decisions are made on a timely basis.

Thank you in advance for your consideration of these recommendations. If you have any questions or comments, please contact Dan Johnson, WESTAR Executive Director, at 206-254-9145 (djohnson@westar.org).

Sincerely,



Martin Bauer, President  
Western States Air Resources Council

Cc: WESTAR Council Air Directors  
Bill Harnett, EPA-OAQPS  
Steve Page, EPA-OAQPS  
EPA Regional Administrators, Regions 6, 8, 9, 10  
Bill Becker, NACAA

## ATTACHMENT

### Recommended Actions to Improve Implementation of 40 CFR Parts 50 and 51 Related to Treatment of Data Influenced by Exceptional Events

The Exceptional Events Rule, which became effective on May 21, 2007, provides state and local agencies with a mechanism to exclude air monitoring values associated with exceptional events from datasets used to make important regulatory determinations, including the determination of attainment and redesignation from nonattainment to attainment. The preamble to the rule characterizes exceptional events as “events for which normal planning and regulatory processes established by the [Clean Air Act] are not appropriate.” State and local air quality management agencies and EPA Regional Offices have encountered problems implementing the rule. Delays in processing and approving exceptional event demonstrations add workload both for EPA as well as state and local agencies while the backlog of pending actions by EPA grows and retrieval of older documentation becomes increasingly problematic. State and local agencies are often faced with strict deadlines to make regulatory decisions (e.g., attainment/nonattainment determinations), decisions that could hinge on whether or not data affected by exceptional events are included or excluded. Accordingly, WESTAR believes that EPA should establish a goal to respond to requests within 60 days, and in no case should EPA need more than 18 months to make a final concurrence decision.

Many of the problems can be traced to the lack of clarity surrounding EPA’s expectations about what a state<sup>1</sup> should include in its demonstration package, as well as lack of consistency between the preamble and the rule itself. States are left to guess what EPA will ultimately require. While written guidance could address this issue, strict guidelines and thresholds would ignore the reality that each exceptional event is different in its own way. *A state should always be afforded the opportunity to demonstrate that monitored data has been affected by an exceptional event and exclude the data even when the circumstances surrounding the event are unusual and do not conform to a “one size fits all” model.*

States, EPA, and ultimately the public will benefit if we can solve these implementation issues. States should not be required to solve problems over which they have little or no control. It is essential that we focus our air quality management resources on problems we can solve, especially in these times of tight budgets and limited resources.

WESTAR believes the following recommendations address many of the problems states and EPA have encountered over the past two years. EPA’s expectations with regard to the scope and content of a state’s exceptional events demonstration package need to be more clearly articulated. Once EPA’s expectations are clear, states should be able to prepare packages

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<sup>1</sup> All subsequent references to the state are meant to include state and local agencies responsible for submitting air quality data to the AQS.

that address those expectations or explain why an alternative analysis or explanation is appropriate.

Our recommendations address each of the showings a state is required to make, as spelled out in the Exceptional Events Rule. According to the rule, the state must show that:

1. An exceptional event occurred, as defined in the rule;
2. There is a clear causal relationship between the monitored value and the event;
3. There would have been no exceedance but for the event;
4. The event caused a measured concentration in excess of normal historical fluctuations;
5. The state has followed a public comment process; and
6. Reasonable actions are being taken to protect public health.

In general, we recommend that EPA use a screening process that differentiates exceptional event demonstrations that can and should be expedited from those that, absent significant justification, are unlikely to receive EPA concurrence. In the case of the former, neither EPA nor the state should devote additional resources to embellishing an otherwise approvable package. In the latter case, the state should know the hurdles it is likely to face in preparing an approvable demonstration so that informed decisions can be made about committing resources to the task.

The majority of the cases will fall somewhere between these two extremes – simple in many respects but more complicated in others. In these cases, it is important that EPA and the state are clear on both the showings that need more work as well as those showings that are sufficient and approvable. In short, both EPA and the state should be clear on expectations.

### Recommendations

1. Show that an exceptional event occurred, as defined in the rule.

In the preamble to the Exceptional Events Rule, EPA describes exceptional events as “events for which the normal planning and regulatory process established by the CAA is not appropriate.” This characterization addresses the fundamental issue that the Exceptional Events Rule is meant to address - that regulatory decisions under the CAA should not be biased by monitored air quality data over which the state has little or no control.

The rule provides a broad definition of an exceptional event as an event that affects air quality, is not reasonably controllable or preventable, and is either a natural event or an event that is unlikely to recur [50.1(j)]. The rule later restricts an exceptional event to exceedances or violations of a NAAQS [50.14(a)(1)] and further requires the state to justify its request for exclusion of data by showing that the exceedance would not have occurred but for the event [50.14(c)(3)(iii)(D)].

Unfortunately, these restrictions could result in inflated design values, driving Clean Air Act planning and regulatory processes that are not appropriate. For example, inflated design values could impact nonattainment area classifications, control program target reductions in attainment SIPs, monitoring network design obligations, and eligibility for the limited maintenance plan option.

WESTAR recommends either of two paths for EPA to address this issue. The preferred alternative would be for EPA to revise the Exceptional Events Rule to allow its use any time monitored values are affected by an exceptional event that is not reasonably controllable or preventable. If EPA chooses not to revise the rule, WESTAR recommends that EPA allow for data that does not otherwise meet the definition of an exceptional event to be excluded under the Part 50 NAAQS rule appendices that govern data handling and allow the Regional Administrator to exclude data on a case-by-case basis.

2. Show that there is a clear causal relationship between the monitored value and the event.

The relationship between the event and the impacted monitoring site should be clearly established by the state in its exceptional event demonstration package. Once that relationship has been clearly established, no further work to address this part of the Exceptional Events Rule should be required. In some cases, the circumstances of the event will be such that the demonstration by the state is simple, while in other cases more detailed analysis will be needed. Our recommendation centers on how EPA could differentiate between the simple and the more difficult demonstrations so that, in the simple case, expeditious concurrence can be expected, and in the more difficult case, EPA can quickly alert the state as to the specific information needed for approval.

The clear causal relationship should be established through a description of four critical elements: meteorology, area impacted by the event, contributing emission sources, and air quality impacts.

- a. Narrative: Describe the event in narrative terms, including the chronology, and summarize how the following elements interacted to impact the monitoring site. The narrative and the associated analyses below should establish that: 1) there was an event, 2) the meteorological conditions were sufficient to provide for transport of the emissions generated by the event to the monitor, and 3) the chronology of concentrations (either daily or hourly) at the affected monitors are consistent with the expected arrival of the emissions.
- b. Meteorology:
  - i. Expedited review for *dust* if:

1. 20 mph or greater wind speed for minimum of 2 hours or wind speed above an established dust suspension threshold for the region, and;
  2. Synoptic scale meteorology which could be coupled with back trajectories as appropriate showing source-receptor relationship.
- ii. Expedited review for *fire impact on PM or ozone* if:
1. Synoptic scale meteorology which could be coupled with back trajectories as appropriate showing source-receptor relationship, or;
  2. Satellite and/or photographic evidence showing plume impact coupled with vertical dispersion evidence showing ground level impact.
- c. Area impacted by the event: Expedited review if all of the monitors expected to be impacted by the event were impacted.
- d. Contributing emission sources: Expedited review if the state shows emissions in the area were consistent before, during, and after the event, aside from emissions from the event itself.
- e. Air Quality Impacts: Expedited review if there is physical evidence of a plume impacting the monitor. For PM, this might include photographs or smoke markers on filter. For ozone, this might include a showing that the diurnal pattern differs significantly from the typical diurnal pattern for that monitoring site with respect to either the timing of peaks and valleys in the diurnal profile, or the rapidity of the buildup of concentrations.

3. Show that there would have been no exceedance but for the event

This is a special case of the clear causal discussion above, requiring a state to show not only that there was an impact from an event on a monitored value, but that the impact was significant enough to have caused the exceedance.

This demonstration requires a state to calculate the incremental impact caused by an event at a monitoring site over the relevant averaging time. In the preamble to the Exceptional Events Rule, however, EPA acknowledges that there are no precise and universally applicable techniques for calculating incremental impacts. Despite this acknowledgement, the state must do such a calculation to make the showing that there would have been no exceedance but for the event.

In large part, this dilemma is an outgrowth of EPA's choice to limit the definition of an exceptional event to an event that caused an exceedance of a NAAQS. EPA established a bright line test while acknowledging the absence of acceptable methods to meet the test.

Reiterating our comments above regarding EPA's choice to limit exceptional events to those that caused an exceedance, WESTAR believes that EPA should either revise the Rule to allow its use any time monitored values are affected by an exceptional event that is not reasonably controllable or preventable, or allow for data that does not otherwise meet the definition of an exceptional event to be excluded under the Part 50 NAAQS rule appendices that govern data handling and allow the Regional Administrator to exclude data on a case-by-case basis. If EPA chooses not to address this issue through either path, we offer the following recommendations on the requirement to show that there would not have been an exceedance but for the event.

WESTAR recommends expedited review when the incremental increase attributed to an exceptional event, as calculated using the methods described below, was sufficient to cause an exceedance of the relevant NAAQS:

- a. Estimating event impacts on 24 hour PM: Calculate the difference between the monitored value and the average PM concentration based on all of the hourly measurements at the site excluding the hours during which the event impacted the site. The difference is assumed to be the impact from the event. Hourly PM data must be available using this approach, or;
- b. Calculate the 98<sup>th</sup> percentile average daily PM value for similar time periods (typically seasonal but more precise, area specific metrics could be used). The incremental impact from the event is assumed to be the difference between the actual value for that day and the 98<sup>th</sup> percentile expected value for similar days.
- c. Estimating fire impact on ozone:
  - i. In areas that use predictive modeling to estimate ozone values for AQI purposes, the increase in monitored ozone resulting from the event is assumed to be the difference between the monitored value and a predicted value, or;
  - ii. The incremental impact from the event is assumed to be the difference between the actual value for that day and the 98<sup>th</sup> percentile expected value for similar days, calculated by determining the 98<sup>th</sup> percentile average 8-hour ozone value for similar time periods (typically seasonal but more precise, area specific metrics could be used).

4. Show that the event caused a measured concentration in excess of normal historical fluctuations

WESTAR stands by its May 25, 2006 comments to the Exceptional Events Rule docket as follows:

“WESTAR’s view is that statistical analysis may be used to qualify an event as an exceptional event, but statistical analysis should not be used to exclude an event from qualification as an exceptional event. Accordingly, WESTAR recommends that the rule allow States to seek a flag for any and all data impacted by an exceptional event. Concentrations above the 75<sup>th</sup> percentile of typical concentrations qualify as exceptional events and require only basic documentation. States may justify concentrations below the 75<sup>th</sup> percentile level on a case-by-case basis.”

Notwithstanding WESTAR’s comments, EPA chose in the final rule to require a state to show that the event resulted in a monitored value in excess of normal historical fluctuations. By limiting exceptional events in this manner, EPA has effectively excluded chronic dust and wildfire events that are common in the western states. That is, as chronic events, they are a part of our historical record against which we are required to show that a particular event caused an abnormal concentration. In short, during these chronic events, abnormal is normal, and under these circumstances it would be senseless to try to show that the event is abnormal.

WESTAR recommends that EPA either revise the rule to exclude this provision, or issue guidance consistent with our May 25, 2006 comments quoted above. The suggested 75<sup>th</sup> percentile should be considered sufficient for expedited review.

5. Show that the state has followed a public comment process

This provision of the Exceptional Events Rule has not proven to be a problem, and we therefore offer no recommendations for improvement.

6. Show that reasonable actions are being taken to protect public health.

While an exceptional event is defined as an event that is not reasonably controllable or preventable, reasonable steps can and should be taken to mitigate the impacts of an event on public health. This is consistent with the guiding principle in the preamble to the Exceptional Events Rule that protection of public health is the highest priority.

WESTAR recommends that states that have developed Natural Events Action Plans under the Natural Events Policy (superseded by the Exceptional Events Rule) continue to use these or



similar plans to guide the steps to be taken to alert and inform the public and to address actions the state may take to reduce emissions, especially from temporary and intermittent sources. States that have not developed such plans may consider doing so, or document other ongoing public education and alert programs if there is a likelihood of dust or fire events in the future.

As part of this showing, EPA must also determine whether the state is implementing an emission control program that, in effect, represents “reasonable actions” to protect public health. Section 110 of the Clean Air Act requires just this sort of showing in each state’s SIP, a plan that provides for implementation, maintenance, and enforcement of primary and secondary air quality standards. The SIP must contain, among other things, enforceable emission limitations and other control measures, means, or techniques as may be necessary or appropriate to prohibit any source from contributing significantly to nonattainment or interfere with maintenance of national ambient air quality standards.

WESTAR believes that, with regard to exceptional events, EPA’s assessment of whether a state is taking reasonable actions to protect public health should merely be an assessment of whether the state has met its obligations under Section 110 of the Clean Air Act. This would include emission control programs and regulations that are being implemented by the state, that have been submitted to EPA for inclusion in their SIP, but that have not yet been acted upon by EPA.

If the 110 SIP is deficient, EPA should call for a SIP revision as set forth in the Act. Under these circumstances the state would need to show that the deficiency had little impact on the monitored value for which the state has requested exclusion under the Exceptional Events Rule. Otherwise, WESTAR believes that the absence of a SIP call represents *defacto* evidence that the state is taking reasonable steps to protect public health.

In either case, EPA’s review should focus on whether, in fact, the applicable provisions of the SIP were being implemented when the event occurred, including intermittent control measures—for example, suspending burn permits.

## 7. Additional recommendations

In addition to the recommendations above related to specific showings a state must make in support of an exceptional events request, WESTAR has several suggestions regarding basic program administration that, if implemented, will ensure that the state and EPA are clear on all issues related to the approvability of exceptional events requests. The common theme is: keep in touch and keep informed.

- a. Learn from previous successes (and failures). The content and format of an approvable exceptional event demonstration will become clear over time as EPA responds to more and more demonstrations. A successful demonstration

should guide future demonstrations, including, for example, consistent definition of key terms and consistent application of analytical methods.

- b. EPA should provide periodic reports on the status of their review of exceptional event demonstrations.
- c. When an exceptional event demonstration, for one reason or another, does not qualify for expedited review, the state should be informed within 60 days of their submittal and given the opportunity to consult with EPA on the specific areas that are deficient. This is especially important when, in EPA's view, one or more of the areas represent a fatal flaw to approval.

In closing, streamlining the implementation of the exceptional events rule would benefit EPA, the states, and ultimately the public. Simple, yet critical, changes to the rule would resolve many issues, while other issues could be addressed by implementing procedures that differentiate exceptional events based on the complexity of the circumstances surrounding the event. States will always be limited to the data they have on hand to document an event. Knowing what data are most important and how those data are best used to document an exceptional event will contribute significantly to improving the implementation of the exceptional events rule.