

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R09-OAR-2006-0583, FRL-]

Approval and Promulgation of Implementation Plans; Designation of Areas for Air Quality Planning Purposes; State of California; PM-10; Affirmation of Determination of Attainment for the San Joaquin Valley Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is finalizing its proposal to affirm its October 30, 2006 determination that the San Joaquin Valley nonattainment area (SJV or the Valley) in California has attained the National Ambient Air Quality Standard (NAAQS) for particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM-10). EPA proposed to affirm the determination of attainment in order to take comment on the exclusion from a determination of attainment of PM-10 exceedances that were caused by exceptional events. EPA is concurring with the State's request to flag exceedances which occurred in the SJV as being caused by exceptional events, i.e., high winds. EPA is also concurring with the Santa Rosa Rancheria Tribe's request to flag, as due to an exceptional event, PM-10 exceedances which occurred on tribal lands located within the boundaries of the SJV. EPA is further finding that these exceedances at the Santa Rosa Rancheria (SRR) should be excluded from use in determining attainment because the exceedances occurred while the monitor was operating in very close

proximity to construction activities and, as such, the monitor was not properly sited during that time for purposes of comparison to the NAAQS. As a result, EPA is affirming its determination that the SJV has attained the PM-10 standard based on EPA's evaluation of quality-assured data through 2006.

In addition, EPA did not receive comments on how the Agency addressed the issues raised in petitions for reconsideration and withdrawal of EPA's 2006 determination of attainment, filed by Earthjustice on behalf of the Sierra Club, Latino Issues Forum and others, and thus we are denying the petitions.

EFFECTIVE DATE: This rule is effective on [Insert date 30 days from the date of publication in the Federal Register].

ADDRESSES: EPA has established docket number EPA-R09-OAR-2006-0583 for this action. The index to the docket is available electronically at www.regulations.gov and in hard copy at EPA Region IX, 75 Hawthorne Street, San Francisco, California. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (e.g., copyrighted material), and some may not be publicly available in either location (e.g., CBI). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the FOR FURTHER INFORMATION CONTACT section.

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SUPPLEMENTARY INFORMATION: Throughout this document, “we,” “us” and “our” refer to EPA.

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I. Summary of Proposed Action

On August 27, 2007, EPA proposed to affirm its determination that the SJV has attained the 24-hour NAAQS for PM-10. 72 FR 49046.¹ EPA issued this proposed rule in order to take comment on the exclusion of several PM-10 exceedances that were caused by exceptional events, and, in the case of the SRR, improper siting of the monitor for purposes of comparison to the NAAQS. These

¹ On October 17, 2006 EPA finalized its determination that the SJV attained the NAAQS for PM-10 and on October 30, 2006 EPA published this determination in the Federal Register. 71 FR 63642.

exceedances are summarized in Table 1 in the proposed rule. Id. at 49047. For a more detailed discussion of the related background for the SJV and of the proposal, please refer to the proposed rule.

II. Public Comments and EPA Responses

EPA received three comment letters supporting the proposal to affirm the attainment determination. These comments were submitted by the California Cotton Ginners and Growers Association, the Tulare County Farm Bureau and the Western United Dairymen. In general, these commenters support the cases that are made for the exceptional event exceedances and discuss the many control measures and efforts that have been made to achieve attainment. The commenters also point to the SJV's continued efforts to achieve further air quality improvements under the PM-2.5 plan development. One commenter provides information to show that no cotton harvesting was occurring in September 2006. Finally, the commenters question the representativeness of the 2000 comment letters received by EPA in response to our July 19, 2006 attainment determination proposal (71 FR 40952) since the majority of the commenters appear to reside outside the SJV.

EPA received three adverse comment letters. Two were from private citizens from the state of Tennessee and one was from Earthjustice, representing Sierra Club, Latino Issues Forum, Medical Advocates for Healthy Air, the Steven and Michele Kirsch Foundation, Tri-Valley CAREs, Concerned Residents of Lockwood

Valley, Fresno Coalition Against the Misuse of Pesticides, California Communities Against Toxics, Fresno Metro Ministry, Coalition for Clean Air, Center for Biological Diversity, and the Association of Irrigated Residents.² The majority of the comments discussed below are raised by Earthjustice.

EPA notes that although it received numerous specific comments on the September 22, 2006, October 25, 2006 and the SRR exceedances, no adverse comments are directed specifically at EPA's finding that exceedances monitored on December 8, 2006 at Corcoran and Bakersfield-Golden State Highway (Bakersfield) were caused by an exceptional high wind event. Thus, EPA does not address any substantive issues regarding these exceedances in its responses to comments.

In subsection A. below we respond to the extensive comments raised by Earthjustice. In subsection B. we respond to comments raised by other parties.

A. Earthjustice Comments

1. Overview Comments

Comment 1: Earthjustice explains that its comments analyze EPA's proposed affirmation rule under the new Exceptional Events Rule (EER). 72 FR 13560 (March 22, 2007). In this regard, Earthjustice states that, "assuming EPA has the discretion to apply the new

² The proposal provided a 30 day comment period ending on September 26, 2007. EPA received a request for an additional 30 days to comment and granted that request extending the comment period until October 26, 2007. 72 FR 53743 (September 20, 2007).

rule," EPA's decision to do so is completely arbitrary given that the San Joaquin Valley Air Pollution Control District (District or SJVAPCD) prepared its analyses under EPA's prior policies and did not invoke the new regulatory requirements.

Response 1: EPA addressed the issue of the applicability of the new EER to the events at issue in this rulemaking in its proposed affirmation rule. EPA explained that the statutory provision upon which the new rule is based, CAA section 319, as amended by section 6013 of the Safe Accountable Flexible Efficient-Transportation Equity Act: A Legacy for Users (SAFE-TEA-LU) of 2005, provides that the Agency's pre-existing guidance documents continue to apply until the effective date of the rule. CAA section 319(b)(4). As mandated by section 319, EPA finalized and published the final EER in March 2007. This rule became effective on May 21, 2007, requiring EPA to follow the rule in making exceptional events determinations after that date. Therefore, in making and publishing its determination after the effective date of the EER, EPA followed its procedures and criteria in evaluating the State's exceptional events demonstrations. 72 FR at 49048.

Although EPA followed the EER in this particular instance, and believes it should be followed in most cases, the Agency recognized that there might be certain instances where EPA had not yet made a decision on a state's already completed and submitted demonstration of an exceptional event and these demonstrations were thus caught midstream. In those instances, EPA concluded

that a state could choose for a limited period to comply with either the provisions of the rule or those of the Agency's existing policies and, that if asked, EPA would act under the policy on a grandfathering rationale for a short time period. EPA continues to believe that this transitional policy was reasonable in the absence of an explicit statutory directive addressing that situation. Here, the State did not indicate that its submissions should be evaluated under the existing policies. Therefore, EPA applied the rule, which was already effective, when it made its determinations on the exceptional events in the SJV.

Comment 2: Earthjustice, citing case law, states that EPA must provide a rational basis to support its conclusions regarding the exclusion of monitoring data showing NAAQS exceedances and that its decisions must have a "substantial basis in facts."

Earthjustice cites 40 CFR 50.14(c)(3)(iii) and CAA section 319(b)(3)(B), respectively, for the propositions that for EPA's determination here the District must provide actual evidence to support its claims and that the occurrence of an exceptional event must be "demonstrated by reliable, accurate data." Earthjustice claims that even under a weight of evidence standard there must be evidence supporting the specific findings and that reliance on a plausible story is not enough.

Response 2: EPA agrees with Earthjustice's characterization of the general demonstration, as stated in our summary of its comment above, that must be made in order to exclude data showing NAAQS

exceedances. EPA believes that it has, both in the proposed affirmation rule and this final rule, provided a rational basis supported by reliable, accurate data for its conclusions that the September, October and December 2006 PM-10 exceedances in the SJV were caused by exceptional events. See 72 FR at 59050-49063 and our responses to comments below.

Comment 3: Regarding its contention concerning the lack of reliable and accurate data, Earthjustice cites EPA's statements in the proposed affirmation rule at 72 FR at 49053 that activity levels on September 22, 2006 were "constant" and that reasonable controls were in place to control particulate matter while providing only general or anecdotal evidence in the form of non-specific District inspector observations and "discussions with representatives of agricultural and industrial operations." Citing CAA section 319(b)(3)(B), Earthjustice claims that this does not satisfy the statutory requirement that "exceptionality" be based on reliable, accurate data.

Response 3: In the section of the proposed affirmation rule cited by Earthjustice we discussed our conclusion that the State's documentation demonstrates that the exceedances at Corcoran, Bakersfield and Oildale on September 22, 2006 would not have occurred but for the wind event on this day. EPA based this conclusion on the totality of the evidence presented by the State which included, but was not limited to, the information on activity levels and control measures singled out by Earthjustice.

For the additional factors EPA considered in reaching its conclusion, see section V.A.2.d. in our proposed affirmation rule (72 FR at 49053) and our responses to comments below.

Comment 4: Earthjustice claims that EPA offers no evidence to support the construction claims regarding the SRR. It asserts that EPA cannot say what if anything was occurring on the days in question, where it was occurring, or why it could not be reasonably controlled. Earthjustice also maintains that EPA cannot show that construction activity at the SRR is related to the measured exceedances and, as a result, EPA cannot show the required "clear causal relationship." Further, EPA cannot say when these events occurred and why these allegedly ongoing activities only resulted in exceedances during the same period that monitors in other areas of the SJV started monitoring exceedances. Earthjustice argues that EPA cannot make the required "but for" showing at the SRR because EPA cannot show that there was an event in the first place. Earthjustice further contends that EPA did not provide adequate evidence, including written accounts, that the construction activity took place on the days the exceedances occurred. Earthjustice claims that "no one was able to produce any written account, in the form of contractor records, work orders, schedules, or anything else that would confirm that construction activity did, in fact, take place on the days in question." Finally, Earthjustice states that "mere post hoc speculation and anecdotal accounts of what probably happened

does not establish a basis for waiving these data."

Response 4: First, Earthjustice notes that EPA proposed to exclude the SRR violations on two grounds: 1) the monitor was not properly sited, and 2) the nearby construction activity was an exceptional event. Earthjustice concedes that "[b]oth of these conclusions seem reasonable if the activity can be shown to have occurred on the days the monitor recorded violations."

Earthjustice Comments (EC) at 23.³ Earthjustice contends, however, that EPA did not provide "any such evidence."

Contrary to Earthjustice's assertion, EPA in its proposed affirmation rule provided a demonstration that construction activity, involving the grading and paving of parking lots, took place in close proximity to the SRR monitor during the period the exceedances at the SRR monitor occurred, and that this activity caused the exceedances. EPA in its proposal set forth information derived from eyewitness accounts, meteorological data, contemporaneous tracking reports, and an account of an EPA expert's own visit to the site. 72 FR at 49060-49063. EPA did include written documentation of the events at issue. This written documentation included sample tracking reports that accompanied the filters from the monitors and described the conditions at the time of the monitoring, and an EPA expert's

³ Earthjustice concedes, moreover, that under the EER the requirements for tribal governments appear to be "much more flexible..." and "[i]t would not take much to make these demonstrations." EC at 22.

report of his site visit and interviews of witnesses to the events. There is no requirement in the EER that documentation of events include specific types of written documentation, such as those cited by Earthjustice.⁴ Nor is there any requirement for specific types of documentation for EPA to demonstrate its alternative ground for excluding the data under principles established in 40 CFR part 58, appendix E, that during the period of the nearby construction the monitor was not properly sited for purposes of collecting data for comparison to the NAAQS. 72 FR at 49060-49061.

EPA's findings were supported by information from interviews with three individuals with firsthand knowledge of the activities that took place near the monitor, as well as by contemporaneous documentation from filter sample tracking reports. These individuals were the SRR environmental technician responsible for overseeing the operation of the monitor, the SRR construction superintendent, and a private environmental

⁴ Note that we are not specifying what will be required as a minimum level of documentation in all cases because facts and circumstances will vary significantly based on, among other things, geography, meteorology and the relative complexity of source contributions to measured concentrations in any particular location. 72 FR at 13573. A particular instance may require more or less documentation, depending on the particular facts or circumstances. The simplest demonstrations could consist of newspaper accounts or satellite images to demonstrate that an event occurred together with daily and seasonal average ambient concentrations to demonstrate an unusually high ambient concentration level, which is clearly indicative of an exceptional impact. Such is the case with events such as volcanic eruptions and nearby forest fires. Id. More documentation would be needed to support situations that are not as straightforward.

consultant working for the Santa Rosa Rancheria EPA (SRREPA). The construction superintendent and the consultant concurred with the SRR environmental technician's recollection that grading and paving of the parking lots took place in September and October 2006 and the environmental technician concluded that these activities caused the exceedances on September 14 and 20, 2006 and later in October, when the initial paving had to be removed and the parking lot repaved.

EPA's July 18, 2007 Memorandum, "On-Site Visit to Santa Rosa Rancheria," from Bob Pallarino, EPA, to Sean Hogan, EPA (Site Visit Memorandum) contains the following account:

The construction activity entailed grading and leveling the ground, application of sub-base material, and paving with asphalt. The parking lot was first paved in September and it is this project which [the SRR environmental technician] believed caused the exceedances on September 14 and 20.... the first paving ...had to be removed and the parking lot repaved.^[5] It is this second part of the paving project which [the environmental technician] believed caused the October exceedance....[T]he SRR environmental consultant stated that he had witnessed these construction activities during September and October, 2006.... The construction

⁵ The Site Memorandum stated that the first paving project "did not pass inspection and the paving had to be removed and the parking lot repaved." The Facility Manager in his letter of December 2007 referred to the first paving of the parking lot as

supervisor concurred with [the environmental technician's] recollection of the construction activity....

Site Visit Memorandum at 2-3.

The information about the timing of the construction activity, from witnesses with both firsthand and expert knowledge, is confirmed by documentation from the California Air Resources Board (CARB) sample tracking reports that the SRREPA environmental technician filled out at the time the samples were obtained, and forwarded to CARB along with the monitored samples. The SRREPA technician observed the "sampling conditions" at the time the monitor was operating and noted on the sample tracking forms, which are completed with each sampling run, that there was "construction nearby." This was signified by the letter "J". Earthjustice ignores this corroborating documentation, cited by EPA in its proposal, and included in the rulemaking docket. 72 FR at 49062. It is significant that these sample tracking forms were prepared before the filters from the monitors were sent to and analyzed by the lab. Thus at the time the technician noted that nearby construction was occurring during the monitoring, he could not have known whether or not an exceedance was recorded that day.

EPA's proposal also showed that the meteorological data lend support to the environmental technician's account of the events of the days in question. The winds on the three days that exceeded the NAAQS were predominantly from the northwest, north and

northeast. This would indicate that any dust-producing activity north and northeast of the monitor would result in high concentrations of geologic dust being blown towards the monitor. Site Visit Memorandum at 2.

Further corroboration of the impact of the construction on the monitor came from EPA's assessment of the proximity of the monitoring site to the nearby parking lots. EPA's onsite inspection ascertained that one of the parking lots was within 25 feet of the monitor, and the other was within 100 feet. 72 FR at 49062.

Reinforcing EPA's conclusion that construction activities near the monitor caused the exceedances was the fact, pointed to in the proposed rule, that after completion of the paving projects, average PM-10 concentrations dropped by more than 50 percent. Id.

Since the proposal, EPA has obtained further documentation that the exceedances occurred during the period of construction activity in close proximity to the monitor. The Facility Director of the Tribe's hotel and casino has provided EPA with a letter stating that asphalt work on the parking lots close to the monitoring station was completed between August 15 and November 4, 2006. Enclosed with the letter was a billing statement from the Tribe's general contractor for the period up to August 15, 2006. The statement shows that work on the parking lots close to the monitor remained to be completed after August 15. The letter from

the Facility Director states that at the time of the monitored exceedances, there were earthmoving activities nearby and paving activities near the site of the monitor "in a large area for parking for Tribal Administrators and for our customers."

Thus, in addition to the documentation available at the time of the proposal, EPA has provided a letter from the Tribe and a billing statement from the general contractor that support the conclusion that paving work was occurring at the time of the exceedances.

Earthjustice argues that because exceedances did not occur on other days when construction activities were occurring, this indicates that construction did not cause the exceedances in September and October 2006. But this argument is misleading. Generally, varying degrees, types and locations of the construction activity, and changing meteorological conditions lead to varying impacts on the monitor. The fact that construction activities did not cause exceedances on some days does not mean that they were not responsible for the exceedances that occurred on other days. In addition, although Earthjustice claims that two days of violations at the SRR "correlate well with violations seen in other parts of the Valley," no other violations were monitored in the Valley on September 14 and 20 and October 26, 2006.

Earthjustice also claims that EPA "still needs to make the other required showings" for exceptional events, "including that these sources were reasonably controlled." EC at 22. EPA made

these showings in its proposal, and Earthjustice did not raise any specific grounds to challenge them. See 72 FR at 49061-49062. In its proposal EPA, after discussing whether the construction activity's impact on the monitor was reasonably controllable, concluded that "under the particular set of circumstances presented here, for the purposes of evaluating the 'reasonably controllable' criterion of the EER, we deem this criterion to have been satisfied." EPA found that even if control measures had been employed, we cannot be certain they would have prevented exceedances at the monitor, and that EPA's monitor siting rules provide that the monitor should not be operated at such a time and place for the purposes for determining attainment. 72 FR at 49062. We note that the criteria under the EER do not apply for the purposes of our alternative ground, that the monitor was not properly sited. See 72 FR at 49060-49061. Thus EPA is finalizing its determination that there are two independent bases for determining that the exceedances recorded at the SRR in September and October, 2006 should be excluded from consideration in determining whether the SJV has attained the PM-10 standard: (1) the monitor was not properly sited, under the principles established in part 58, appendix E, and (2) the construction activity constitutes an exceptional event under EPA's EER.

Comment 5: Earthjustice states that EPA cannot point to any statutory or regulatory authority that allows it to treat wind-entrained particulate matter pollution from land that has been

disturbed by human activities, i.e., agriculture or construction as "natural." Earthjustice observes that, while EPA cites preamble language in the EER regarding high winds, this language was never codified even though the final rule does contain provisions relating to the treatment of other anthropogenic sources such as fireworks and prescribed fire. Earthjustice suggests that even though a natural event is defined in 40 CFR 50.1(k) as "an event in which human activity plays little or no direct causal role," EPA attempts to define an event in which wind-entrained dust from agricultural and industrial operations as natural. Earthjustice cites legislative history of the 1990 Clean Air Act Amendments (CAAA) to support its contention that this result defies logic and flies in the face of Congressional intent as evidenced by Congress's refusal to excuse dust storms from Mono and Owens lakebeds because they were human-caused. Earthjustice claims that if the measures in place are not enough to prevent exceedances due to wind-entrained dust, then Congress intended that additional controls be required.

Response 5: Section 319, as amended, defines an exceptional event as an event that affects air quality, is not reasonably preventable or controllable, is a natural event or is an event caused by human activity that is unlikely to recur at a particular location. Under this definition, for an event to qualify as an exceptional event, both natural events and events caused by human activity must be events that are not reasonably preventable or

controllable. Therefore, Earthjustice's conclusion that designating an event "natural" would "allow air agencies to avoid controls" is erroneous. An agency flagging data as due to an exceptional event, including a high wind event, will be required to show that the event was not reasonably preventable or controllable. In the preamble to the final rule, EPA explained how it would evaluate whether an agency had been able to successfully demonstrate that an event met this criteria by taking into account the controls in place, the wind speed, and other factors. 72 FR at 13565-13566, 13576-13577. As explained elsewhere in our responses to comments below, in this particular instance the District's Regulation VIII (general fugitive dust rules) and Rule 4550 which limits fugitive dust emissions specifically from agricultural operations through Conservation Management Practices (CMPs) were in place. In addition, the District has adopted and is implementing EPA-approved best available control measures (BACM) for all significant sources of PM-10 in the SJV.

Earthjustice incorrectly states that if an event is classified as a natural event, a state would be able to "avoid controls." In the proposed EER, EPA explained that it was proposing to treat high wind events that result in exceedances or violations as a natural event provided a clear causal relationship between the wind event and the measured exceedance was established and contributing anthropogenic activities were "reasonably well-

controlled.”⁶ In the final rule, after considering the comments on high wind events including on the terminology and the definition, EPA adopted an approach that considers high winds a natural event if contributing anthropogenic activities are controlled through “reasonable and appropriate measures.” 72 FR at 13566. To qualify as a natural event (a subset of exceptional events under the rule) a state must demonstrate, among others, that dust from contributing anthropogenic sources was “reasonably well-controlled at the time the event occurred.” 72 FR at 13576. The EER, therefore, has already defined what constitutes a high wind event through appropriate notice and comment rulemaking. Thus, the question of whether a high wind that causes exceedances or violations due to entrainment of dust from anthropogenic sources can be defined as a natural event is not an issue that is open for comment in this rulemaking. In this case, the Agency has only asked for comments on whether the particular high wind event met the criteria and procedures established under the rule, e.g., establishing a causal connection, reasonable controls on anthropogenic sources, wind speed and direction, etc., and not on whether these criteria are appropriate.

Earthjustice cites to the legislative history of the 1990

⁶ EPA made this statement in the context of PM-2.5 because at the time, the Agency was considering adopting the PM10-2.5 standard and noted that states would be expected to have appropriate controls for contributing anthropogenic emissions under the definition of the proposed PM10-2.5 indicator. The Agency, eventually, did not finalize the PM10-2.5 indicator and instead retained the 24-hour PM-10 standard.

CAAA, for the discussion on Owens and Mono lakebeds where Congress indicated that diversion of water from these lakes created an anthropogenic source of dust. From this Earthjustice contrives an overly-broad conclusion that any "dust from lands disturbed by human activity" must be treated as an anthropogenic rather than a natural event. Under this proposition gale-force winds, for example of 100 mph, in an urban area could not be treated as a natural event because human activity would be a contributing factor.

As a matter of record, the legislative history also demonstrates that EPA concurred with Congress that the diversion of water created an anthropogenic source of dust in the Owens and Mono lakebeds. Pub. L. 101-549, CAA Amendments of 1990 House Report No. 101-290(1), May 17, 1990. EPA, however, does not interpret the statutory language in a manner that considers any anthropogenic contribution to a natural event as transforming it into an anthropogenic event. In the Mono and Owens lakebed situation, EPA believed that the anthropogenic contribution was such that dust blown from those areas should be treated as anthropogenic rather than natural events. In other high winds instances, however, where there were anthropogenic contributions with adequate controls in place, EPA treated the high wind events as natural events.

In its Natural Events Policy, EPA stated that it would treat a high wind event as a natural event even if the dust originated

from anthropogenic sources, provided best available control measures were in place. Memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation to Regional Air Directors, "Areas Affected by PM-10 Natural Events," May 30, 1996 (NEP) at 7. Congress was cognizant of EPA's existing policies on natural and anthropogenic events and how EPA interpreted and implemented these policies. In amending section 319, Congress specifically required EPA to continue to apply its NEP during the exceptional events rulemaking process, an unlikely action if it disagreed with EPA's interpretation of natural events. Section 319 (b)(4)(B). Under the NEP, EPA treated high wind events as natural events and reasonably well-controlled if contributing anthropogenic sources had BACM in place. NEP at 7. During the exceptional events rulemaking, EPA sought comment on a number of options for mitigation requirements, including whether to continue to require BACM for such events. After considering all comments on the proposed options, EPA explained in the preamble to the final rule that it would continue to require that anthropogenic sources contributing to high wind events be well-controlled through reasonable and appropriate measures. 72 FR at 13566. EPA, therefore, believes its interpretation of a high wind event as set forth in the preamble to the EER conforms to congressional intent and the requirements of section 319.

Also, in response to Earthjustice's assertion that EPA cites no statutory or regulatory authority that permits us to treat high

wind as a natural event, as discussed above, Congress was aware of EPA's interpretation of natural events as evidenced by the statutory reference to the NEP (Section 319 (b)(4)(B)) and it is self-evident that volcanic, seismic, high wind, and other similar events are natural events under section 50.1(k) of the EER. Therefore, EPA did not find it necessary to specifically list these events as exceptional events in the final rule. When asking for comments in the proposed rule, we noted that some of these exceptional events (including volcanic, seismic and high wind events) have "unusual characteristics" and needed a fuller discussion in the preamble regarding how states may meet the requirements established in the EER. 71 FR at 12605. EPA believed that this explanation in the preamble was sufficient to assist states in developing their demonstration requirements and did not make it necessary to specifically list these events as exceptional events in the final rule.

Comment 6: Earthjustice claims that even if EPA had codified the preamble language allowing dust from lands disturbed by human activity to be excused, EPA offers no evidence to show whether the sources that allegedly were responsible for the dust were reasonably well controlled at the time the event occurred. Earthjustice states that EPA must show that the sources were actually controlled, not just that they were subject to controls. Earthjustice believes that reasonable controls would have prevented dust from being entrained by the stated wind speeds and

that if the winds at issue picked up the large amounts of particulate concentrations claimed, then by definition, these sources were not reasonably controlled. With respect to September 22, 2006, Earthjustice asserts that the fact that the District claims that the dust came from anthropogenic sources being scoured by winds under 25 mph for a short period of time means that reasonable measures could not have been in place. Therefore, Earthjustice claims that either the dust was not caused by wind or the sources did not have reasonable controls that would have prevented the event. With respect to October 25, 2006, Earthjustice asserts that none of the 90 inspections conducted by the District was in or around the Lemoore/Corcoran area where the dust allegedly originated.

Response 6: With respect to reasonable controls, in the preamble to the EER we explained 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, or from anthropogenic sources outside the State.... In cases where anthropogenic sources are determined to have contributed to exceedances or violations due to high wind events at air quality monitoring sites, per our decision in this rulemaking concerning the action that States must take to mitigate the impact of exceptional events on public health ...

States must take reasonable and appropriate measures to mitigate the impact associated with the event on public health." 72 FR at 13576-13577.

As we observed in our proposed affirmation rule, Regulation VIII and District Rule 4550 were in place at the time of the events in question. Furthermore, we noted that EPA has approved the District's BACM demonstration for all significant sources of PM-10 in the SJV as meeting CAA section 189(b)(1)(B). See 72 at 49053 and 49057. Moreover, the District conducted numerous inspections of PM-10 sources in the SJV on September 22 and October 25, 2006. Thus controls beyond those deemed "reasonable" were being implemented and enforced in the SJV on those dates.

Contrary to Earthjustice's apparent belief, there is nothing in either the preamble to the EER or the rule itself that requires EPA to show that all sources were "actually controlled" at the time of the events. Moreover, there are thousands of fugitive dust sources in the SJV,⁷ an area of nearly 25,000 square miles which constitutes approximately 16 percent of the geographic area of California. 2003 PM10 Plan for the SJV at 2-1. As a result it would be a practical impossibility for the District, a publicly-funded agency, to determine whether every source was in compliance with its regulations on any given day, the standard Earthjustice evidently espouses. The fact that the District conducted 90

⁷ For example, the District has approved over 6,000 applications under Rule 4550. "Conservation Management Practices Program Report for 2005," January 19, 2006, SJVAPCD at 5.

inspections on October 25, 2006 and none was in Lemoore or Corcoran simply illustrates the magnitude of the task Earthjustice suggests should be mandatory for the exclusion of data from an exceptional event.

Finally, Earthjustice presents no support for its contention that controls on anthropogenic sources beyond those already in place would have prevented dust from being entrained by the stated wind speeds. Earthjustice simply asserts (see comment 7) without evidence that there are numerous measures available that could have prevented or reduced entrainment of particulate matter. As we have shown, reasonable controls were in place on the days in question and the exceedances occurred notwithstanding those controls. See also our response to comment 7 below.

Comment 7: Earthjustice further asserts that there are numerous measures available that could have reduced or prevented the entrainment of particulate matter by winds above the entrainment threshold of 18 mph, many of which are included but not required by the District's agricultural CMP rule and Regulation VIII. Earthjustice provides a number of examples that it claims are effective in reducing or eliminating erosion and transport of soil particles during high wind events. Earthjustice concludes that even assuming 100 percent compliance with the agricultural CMP rule and Regulation VIII, "not one of these measures is required to be in place by these so-called BACM level controls." Thus Earthjustice alleges that sources could be 100 percent in

compliance with District rules and still not be doing anything to prevent wind-generated entrainment of particulates.

Response 7: As we stated in the preamble to the EER, where wind speed results in particulate matter exceedances, a clear causal relationship must be demonstrated between the exceedances measured at the air quality monitoring site and the high wind event in question in order for data affected by these events to be excluded under the weight of evidence approach. 72 FR at 13566, footnote 11. We further stated that "EPA will consider in the weight of evidence analysis winds that produce emissions contributed to by anthropogenic activities that have been controlled to the extent possible through use of all reasonably available reasonable and appropriate measures." Id.

EPA approved Regulation VIII as BACM on February 17, 2006 (71 FR 8461) and Rule 4550 as BACM on February 14, 2006 (71 FR 7683). The control measures in these rules are designed to reduce fugitive dust emissions. A number of the measures that sources can choose in compliance with the rules are also specifically designed to reduce or prevent entrainment of particulate matter during wind events. See, for example, in the "List of Conservation Management Practices," May 20, 2004, for Rule 4550 in the "Cropland--Other" category the following measures: alternate till, bulk materials control, cover crops, permanent crops, surface roughening, wind barrier.

EPA determines what controls constitute "all reasonably

available reasonable and appropriate measures" on a case by case basis. With regard to the SJV, EPA has agreed with the District's finding that "...unlike other arid western PM-10 serious nonattainment areas, the SJV does not have a regular and repeated windblown dust problem." 71 FR at 7686. In addition, in responding to a comment on its proposed approval of the 2003 PM-10 serious area plan for the SJV, EPA observed that "[o]nly five PM-10 exceedance days spanning a 13-year period were identified as associated with strong winds." 69 FR 30006, 30033 (May 26, 2004). Under these circumstances, EPA believes that it was not necessary for the District's rules to mandate the selection of windblown dust measures and that the BACM controls being implemented in the SJV constitute "all reasonably available reasonable and appropriate measures."

Comment 8: Earthjustice argues that the events at issue cannot be claimed as exceptional because the District did not make its demonstration according to the procedures outlined in the EER. Specifically, Earthjustice states that while EPA relies on demonstrations prepared by the District in April and May 2007, the only opportunity for public comment provided by the District was on the February 2007 version of the analysis. Moreover, Earthjustice states, only 15 calendar days were provided for comment on the February version and the preamble to EPA's EER provides for a 30-day comment period. Earthjustice states that to the extent that EPA believes preamble statements to be

enforceable, the event cannot be deemed exceptional because the District did not meet the procedural requirements in the EER. Earthjustice also asserts that since the District's rationale for flagging the September 22, 2006 exceedances changed so markedly as to make comments on the first draft irrelevant, the documentation should have been put out for a second round of public comment. Earthjustice further states that insofar as the EER applies to EPA's affirmation action, the District also failed to meet its procedural requirements that documentation justifying exclusion must be submitted no later than 12 months before a regulatory decision is made. Here, Earthjustice asserts, EPA based its regulatory decision to find the SJV in attainment on the exclusion of data before any demonstration supporting the exclusion was drafted by the State.

Response 8: The public did have an adequate opportunity for review and comment on the State's documentation of the exceptional events. Earthjustice complains that the State did not provide a 30-day comment period on the documentation of exceptional events, and further contends that there was no opportunity to review and comment after the District revised this documentation. EPA's EER provides that a state that has flagged data as being due to an exceptional event and that is requesting exclusion of the data shall "after notice and opportunity for public comment, submit a demonstration" to EPA, along with any public comments it received. 40 CFR 50.14(c)(3)(i).

With respect to Earthjustice's first contention regarding the 30-day comment period, the EER contains no such requirement. The language cited by Earthjustice that purports to characterize 30 days as a requirement is found in the preamble only, 72 FR 13574, and does not reflect the language of the rule. Thus, while indicative of a period that EPA would deem reasonable, the preamble language regarding a 30-day comment period does not serve to make such a period mandatory. Nor does it mean that a shorter comment period should be deemed unreasonable. Earthjustice concedes that in February 2007 the District provided a two week comment period for its initial documentation of the September, October and December 2006 exceedances. The District received no comments or requests for extension of the comment period.⁸ On March 21, 2007, Earthjustice filed with EPA a petition to withdraw EPA's October 2006 attainment determination, which cited to and discussed the District's initial documentation. This petition, however, was directed to EPA and not to the District or the State. Earthjustice, having failed to request an extension of the comment period and to address comments to the District and the State, cannot now be heard to complain about the length of the initial comment period.

Subsequently the District posted on the "Public Notices"

⁸ Contrary to Earthjustice's contention (EC at 3, footnote 3), EPA in its proposal did nothing to "hide" the date that the documentation became available. EPA simply stated that the documentation became available in February.

section of its website revised versions of the documentation for exceedances on these three days at issue, and thus the revised documentation was also available for public review and comment. These revised versions modified and clarified the technical analysis of the high wind events. For the September 22 event, the District posted on its website a revised set of documentation, dated April 20, and CARB subsequently submitted it to EPA. The District submitted an Addendum to CARB on May 23, 2007, which it again posted on its website, and CARB later submitted it to EPA. 72 FR at 49050. For the October 25 event, the District posted on its website a revised set of documentation, dated April 23, and CARB again subsequently submitted it to EPA. 72 FR at 49054. For the December 8, 2006 event, which Earthjustice does not contest is an exceptional event, the District revised its documentation and submitted it to CARB on May 23, 2007, and posted it on its website. At CARB's request the District made further revisions which it submitted to CARB on June 6, 2007, and posted on its website. 72 FR at 49057. The State later submitted it to EPA. Id.

Thus each set of revised documentation was available to the public in the "Public Notices" section of the District's website for months prior to EPA's August 15, 2007 issuance of its proposed rule, and EPA has found no indication that comments were submitted or inquiries received about the revised documentation. EPA therefore believes that there was adequate opportunity for the public to comment on the revised demonstrations made by the

District and CARB. The fact remains that no comments were submitted to the District or CARB on the original versions of the documentation, nor does it appear that there were any requests for an extension of the comment period that closed on March 5, 2007. Similarly, EPA knows of no comments or requests regarding the comment period that were submitted on the subsequent versions of the documentation that were posted on the District's website.

Earthjustice further contends that EPA has failed to meet the requirement that a demonstration be submitted to EPA no later than 12 months "prior to the date" a regulatory decision "must" be made by EPA. EER, section 50.14(c)(3)(i). We note initially that this section of the EER is designed for EPA's benefit, to furnish adequate time to review documentation, and it is thus for EPA to determine whether we require the full time allotted by the rule.

Furthermore, in the preamble we "recognize that special circumstances could dictate more expedited data delivery, flagging, and minimal demonstrations...." 72 FR at 13571. In this case, where EPA is acting to affirm a prior attainment determination that recognized the need for additional evaluation of preliminary data, EPA finds there is value in proceeding expeditiously to obtain and review the State's documentation of those data and surrounding exceptional events. Moreover, this action to affirm EPA's attainment determination is not a regulatory decision that "must" be made by a certain date, and therefore the 12-month requirement is not applicable. Finally we

note that the bulk of the revised documentation for the September and October 2006 exceedances at issue here was submitted to EPA in April and May 2007, well in advance of EPA's final regulatory decision in this rulemaking. Thus EPA finds that, for all the reasons set forth above, the timing of submission of the documentation here was adequate for purposes of section 50.14(c)(3)(i) of the EER.

Earthjustice also complains that in issuing the October 2006 determination of attainment, EPA made the determination to finally concur in the flagging of exceptional events prior to receiving the State's documentation. The procedural validity of the October 2006 determination, and whether it provided adequate notice and comment, is not at issue in today's rulemaking. Thus Earthjustice's contentions with regard to notice and comment issues arising from the October 2006 rulemaking are misplaced here.

Moreover, Earthjustice's contentions are belied by the facts. EPA's October 2006 determination of attainment made clear that the data showing exceedances on September 22, 2006 were preliminary. EPA stated that once quality-assured data were available, EPA would review those data and CARB's request with respect to them, evaluate whether the data qualified for exclusion as caused by exceptional events, and determine whether the determination should be withdrawn.⁹ See discussion in EPA's

⁹ As EPA noted in its proposed affirmation rule, EPA's October,

proposed affirmation rule, 72 FR at 49064. See also 71 FR 63642.

In today's rulemaking EPA has fulfilled its promise by providing ample opportunity for comment on the State's documentation and EPA's evaluation of exceedances under the EER prior to issuing a final concurrence. As EPA noted in its proposed affirmation rule, our purpose here is not to take comment on the issues raised by the 2006 attainment determination, except to the extent that they affect EPA's ability to determine that the SJV continued to attain the PM-10 standard through 2006. 72 FR at 49047. The October 2006 rulemaking, which is not at issue in this current action, did not purport to be a final concurrence on the State's exceptional events documentation for the September 22, exceedances. Today's rulemaking addresses quality-assured data for September, October and December 2006, for which the State has provided exceptional events documentation.

Comment 9: Earthjustice states that EPA argues that at the time of the attainment finding the Agency merely deferred its determination of the impact of the preliminary data until they could be quality assured and the State had an opportunity to show that the exceedance was caused by an exceptional event.

Earthjustice claims that the data at issue had in fact been processed by the CARB laboratory and thus already quality assured by the State when EPA was notified of the September 22, 2006

2006 final determination did not ignore the exceedances that occurred in October 2006 since these occurred eight days after EPA promulgated its final determination of attainment. 72 FR at

exceedances. In this respect, Earthjustice believes that EPA mischaracterized CARB's October 17, 2006 letter to EPA to mean that the data from the filter analyses were preliminary. Thus, Earthjustice concludes that EPA's decision not to consider the September 22 exceedances in its October 17, 2006 attainment finding is a violation of law and an abuse of discretion.

Earthjustice also states that this violation of the Administrative Procedure Act (APA) cannot be cured with this rulemaking's post-hoc rationalization. Earthjustice interprets 40 CFR 51.14(c)(2)(ii) to mean that an exceedance must be considered an exceedance unless and until EPA gives final concurrence following a thorough, convincing, publicly reviewed demonstration that the data can be ignored.

Response 9: As noted in the response to comment 8 above, the adequacy and validity of the October 2006 rulemaking is not at issue in this proceeding. Whether the APA was violated in that rulemaking is not at issue here. In this current rulemaking, EPA thoroughly reviewed and proposed to concur with the documentation submitted by the State, and provided full opportunity for public review and comment before finalizing its concurrence with the flags, and before excluding the data from a final determination of attainment. The purpose of this rulemaking is to assess the quality-assured data and documentation of exceptional events claims in the context of notice and comment rulemaking. Thus,

even if, for the sake of argument, we accept Earthjustice's contentions that there were procedural deficiencies in the October 2006 rulemaking, EPA would have cured any such deficiencies with the procedures it has followed in this rulemaking.

In any event, Earthjustice is incorrect in its assertions that, at the time of the October 2006 rulemaking, data for September 22, 2006 were not preliminary and had been quality assured. The data for the September 22 exceedances were plainly preliminary. An EPA staff employee emailed a CARB branch chief an informal request to "find out if there was any preliminary data available from the ARB lab." Email from Bob Pallarino, EPA, to Karen Magliano, Chief, Air Quality Data Branch, Planning and Technical Support Division, CARB, October 12, 2006. On October 13, 2006 she forwarded to EPA an informal email originating from a CARB staffer. The email included data from filter analyses of several monitors, which set forth numerical values representing monitored data. That email stated clearly: "Of course, all the data is preliminary." Email from Scott Randall, Inorganic Laboratory Section, Northern Laboratory Branch, CARB, to Cliff Popejoy, Inorganic Laboratory Section, Northern Laboratory Branch, CARB, October 13, 2006 (forwarded to Bob Pallarino by Karen Magliano). Thus, CARB represented and EPA reasonably believed that the data showing monitored exceedances were "preliminary" and not quality assured. Indeed, EPA believed that the normal data validation and verification processes had not been undertaken, and

that, in fact, the data had not been submitted to EPA's Air Quality System (AQS) database¹⁰ or certified by CARB. The message that the CARB staffer sent was in response to an informal request from EPA staff, and in that context EPA did not consider it an official CARB submission of data. The informal and preliminary nature of the information is further indicated by the fact that the numerical values for PM-10 reported in the email were not accompanied by scientific units, which would be essential documentation in any official submission of quality-assured data, and could only be inferred by EPA based on usual practice.

EPA did not therefore, as Earthjustice contends, "mischaracterize" the data from the filter analyses, when it described the data as "preliminary." EC at 11, footnote 9. CARB itself characterized the data as preliminary when it forwarded them to EPA.

In any event, as noted above, what is at issue in this rulemaking is EPA's concurrence on the exceptional events documentation for quality-assured data subsequent to EPA's October 2006 determination, and not the procedural validity of that prior determination. It is clear in this rulemaking that EPA is determining to finally concur on the State's flagging of the data only after EPA has conducted notice and comment rulemaking on documentation that the State has submitted to support those flags.

¹⁰ Data from air monitors operated by state and local agencies in compliance with EPA monitoring requirements must be submitted to AQS. Heads of monitoring agencies annually certify that these data

Comment 10: For the wind events, Earthjustice maintains that the data offered by the District and relied upon by EPA does not demonstrate a "clear causal relationship" because exceedances were being measured before the events occurred.

Response 10: EPA disagrees with Earthjustice's conclusion for the reasons discussed below. Initially it is important to understand that the 24-hour PM-10 NAAQS, $150 \mu\text{g}/\text{m}^3$, is a 24-hour average concentration. This means that individual hourly concentrations at any given monitoring location may exceed $150 \mu\text{g}/\text{m}^3$, but until all 24 hours of a day are sampled a complete daily reading cannot be calculated. Therefore it is incorrect to characterize the data, as Earthjustice does, as showing that NAAQS exceedances were measured before the wind events.

To support its contention, Earthjustice states that fugitive dust sources in the Lemoore area on September 22 and October 25, 2006 could not have caused the Corcoran NAAQS exceedances since the first hourly PM-10 concentrations exceeding $150 \mu\text{g}/\text{m}^3$ at Corcoran occurred either an hour before or at the same time as the Lemoore meteorological station recorded wind speeds exceeding the District's threshold wind speed. From these facts, Earthjustice concludes that since the monitor was already recording an hourly concentration above the NAAQS before the dust-laden winds from Lemoore¹¹ arrived on September 22 and October 25, the monitor could

are accurate to the best of their knowledge. See 71 FR at 40953.

¹¹ Throughout this final rule when we refer to Lemoore, Corcoran and Bakersfield, we mean the Lemoore area, the Corcoran area, and

not have been impacted by them.

In evaluating this conclusion it is instructive to look at any number of days where the level of an hourly PM-10 concentration at Corcoran exceeded the level of the 24-hour NAAQS, yet the 24-hour average concentration for the day did not exceed the NAAQS. October 26 and 27, 2006, March 26 and 27, 2007, April 17, 2007, May 2 and 21, 2007, and June 5, 2007, all experienced one or more hours exceeding the level of the NAAQS yet the NAAQS for the day was not exceeded. See Table 1 below. The most extreme example is April 17, 2007, on which four continuous hourly concentrations greater than $150 \mu\text{g}/\text{m}^3$ were recorded from 4:00 pm Pacific Standard Time (PST) through 7:00 pm PST (181, 466, 460, $236 \mu\text{g}/\text{m}^3$, respectively), yet the overall 24-hour average concentration for that day was only $91 \mu\text{g}/\text{m}^3$.

the Bakersfield area. When analyzing data, the State, District and EPA use information collected from specific points where the monitors are located, whether meteorological monitors or PM-10 monitors. Since it is not possible, due to finite resources, to monitor pollutant or meteorological parameters in every location, monitoring locations are chosen to be representative of larger areas. The size of the area represented by a monitor is dependent on a number of factors, including, but not limited to, the parameter being measured (e.g., wind speed, PM-10 concentration), the overall terrain (e.g., urban, rural, valley, etc.) and any localized characteristics that may influence the parameter being

**TABLE 1: NON-EXCEEDANCE DAYS WITH ONE OR MORE HOURLY PM-10
CONCENTRATIONS ABOVE 150 $\mu\text{g}/\text{m}^3$ AS MEASURED AT CORCORAN**

Hour*	Oct 26 2006 ($\mu\text{g}/\text{m}^3$)	Oct 27 2006 ($\mu\text{g}/\text{m}^3$)	Mar 26 2007 ($\mu\text{g}/\text{m}^3$)	Mar 27 2007 ($\mu\text{g}/\text{m}^3$)	Apr 17 2007 ($\mu\text{g}/\text{m}^3$)	May 2 2007 ($\mu\text{g}/\text{m}^3$)	May 21 2007 ($\mu\text{g}/\text{m}^3$)	Jun 5 2007 ($\mu\text{g}/\text{m}^3$)
0	157	79	8	0	27	18	17	21
1	143	135	11	0	26	14	16	15
2	146	126	8	1	30	13	15	12
3	147	89	11	3	31	11	13	13
4	161	69	9	3	29	12	15	24
5	175	91	10	3	63	26	16	24
6	194	221	22	5	73	23	25	22
7	232	184	19	7	34	25	28	19
8	115	158	16	0	34	20	35	14
9	66	149	12	8	33	13	42	18
10	53	107	2	1	22	16	59	23
11	92	117	6	18	21	16	66	35
12	128	86	8	122	15	20	72	61
13	128	70	17	162	26	22	74	87
14	133	91	7	152	54	25	85	77
15	115	69	7	190	138	28	84	254
16	126	87	18	54	181	151	94	169
17	152	116	19	86	466	239	195	145
18	151	140	128	47	460	61	180	173
19	145	116	407	8	236	27	127	235

measured (e.g., obstructions such as buildings or trees).

20	161	126	48	17	136	13	108	65
21	147	118	16	15	34	14	66	34
22	124	141	4	9	14	29	61	27
23	130	105	0	10	7	16	66	49
Daily Average	137	116	34	38	91	36	65	67

Source: EPA Air Quality System Database

*Hours are in PST. All State and local ambient air pollutant monitoring equipment in California operates on PST all year and is never adjusted for Daylight Savings Time. For example, hour 12 in the table is 1:00 pm Pacific Daylight Time (PDT).

Thus, as can be seen from Table 1 and the discussion above, Earthjustice is incorrect when it concludes that dust-laden winds from Lemoore could not have affected the Corcoran monitor on September 22 and October 25, 2006 because concentrations above the level of the NAAQS were recorded at the monitor before the winds arrived. By failing to account for all 24 hours of the day, Earthjustice has misinterpreted how EPA determines compliance with the 24-hour PM-10 NAAQS.

Earthjustice further states that fugitive dust sources in the Lemoore area on September 22 and October 25, 2006 could not have caused the Corcoran NAAQS exceedances since the first hourly PM-10 concentrations exceeding the level of the NAAQS at Corcoran occurred either an hour before or at the same time as the Lemoore meteorological station recorded wind speeds exceeding the 18 mph threshold speed.¹² Earthjustice notes that on September 22 the

¹² The State cites a 2002 California Regional PM-10/PM-2.5 Air

6:00 am hourly PM-10 concentration at Corcoran exceeded the level of the NAAQS and wind speeds recorded in Lemoore did not exceed the threshold wind speed until 7:00 am. On October 25 the Corcoran hourly PM-10 concentration first exceeded the level of the NAAQS at 6:00 am, the same time the Lemoore meteorological station recorded winds in excess of the threshold speed.¹³

However, as set forth below, the data show that on September 22 the winds at Lemoore began exceeding the threshold speed at 6:00 am PST, and likely began affecting the concentrations at the Corcoran monitor by the time concentrations were recorded at 7:00 am PST.¹⁴ On October 25, the winds recorded at Lemoore exceeded the threshold speed at 5:00 am PST and likely affected the concentrations recorded at the Corcoran monitor beginning at 6:00 am PST. Thus on both days there was at most a period of one or two hours where the concentrations at the monitor that exceeded

Quality Study (2002 CRPAQS Study) that established a dust-generating wind speed threshold of 17.8 mph to support its conclusion that these wind speeds were sufficient to erode soils and entrain dust into the atmosphere as well as to exacerbate the entrainment of dust from the anthropogenic activities. See our proposal at 72 FR at 49052.

¹³ As will be discussed further below, EPA uncovered an error in the reporting of the meteorological data from Lemoore. The data for Lemoore winds were reported in the State's documentation in PDT as opposed to the other meteorological and PM-10 concentration data which were reported in PST. This means that the wind speeds increased an hour earlier than had previously been reported in the State's documentation. Therefore when Earthjustice refers to wind data from Lemoore at 6:00 am and 7:00 am, the actual times were 5:00 am and 6:00 am PST.

¹⁴ Hourly concentrations recorded by PM-10 continuous monitors are reported in the beginning hour. That is, an hourly average concentration calculated from readings taken between the hours of 7:00 am and 8:00 am would be reported as the average hourly

the standard might not have been attributable to the winds from Lemoore.

Nevertheless, based upon meteorological data, EPA believes that the high concentrations measured beginning at 7:00 am PST on September 22 and 6:00 am on October 25 and continuing throughout the day were due to transport of dust by high winds in the Lemoore area, and thus resulted in the exceedance of the 24-hour NAAQS. In reaching this conclusion, EPA evaluated the available hourly concentration data from the Corcoran monitoring site¹⁵ from October 1, 2006 through June 30, 2007 to determine how often the Corcoran site recorded high hourly concentrations in the morning. While high morning concentrations were relatively rare in the data we evaluated, when they do occur they do not always result in a 24-hour average concentration that exceeds the NAAQS. Table 2 below compares days with high morning concentrations, October 26 and 27, 2006, that did not exceed the 24-hour NAAQS with September 22 and October 25, 2006, days with high morning concentrations that ultimately did exceed the 24-hour NAAQS.

TABLE 2: CORCORAN HOURLY CONCENTRATIONS ON SEPTEMBER 22, OCTOBER

concentration for 7:00 am.

¹⁵ In October 2006, the SJVAPCD began the routine submittal of continuous PM-10 data to EPA's AQS database. These data are recorded with a special purpose Federal Equivalent Method (FEM) monitor and the District began submitting these data in response to new requirements contained in EPA's revised monitoring regulations (71 FR 61236, October 17, 2006). Prior to this regulation revision, air monitoring agencies were not required to submit special purpose monitoring data to the AQS database. Therefore, the amount of certified pollutant data available for our analysis is limited to October 1, 2006 through September 30,

25, OCTOBER 26 and OCTOBER 27 2006

HOUR (Standard Time)	September 22, 2006 (Conc. $\mu\text{g}/\text{m}^3$)	October 25, 2006 (Conc. $\mu\text{g}/\text{m}^3$)	October 26, 2006 (Conc. $\mu\text{g}/\text{m}^3$)	October 27, 2006 (Conc. $\mu\text{g}/\text{m}^3$)
0	63	84	157	79
1	39	57	143	135
2	51	38	146	126
3	64	42	147	89
4	55	30	161	69
5	78	39	175	91
6	170	269	194	221
7	306	346	232	184
8	519	651	115	158
9	531	674	66	149
10	725	777	53	107
11	695	794	92	117
12	521	681	128	86
13	318	580	128	70
14	276	510	133	91
15	247	302	115	69
16	269	179	126	87
17	283	184	152	116
18	258	180	151	140
19	223	178	145	116
20	150	166	161	126
21	144	201	147	118
22	138	183	124	141
23	144	150	130	105
Daily Average	261	304	137	116

Source: EPA Air Quality System Database, "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006" San Joaquin Valley Unified Air Pollution Control District, April 20, 2007 and Natural Event Documentation, Corcoran and Bakersfield, California, October 25, 2006," San Joaquin Valley Unified Air Pollution Control District, April 23, 2007.

As can be seen from Table 2, early morning hourly concentrations on October 26 and 27, 2006 were comparable to morning hourly values on September 22 and October 25, 2006. All of these days recorded high early morning hourly values. However,

the hourly concentrations on September 22 and October 25, 2006 continue to increase throughout the morning and into the afternoon and evening while the hourly concentrations for October 26 and 27 begin to decrease after hour 7 and then later increase slightly in the afternoon and evening. As discussed above, we believe the increasing concentrations for the morning and afternoon for September 22 and October 25 are associated with an increase in hourly wind speeds, as measured in Lemoore. Even if we assume that several of the hours of high early morning concentrations at Corcoran on September 22 and October 25 were caused by something other than windblown dust, we have shown that there would not have been an exceedance of the 24-hour NAAQS that day without the subsequent high hourly concentrations that were caused by windblown dust transported from the Lemoore area.

Moreover, an evaluation of meteorology in the Lemoore area on October 26 and 27, 2007 shows that the wind conditions on September 22 and October 25, 2006 were much different from October 26 and 27, days that had high morning concentrations but ultimately did not exceed the 24-hour NAAQS. Table 3 below summarizes this information.

**TABLE 3: CORCORAN HOULY PM-10 CONCENTRATIONS
AND LEMOORE HOURLY WIND SPEEDS FOR SEPTEMBER 22,
OCTOBER 25, OCTOBER 26 AND OCTOBER 27, 2006**

Hour	September 22, 2006		October 25, 2006		October 26, 2006		October 27, 2006	
	Conc. ($\mu\text{g}/\text{m}^3$)	Lemoore Windspeed (mph)	Conc. ($\mu\text{g}/\text{m}^3$)	Lemoore Windspeed (mph)	Conc. ($\mu\text{g}/\text{m}^3$)	Lemoore Windspeed (mph)	Conc. ($\mu\text{g}/\text{m}^3$)	Lemoore Windspeed (mph)

0	63	12	84	10	157	3	79	7
1	39	9	57	10	143	0	135	6
2	51	10	38	10	146	7	126	7
3	64	8	42	17	147	7	89	6
4	55	10	30	16	161	8	69	6
5	78	8	39	22	175	9	91	7
6	170	21	269	22	194	3	221	6
7	306	21	346	22	232	0	184	3
8	519	28	651	26	115	0	158	0
9	531	29	674	29	66	0	149	3
10	725	23	777	31	53	5	107	6
11	695	17	794	30	92	3	117	5
12	521	17	681	28	128	0	86	3
13	318	21	580	26	128	0	70	5
14	276	14	510	22	133	0	91	6
15	247	5	302	20	115	0	69	7
16	269	10	179	14	126	5	87	7
17	283	9	184	3	152	3	116	5
18	258	6	180	6	151	5	140	6
19	223	8	178	8	145	7	116	
20	150	7	166	9	161	6	126	8
21	144	9	201	8	147	8	118	0
22	138	0	183	8	124	8	141	3
23	144	7	150		130	6	105	8
Daily Average	261		304		137		116	

Source: EPA AQS Database, Mesowest historical meteorological data, Mesowest, <http://www.met.utah.edu/mesowest/>

From this tabulation we can see that while hourly concentrations measured at Corcoran exceeded the level of the NAAQS during the morning hours on all four days, it was only on September 22 and October 25, 2006 that sustained high winds in the central SJV, represented by data from the Lemoore area, generated enough fugitive dust to cause an increase in the hourly concentrations in Corcoran recorded at and after 7:00 am PST on September 22 and at and after 6:00 am PST on October 25. These increases in hourly concentrations throughout the morning hours were a result of the high winds that occurred in the Lemoore area.

Therefore it is incorrect to conclude, as Earthjustice does, that the State cannot show a causal connection between the winds

and the 24-hour PM-10 exceedances at Corcoran on September 22, 2006 simply because the monitor recorded an hourly concentration above the level of the NAAQS at the same time winds in the Lemoore area began to exceed the threshold wind speed. Further, contrary to Earthjustice's contention, the winds at Lemoore on October 25, 2006 exceeded the threshold for entrainment prior to the time that increased concentrations were recorded at Corcoran and likely affected those concentrations.

Finally, the timing of the wind speeds shows an increase an hour earlier than was previously reported, and thus a corresponding earlier impact on the monitor. In evaluating the State's documentation we uncovered an error in how the meteorological data from the Lemoore meteorological station was reported. In both its April 20, 2007 "Natural Event Documentation, Corcoran, Oildale and Bakersfield, September 22, 2006," and its April 23, 2007 "Natural Event Documentation, Corcoran and Bakersfield, October 25, 2006," the District reported the Lemoore meteorological data in PDT as opposed to PST. This was confirmed when EPA independently obtained data for the Lemoore meteorological monitoring station. As noted previously in Table 1, all State and local ambient air pollutant monitoring equipment in California operates on PST year round and is never adjusted for Daylight Savings Time. Therefore, the information presented in Table 3 of the State's April 20, 2007 documentation and Table 1 of the State's April 23, 2007 documentation incorrectly lists the

time when winds in Lemoore reached the threshold wind speeds.

As can be seen in Table 3 above and Tables 4 and 5 below, which reflect the proper times for reported wind speeds, on September 22, 2006 winds at Lemoore reached 21 mph, exceeding the threshold wind speed, at 6:00 am PST, which would be 7:00 am PDT. On October 25, 2006 winds at Lemoore reached 22 mph at 5:00 am PST, which would be 6:00 am PDT. This adjustment strengthens the State's demonstration by showing that the winds in Lemoore affected the PM-10 concentrations at Corcoran and Bakersfield an hour earlier than originally reported in the documentation.

Comment 11: Earthjustice asserts that the one run of the model that EPA relies on demonstrates that there is no connection between the events in and around Lemoore and the exceedances measured in Bakersfield and Oildale.

Response 11: The model to which Earthjustice refers is the Hybrid Single-Particle Lagrangian Integrated Trajectory model (HYSPLIT). However, contrary to Earthjustice's assertion, EPA did not rely on the State's HYSPLIT analysis to make its decision to concur with the State's demonstration of causal connection. Rather, in its proposal, EPA noted the limitations of the HYSPLIT model, describing it merely as offering some support to the State's demonstration that winds were of the appropriate intensity and direction to move a plume of dust from the central SJV to the

Bakersfield area.¹⁶ See 72 FR at 49052. EPA is concurring with the State's causal connection demonstration based on actual meteorological data recorded on September 22 and October 25, 2006 which show winds of the appropriate intensity and direction occurring at the appropriate times.

The State's demonstration included actual meteorological data that showed that there were wind speeds between Corcoran and Bakersfield that exceeded the threshold wind velocities. For example, the State's demonstration for September 22 included meteorological data from a monitoring station in Alpaugh (15 miles SSE of Corcoran) which showed winds in excess of the 18 mph threshold at 9:00 am PST and in the 15 - 16 mph range until 12 pm PST. Wind gusts at Bakersfield Meadow Field Airport also approached the threshold wind speed, with a gust speed of 17 mph recorded at 12:30 pm PST. The hourly concentrations in the Bakersfield area began to exceed the level of the PM-10 NAAQS at noon and stayed above 200 $\mu\text{g}/\text{m}^3$ for the remainder of the day. We discussed the transport of dust from the Lemoore and Corcoran areas in our proposal at 72 FR at 49052 for September 22 and at

¹⁶ The Oildale monitoring site does not record hourly PM-10 concentrations but uses a manual PM-10 sampler that provides only 24-hour average concentrations. The Bakersfield-Golden State Highway monitoring site utilizes both a manual sampler for average 24-hour PM-10 concentrations and a continuous PM-10 analyzer to provide hourly concentrations. Since the Bakersfield-Golden State Highway site and the Oildale site are relatively close to each other (3.5 miles apart), we believe it is appropriate to use the Bakersfield-Golden State Highway continuous analyzer to characterize the temporal distribution of hourly concentrations at both sites.

49055-49056 for October 25. As we indicated, the winds between Lemoore and Corcoran and Corcoran and Bakersfield were sufficient to keep entrained dust suspended so that it could be transported.

As part of our review of the State's documentation we researched whether any other publicly available meteorological data supported the State's demonstration and found that wind data collected at Allensworth State Park (20 miles SE of Corcoran) also recorded wind speeds on September 22, 2006 in excess of the 18 mph. While most of the wind speeds recorded in Alpaugh and Allensworth State Park in the late morning and afternoon hours did not exceed the threshold wind speed, we believe these wind speeds were sufficient to transport suspended PM-10 from the Corcoran area to the Bakersfield area. See our proposed rule at 72 FR at 49052. The wind direction from all of the sites on September 22 is consistent with the south, southeast transport of dust (i.e., winds from the north and northwest) from the Lemoore area to Corcoran and the Bakersfield area as demonstrated by Table 4 below.

TABLE 4: SEPTEMBER 22, 2006 DAYTIME HOURLY WINDSPEEDS AND CONCENTRATION DATA FOR THE CENTRAL AND SOUTHERN SJV

Hour	Lemoore WS/WD/Gusts	Corcoran Conc. ($\mu\text{g}/\text{m}^3$)	Alpaugh WS*/ WD	Allensworth State Park WS/WD	Bakersfield Conc. ($\mu\text{g}/\text{m}^3$)
6	21 / NW	170	5.5 / W	3 / WSW	74
7	21 / NW	306	3.3 / WSW	6 / NNE	104

8	28 / NNW / 35	519	9.7 / NNW	20 / NNW	78
9	29 / NNW / 37	531	19.1 / NNW	35	114
10	23 / NW / 30	725	15.2 / NNW	15 / NW	103
11	17 / NNW / 24	695	15.5 / NNW	8 / NW	139
12	17 / NNW / 25	521	16.1 / NW	ND	168
13	21 / NNW	318	13.6 / NW	2 / 3	196
14	14 / NNE	276	12.1 / NW	7 / NW	239
15	5 / N	247	12.1 / NW	8 / WNW	294
16	10 / N	269	10.2 / NW	7 / NNW	285
17	9 / NNW	283	9.7 / NNW	5 / NNW	281
18	6 / N	258	5.5 / NNW	1 / WSW	270

ND - No Data

Source: "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, April 20, 2007; "Addendum, Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, May 23, 2007; Mesowest historical meteorological data, Mesowest, <http://www.met.utah.edu/mesowest/>
*Wind Speed data at Alpaugh adjusted to 10 meter AGL based on conversion formula in the "Addendum, Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, May 23, 2007 at 13.

For October 25, the State included all available meteorological data in its documentation.¹⁷ These data support the demonstration that winds between the Corcoran and Bakersfield areas were sufficient to transport dust on October 25. We believe that the wind speed and direction data collected at Alpaugh and Bakersfield Meadow airport, while not exceeding the threshold wind speed, show that the winds in this portion of the SJV on October

¹⁷ See "Natural Event Documentation, Corcoran and Bakersfield, California, October 25, 2006," April 23, 2007 at 44-74.

25 were sufficient to transport suspended PM-10 from the Corcoran area to the Bakersfield area. See our proposed rule at 72 FR at 49052. The wind direction from all of the sites during the daytime hours on October 25 is consistent with the south, southeast transport of dust (i.e., winds from the north and northwest) from the Lemoore area to Corcoran and the Bakersfield area as demonstrated by Table 5 below.

TABLE 5: HOURLY DAYTIME WINDSPEEDS AND CONCENTRATION DATA FOR CENTRAL AND SOUTHERN SJV ON OCTOBER 25, 2006

Hour	Lemoore WS/WD/Gusts	Corcoran Conc. ($\mu\text{g}/\text{m}^3$)	Alpaugh WS* / WD	Bkrsfld Meadow Airport WS / WD	Bkrsfld Conc. ($\mu\text{g}/\text{m}^3$)
6	22 / NNW/30	269	3.5 / SSW	5 / ESE	97
7	22 / NNW / 32	346	2.9 / W	6 / E	89
8	26 / NW / 36	651	5.6 / NW	0	88
9	29 / NNW / 39	674	17.0 / NNW	10 / NW	123
10	31 / NW / 37	777	16.5 / NNW	9 / WNW	148
11	30 / NW / 40	794	16.8 / NNW	12 / W	177
12	28 / NNW / 38	681	15.6 / NNW	12 / WNW	195
13	26 / NNW / 35	580	14.8 / NNW	6 / ND	222
14	22 / NNW / 31	510	13.2 / NNW	7 / ND	415
15	20 / NW / 26	302	13.3 / NNW	7 / NW	406
16	14 / NNW	179	12.7 / NNW	3 / WNW	393
17	3 / N	184	6.5 / NW	5 / NW	416
18	6 / N	180	4.4 / WNW	3 / NW	403

ND - No data available

Source: "Natural Event Documentation, Corcoran and Bakersfield, California, October 25, 2006," San Joaquin Valley Unified Air

Pollution Control District, April 23, 2007; Mesowest historical meteorological data, Mesowest, <http://www.met.utah.edu/mesowest/>. *Wind Speed data at Alpaugh adjusted to 10 meter above ground level (AGL) based on the conversion formula in "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, October 25, 2006," San Joaquin Valley Unified Air Pollution Control District, April 23, 2007 at 25.

In its documentation the State also included the results of a HYSPLIT model run by the District to identify source regions for the parcels of air that impacted the Corcoran and Bakersfield monitors on September 22 and October 25, 2006. The District explicitly stated that the models were not intended to quantify particulate concentrations but simply were used to support its view of the origin of the particulate matter that impacted the monitors at Corcoran and Bakersfield. As stated in the proposed rule, EPA agrees that this model run supports the conclusions drawn from the meteorological data presented. See 72 FR at 49052 and 49056.

In its comment letter on the proposed affirmation rule, Earthjustice relies on its own computer simulations using the HYSPLIT model and appears to claim that, based on its own HYSPLIT analyses, the winds in the Lemoore area could not have carried sufficient quantities of particulate matter to Bakersfield to cause exceedances of the PM-10 NAAQS. In order to evaluate Earthjustice's HYSPLIT analyses, EPA also performed computer simulations using the HYSPLIT model. However, we took a different approach because we believe that Earthjustice's HYSPLIT analyses

do not represent a comprehensive depiction of the dust event.¹⁸

While Earthjustice used trajectories starting at zero meters in height and took a two-dimensional approach in assessing the wind event, we took a more appropriate three-dimensional approach. The EPA approach recognizes that the dust did not stay at zero meters in height above ground but instead mixed up higher into the atmosphere where stronger winds occurred that caused the transport to be faster than Earthjustice's HYSPLIT analyses indicated. For September 22 and October 25, 2006, for the morning start times, EPA ran trajectories at three heights: 10 meters, 100 meters and 250 meters. These heights were used to approximate the transport from near the surface, near the middle and near the top of the mixed layer¹⁹ as shown by the HYSPLIT model.

On September 22, 2006, based on the meteorological data and our HYSPLIT runs, the high winds that began in the Lemoore area around 6:00 am PST eroded and then transported dust that started to affect the PM-10 concentrations measured in the Corcoran area

¹⁸ EPA does agree in part with the Jan Null declaration (EC, Exhibit H) in which he states that the data used by the District in the HYSPLIT model, EDAS (ETA Data Assimilation System) meso-scale data, is too coarse to account fully for both the complex terrain in and around the SJV and for the close proximity of the stations being examined. However, Earthjustice and EPA also used the EDAS meso-scale data which are of sufficient resolution to account for the general overall wind flow in the southern SJV and thus provide a coarse simulation of wind trajectories within the Valley.

¹⁹ The mixed layer is the unstable layer of the atmosphere in direct contact with the surface of the Earth. The daytime mixed layer is characterized by vigorous turbulent mixing. This means that air or dust laden air at any height within the mixed layer

by 7:00 am PST. See Figure 1, "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Corcoran, September 22, 2006, 6:00 am to 8:00 am PST."²⁰ From Corcoran and eastward, some of the dust may have been transported more towards the Sierra foothills. See Figure 2, "Forward Trajectories at 250 meters, Lemoore to Corcoran and Bakersfield, September 22, 2006, 6:00 am to 1:00 pm PST." West of Corcoran, the dust was transported southward towards Bakersfield, beginning to affect that area between the hours of 12 pm and 1 pm PST. See Figure 2 and Figure 3, "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Bakersfield, September 22, 2006, 6:00 am to 1:00 pm PST." Based on hourly PM-10 values, the peak concentration of dust, $725 \mu\text{g}/\text{m}^3$, occurred at about 10:00 am PST in Corcoran and a PM-10 value of $294 \mu\text{g}/\text{m}^3$ occurred at about 3 pm PST in Bakersfield. See Table 4 above. See also our response to comment 21 below.

On October 25, 2006, the scenario was similar to September 22, 2006. EPA's HYSPLIT runs support a finding that the high winds that began in the Lemoore area around 5:00 am PST eroded and then transported dust that started to affect the PM-10 concentrations measured in the Corcoran area by about 6:00 am PST. See Figure 4, "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Corcoran, October 25, 2006, 5:00 am to 7:00 am PST." From Corcoran and eastward, some of the dust may have been

can impact the surface due to the mixing caused by turbulence.

²⁰ The EPA Figures referenced in this final rule are available in the docket for this rulemaking action and are listed in section

transported more towards the Sierra foothills. West of Corcoran, the dust was transported southward towards Bakersfield, starting to affect that area between 11:00 am and 12:00 pm PST. See Figure 5, "Forward Trajectories at 250 meters, Lemoore to Corcoran and Bakersfield, October 25, 2006, 5:00 am to 11:00 am PST" and Figure 6, "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Bakersfield, October 25, 2006, 5:00 am to 11:00 am PST." The peak concentration of dust in Corcoran occurred around 11:00 am PST with a PM-10 value of 794 $\mu\text{g}/\text{m}^3$. The peak concentration of dust in Bakersfield was more obscure with a peak at about 5:00 pm PST and a PM-10 value of 416 $\mu\text{g}/\text{m}^3$. See Table 5 above.

EPA believes that our HYSPLIT analyses depict more accurately than Earthjustice's runs the windblown dust events of September 22 and October 25 because, in addition to accounting for the various heights above ground level, we accounted for the wind flows within the Valley more comprehensively. We recognized that the winds over the eastern portion of the Valley tended to move towards the east, winds over the western portion of the valley tended to move more towards the south, and that there was a transition area in between where winds moved southeast directly from the Lemoore area to Bakersfield. See Figures 2 and 5 above. Thus we believe that our HYSPLIT analyses were sufficient to provide a general overview of the direction and speed of dust transport in the San Joaquin Valley and support the contention of dust transport from the

Lemoore area to the Corcoran and Bakersfield areas. Our analyses are also in general agreement with the measured wind data provided by the State which do account for the complex terrain of the Valley.

We note again that our concurrence with the State's causal connection demonstration is based on the meteorological data for September 22 and October 25, 2006 discussed above. We believe the HYSPLIT model supports this demonstration by showing that the winds were of the appropriate intensity and direction to move a plume of dust from the central SJV to the Bakersfield areas on those days.

Comment 12: Earthjustice claims that the exceedances in the SJV cannot be deemed to be in excess of normal historical fluctuations because they occur regularly and at a similar level every fall and are therefore no different from the exceedances used to designate the SJV nonattainment in the first place. Thus Earthjustice believes there are no "unusual activities" as EPA states, because the exceedances at issue here were caused by the same dust-generating activities that cause exceedances every year.

Response 12: As we discussed in our proposed rule at 72 FR 49052, for EPA to concur with a state's claim that an exceptional event caused an exceedance, the state must show that the event is associated with concentrations that are beyond the normal historical fluctuations. See 40 CFR 50.14(c)(3)(iii)(C).

When the SJV was designated nonattainment for PM-10 in 1991

by operation of law (56 FR 11101, March 15, 1991), the District had not implemented the BACM for PM-10 that are currently in place. Since 1991, the State of California and the SJVAPCD have adopted many rules and rule amendments that have led to significant reductions in PM-10 and oxides of nitrogen (NOx) emissions. These rules include, as discussed above, BACM for fugitive dust sources such as unpaved and paved roads, vacant lots, construction sites, etc. (Regulation VIII) and BACM for agricultural sources (Rule 4550 - Conservation Management Practices). See Section 8, "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," April 20, 2006. These BACM rules for fugitive dust and agricultural sources were adopted and implemented in mid- to late 2004. See 71 FR 8461 and 71 FR 7683. Given the vast changes in regulatory requirements for PM-10 sources, the dust-generating activities in the early 1990's are not, as Earthjustice suggests, comparable to those after the full implementation of BACM in the SJV. Therefore we do not believe that the September 22 and October 25, 2006²¹ exceedances are the result of the same type of dust-generating activities that caused the area to originally become nonattainment. Nor do we believe that Earthjustice has substantiated its claim that they are.

²¹ With respect to the exceedances at the Santa Rosa Rancheria, in the proposed rule EPA showed that the concentrations measured during the construction activity were in excess of normal historical fluctuations and that after completion of the paving project average PM-10 concentrations dropped by more than 50

We originally evaluated whether the September 22 and October 25, 2006 exceedances exceeded normal historical fluctuations in our proposed rule. See 72 FR at 49053 and 49056. In response to Earthjustice's comment on the proposed rule that this EER criterion had not been satisfactorily demonstrated by the State's documentation, EPA undertook a further analysis of the data collected at the sites that exceeded the 24-hour PM-10 NAAQS on September 22, 2006 (Corcoran, Bakersfield-Golden State Highway and Oildale) and October 25, 2006 (Corcoran and Bakersfield-Golden State Highway). EPA included data from 1993 to 2006 in our analysis.²² Our statistical analysis shows the annual percentile values of the data from each of the three sites. In the preamble to our EER, we state that a comparison of the exceedance data to the historical 95th percentile values is appropriate for determining the level of evidence or documentation a state needs to provide in order for EPA to concur with its flagging request. Extremely high concentrations relative to the 95th percentile values would require a lesser amount of documentation to demonstrate that an event affected air quality. See 72 FR at 13569.

For Corcoran, when we examine all data collected since 1993,²³

percent. 72 FR at 49062.

²² 1993 was chosen as the starting point for data analysis because that is the year that the SJV was classified as a serious PM-10 nonattainment area.

²³ From 1993 through 1998, the Corcoran site collected PM-10 data on a once every sixth day schedule using a Federal Reference Method (FRM) monitor. Beginning in 1999 the Corcoran PM-10 site

it is clear that the 95th percentile values have consistently been below the level of the 24-hour PM-10 NAAQS and since 1999 the Corcoran site has not recorded a 95th percentile value greater than 117 $\mu\text{g}/\text{m}^3$. The 95th percentile value recorded at Corcoran in 2006 was less than 100 $\mu\text{g}/\text{m}^3$. Therefore, our analysis of all the data collected at Corcoran over the past 14 years indicates that the September 22 and October 25, 2006 exceedances were clearly beyond the normal range of annual concentrations recorded at this site. See Figure 7, "Annual Peak Day PM10 Concentrations at Corcoran."

As with the Corcoran data, we performed a statistical analysis of the data collected at the Bakersfield-Golden State Highway site using data from 1993 to 2006 and calculated the annual percentile values. From this analysis it is clear that the 95th percentile values at Bakersfield were consistently less than the level of the 24-hour PM-10 NAAQS. In 2006 the 95th percentile value at Bakersfield-Golden State Highway was 101 $\mu\text{g}/\text{m}^3$. Therefore our analysis of the Bakersfield-Golden State Highway data shows that the September 22 and October 25, 2006 exceedances were beyond the normal range of data recorded at this site during the past 14 years. See Figure 8, "Annual Peak Day PM10 Concentrations at Bakersfield."

Finally, our analysis of the data collected at Oildale also

has been collecting data on a once every third day schedule using FRM monitors. In October 2006 the SJVAPCD began operating a continuous monitor designated as a Federal Equivalent Method (FEM) monitor at the site to provide everyday PM-10 data to the public. The State and SJVAPCD report all data from these monitors to the

shows that the exceedance recorded at that site on September 22, 2006 was outside the normal range of historical values. As with the other two sites discussed above, the 95th percentile values recorded at Oildale during the past 14 years were consistently below the level of the NAAQS and the 95th percentile value in 2006 was 111 $\mu\text{g}/\text{m}^3$. Again, our analysis of the Oildale data indicates that the September 22, 2006 exceedance recorded at this site was outside the normal historical fluctuation of data for the past 14 years. See Figure 9, "Annual Peak Day PM10 Concentrations at Oildale."

Therefore, our analysis of all the annual data from 1993 through 2006 shows that the September 22 and October 25, 2006 exceedances are in excess of normal fluctuations.

To address Earthjustice's specific concern that these exceedances occur routinely in the fall months, defined by Earthjustice as the months of September, October and November,²⁴ we performed the same statistical test on the Corcoran data using only those values recorded during those months. From this test it is clear that the 95th percentile values for all years since 1998 do not exceed the level of the 24-hour PM-10 NAAQS. The highest 95th percentile value since 1998 was a 146 $\mu\text{g}/\text{m}^3$ recorded in 2003. Again, this analysis demonstrates that the September 22 and October 25, 2006 exceedances recorded in Corcoran, even when we use seasonally adjusted data, were in excess of the normal

historical fluctuations. See Figure 10, "Annual Peak Fall Day PM10 Concentrations at Corcoran."

At the Bakersfield monitor, 95th percentile values for the fall months have been lower than the level of 24-hour PM-10 NAAQS since 2000, with the highest 95th percentile value recorded in that year at 145 $\mu\text{g}/\text{m}^3$. In 2006, the fall months' 95th percentile value was 100 $\mu\text{g}/\text{m}^3$. These values show that the exceedances measured on September 22 and October 25 were outside the historical fluctuation of data for the fall months. See Figure 11, "Annual Peak Fall Day PM10 Concentrations at Bakersfield."

Finally for Oildale, our analysis of the fall 95th percentile values shows that since 1996 the 95th percentile values have not exceeded the level of the NAAQS and 1996 had the highest 95th percentile value (138 $\mu\text{g}/\text{m}^3$), with the exception of the September 22, 2006 concentration of 162 $\mu\text{g}/\text{m}^3$. Even though the 95th percentile value in the fall of 2006 exceeded the level of the NAAQS, when we look at the historical fall data for Oildale this value does stand out as outside the normal range. See Figure 12, "Annual Peak Fall Day PM10 Concentrations at Oildale."

Therefore, our analysis of the data from 1993 through 2006 for the months of September through November shows that the September 22 and October 25, 2006 exceedances were in excess of normal fluctuations.

Comment 13: Earthjustice argues that EPA cannot make the required

²⁴ EC at 15.

"but for" showing for the locations other than the SRR because either the model shows that the winds did not blow toward the monitors or the monitoring data show that the standard was being exceeded even before the alleged dust-laden winds arrived.

Response 13: With respect to the September 22, 2006 exceedance, see our responses to comments 10, 11, 16 and 21. With respect to October 25, 2006 see our responses to comments 10, 11 and 43. We also discussed the "but for" demonstration included in the State's documentation in detail in our proposed action. See 72 FR 49053, 49056-49057.

Comment 14: Earthjustice also argues that to make its "but for" showing EPA asserts that no "unusual activities" occurred during the exceedance period and implies that something "extra" must have happened which would mean that an area would either have violations every day or never and that EPA would then have to conclude that unless an area violates every day, any violation must be the product of some exceptional, nonrecurring event. Earthjustice believes that EPA's reliance on this type of argument to make the "but for" claim is arbitrary and capricious."

Response 14: Earthjustice takes out of context EPA's consideration of the fact that there were no other unusual activities at the time of the September 22 and October 25, 2006 exceedances to draw some extreme conclusions, such as that the Agency would have to conclude "that unless an area violates every day, any violation must be the product of some exceptional

nonrecurring event." In this connection, Earthjustice misunderstands EPA's application of the weight of evidence approach to the "but for" demonstration. In the preamble to the EER, EPA explained that it would use a "weight of evidence-based approach to demonstrate that there would not have been an exceedance or violation but for the event." 72 FR at 13570-13571. EPA explained that through analyses it was possible to demonstrate that an exceedance would not have occurred but for the event; however, this analysis does not require a precise estimate of the estimated air quality impact from the event. 72 FR at 13570.

In applying this weight of evidence approach, EPA considered the totality of circumstances surrounding the events for the exceedance days. EPA included in its consideration, an evaluation of the coarse particles, information about geologic dust, values representing excess geologic contributions, comparison of "adjusted" PM-10 values with typical average concentrations during similar periods, information about control measures, readings on days before and after the exceedance days, and whether any unusual or out of the ordinary activities occurred on such days. See 72 FR at 49053. Monitor readings on the days before and after the event days indicated no violations. EPA therefore looked to see if on the specific event days there were activities that were different or unusual as compared to the days when there were no exceedances in order to rule those in or out as contributing to the exceedance. Contrary to Earthjustice's contention that any

time there is a violation EPA would conclude that it is due to some exceptional nonrecurring event, the lack of unusual activities was just one of the factors that EPA considered in reaching its determination based on the weight of evidence analyses. Thus, EPA's consideration of whether or not there were unusual activities in this context is neither arbitrary nor capricious as Earthjustice claims.

2. Comments Specific to September 22, 2006 - Corcoran, Bakersfield and Oildale

Comment 15: Earthjustice claims that in order to show that an event has affected air quality, a demonstration must be made that the event "caused a specific air pollution concentration" and that the data to be waived are directly due to the event. Earthjustice asserts that the District did not provide evidence that demonstrates how enough particulate matter pollution could have been generated in and transported from one remote area of the SJV to multiple monitors in distant locations within the time period of the event. In this regard, Earthjustice states that while the District cites a study that allegedly establishes a threshold at which wind begins to erode PM (sustained winds of 18 mph or gusts of 22.4 mph), there is no basis for the claim espoused by both the District and EPA that winds below this threshold velocity can then transport particulate matter pollution long distances. To support this assertion Earthjustice cites EPA's recent rulemaking (71 FR 61144, 61146, October 17, 2006) establishing new PM standards in

which EPA concluded that "thoracic coarse particles generally deposit rapidly on the ground or other surfaces and are not readily transported across urban or broader areas."

Response 15: Earthjustice states that in order to show that an event affected air quality the State must quantify the amount of PM-10 initially generated at a source location. In our proposed rule we stated that this criterion (affecting air quality) is met by establishing that the event is associated with a measured exceedance in excess of normal historical fluctuations, including background, and there is a clear causal connection between the event and the exceedance. 72 FR at 49051. We also discussed how these criteria were met. Id. at 49051-49052.

Earthjustice seems to be suggesting that in order to meet the criterion "affects air quality" the State should have used an air quality model such as AERMOD or CalPuff to show the behavior of fugitive dust. In other words, Earthjustice is asking for a modeling demonstration that would show, quantitatively, that a given amount (either in the form of an emission rate or initial ambient concentrations at the source regions) can produce a particular concentration at a receptor point (e.g., monitoring site location). This type of modeling, at the scale Earthjustice is suggesting, is not an appropriate tool for use in this type of application because it cannot be performed with any degree of accuracy.

The State included in its documentation the results of a

study that determined the threshold wind speed needed to erode geologic material and entrain the resulting particles into the atmosphere.²⁵ Earthjustice states that there is no basis for the claim that lower wind speeds could transport dust long distances.

While the State did not provide information from a specific study to demonstrate wind speeds sufficient to transport PM-10 suspended in the atmosphere, EPA believes it is reasonable to conclude, as the State did, that if an 18 mph wind is sufficient to erode and entrain coarse particles into the atmosphere, a lower wind speed is sufficient to keep particles already entrained in the atmosphere suspended, and to subsequently transport them considerable distances. To erode geological material on the ground and cause it to be suspended in the air, winds must have enough kinetic energy to overcome the attractive forces between particles, in addition to gravitational forces. High winds also tend to cause large particles to collide with each other, making them break apart and become more likely to be lifted up. For particles that have already been lifted well above ground level, winds need only have enough occasional upward component (due to turbulence) to overcome gravitational settling. Also, winds aloft may have been stronger (and had more turbulence) than suggested by the ground based measurements.

As presented in Table 3 of the State's documentation, the

²⁵ Subtask Memorandum, "3.3 How Well Do Measurements Characterize Critical Meteorological Features," Dave Bush, T & B Systems, August 24, 2004.

wind speeds between Lemoore and Corcoran, measured at Corcoran, reached a maximum speed of 11 mph between hours 6 and 12. See "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, April 20, 2007. Winds in the region between Corcoran and Bakersfield, measured at Alpaugh and Allensworth State Park, reached 16 mph and 15 mph, respectively, between hours 10 and 16.²⁶ EPA believes that wind speeds of this intensity were sufficient to transport PM-10 from the central SJV to the Bakersfield area.

Regarding Earthjustice's reference to the PM coarse NAAQS final rule, EPA was noting the difference in expected transport distances for PM-2.5 versus PM coarse. Note that we stated that coarse particles generally deposit rapidly on the ground or other surfaces and are not readily transported across urban or broader areas. 71 at 61146. When comparing PM-2.5 and PM coarse in urban settings it is true that PM-2.5 is a more regional pollutant and can spread over great distances. PM coarse particles in urban areas, under meteorological conditions that do not involve high winds, generally are considered more of a localized pollutant problem. The statement cited by Earthjustice was not meant to imply that under windy conditions PM coarse particles would not be

²⁶ Wind speeds at Allensworth State park reached 20 mph and 35 mph at hours 8 and 9. This indicates that while the area around Lemoore was identified as the source for the PM-10 on September 22, 2006, additional PM-10 was likely generated by winds in the region between Corcoran and Bakersfield.

subject to transport. The exceedances that occurred in both Corcoran and the Bakersfield area on September 22 and October 25, 2006 were the result of windblown and transported dust from a predominantly rural area.

Comment 16: Earthjustice provides a chart that it states demonstrates the range of sustained wind speeds in key areas of the central and southern SJV on September 22, 2006 with corresponding hourly PM-10 concentrations. With respect to this chart, Earthjustice, citing EPA Raw Data Reports, asserts the following:

...there was a period of a few hours where the alleged wind speed threshold was exceeded at the Lemoore Naval Air Station monitoring site, which is located northwest of the city of Lemoore. The maximum sustained wind speeds ranged from 21 to 29 miles per hour between the hours of 7 a.m. and 11 a.m., and again exceeded the alleged threshold at 1 p.m. The maximum peak gusts (i.e., momentary bursts of wind) recorded at the Lemoore NAS ranged from 30-40 miles per hour between the hours of 9 a.m. and 11 a.m. However, just 10 miles southeast of the Lemoore NAS at the Santa Rosa Rancheria, sustained winds never got any higher than 14.1 miles per hour.... In Corcoran, sustained winds reached only 9.6 miles per hour, and Bakersfield experienced nothing stronger than 7.8 mile-per-hour sustained winds.... None of the winds experienced outside of northwest Lemoore were capable of

eroding soils and so none of these areas could have contributed any wind-entrained dust to the PM-10 concentrations recorded on September 22, 2006.

Response 16: As discussed in our response to comment 10, the Lemoore wind speeds included in the State's documentation were reported in PDT and not in PST. The Corcoran and Bakersfield PM-10 hourly concentration data were reported in PST which means that the winds in Lemoore began to exceed the threshold wind speed at 6:00 am PST. The times for the wind speed data in the Earthjustice chart need to be adjusted accordingly.

While we do not have monitoring data at every location, contrary to Earthjustice's comment, there are data that show the threshold wind speed was exceeded not only in the Lemoore area but at other locations in the central and southern SJV on September 22, 2006. The Lemoore station showed the most intense wind speeds in the area and the data are used to represent the conditions in the area centered around Lemoore. The nearest meteorological station to Lemoore is the Santa Rosa Rancheria monitoring station, located about 11 miles SE of Lemoore. However, the fact that the winds at the SRR did not exceed the threshold velocity does not prove that there were no wind speeds above the threshold between Lemoore and Corcoran. We obtained wind data from other meteorological stations in the central SJV such as Tranquility (30 miles NW of Lemoore), Selma (20 miles NE of Lemoore), Kettleman Hills (20 miles SSW of Lemoore), Hanford Municipal Airport (17

miles east of Lemoore), Hanford (18 miles east of Lemoore) and Allensworth State Park (43 miles SW of Lemoore). Wind speed data from these sites are presented in the Table 6 below.

TABLE 6: SEPTEMBER 22, 2006 MORNING WIND SPEEDS AT METEOROLOGICAL MONITORING STATIONS IN THE CENTRAL SAN JOAQUIN VALLEY

TIME (am PST)	Tranquility (Hour/Gust)	Selma (Hour/Gust)	Lemoore (Hour/Gust)	Kettleman Hills (Hour/Gust)	Hanford Airport (Hour/Gust)	Hanford (Hour/Gust)	Allensworth State Park (Hour)
6:20	9 / 12	6 / 7	ND	ND	ND	4 / 10	ND
6:30	10 / 10	5 / 9	ND	ND	ND	5 / 8	ND
6:45	8 / 12	5 / 7	ND	ND	ND	5 / 8	3
7:00	9 / 11	6 / 9	21	16/24	17 / ND	5 / 7	6
7:20	13 / 12	7 / 6	ND	ND	ND	5 / 11	7
7:35	13 / 14	7 / 7	ND	ND	ND	5 / 11	ND
7:45	14 / 14	8 / 9	28	17/24	15 / ND	7 / 10	38
8:05	15 / 19	10 / 10	26	ND	ND	8 / 12	5
8:15	13 / 19	12 / 10	31	ND	ND	9 / 12	20
8:30	21 / 20	14 / 14	28/35	ND	ND / 26	9 / 17	21
8:45	23 / 23	8 / 16	ND /35	ND	ND	7 / 18	9
9:00	20 / 23	12 / 15	29/38	18	15 / ND	5 / 21	2
9:20	18 / 27	12 / 18	24/40	ND	ND	4 / 18	35
9:35	21 / 25	9 / 15	ND	ND	ND	5 /16	6
9:45	17 / 25	6 / 16	ND /37	ND	ND	8 / 18	2
10:05	17 / 24	9 / 13	23 / ND	20/27	10 / ND	7 / 16	15
10:15	17 / 26	5 / 13	ND	ND	ND	4 / 11	3
10:35	17 / 23	7 / 7	ND	ND	ND	ND / 13	9
10:50	14 / 23	8 / 12	ND /30	ND	ND	ND / 13	0
11:05	16 / 21	7 / 7	17/ ND	17/32	10 / ND	ND / 11	ND
11:15	12 / 22	7 / 12	ND	ND	ND	ND	8
11:30	14 / 20	1 / 9	ND	ND	ND	ND	10
11:35	15 / 23	ND / 8	ND /24	ND / 24	ND	ND	ND

11:45	ND / 23	6 / 9	ND	ND	ND	ND	0
11:50	ND / 23	ND / 5	ND	ND	ND	ND	ND
12:00	ND / 16	0	14/	17/ ND	10 / ND	ND	ND

Source: Mesowest historical meteorological data, Mesowest,
<http://www.met.utah.edu/mesowest/>
 ND - No Data available

Earthjustice includes data in its chart only from locations which had recorded lower wind speeds on the morning of September 22, 2006. We addressed the lower intensity winds at Corcoran and Bakersfield in our proposed rule, and the fact that the winds between Lemoore and Corcoran and Bakersfield were capable of keeping in suspension the particulate matter that the winds at Lemoore had suspended. See 72 FR at 49052. Earthjustice does not include data from the other meteorological sites in the general area of the central SJV that show winds that were comparable to those recorded at the Lemoore Naval Air Station meteorological site. Data from these other meteorological sites, as shown above, indicate that nearly all recorded hourly wind speeds on September 22, 2006 were in excess of the threshold wind speed of 18 mph between 6:00 am and 12 noon PST. Recorded gusts at some of these sites were also in the 20-30 mph range during the morning hours. It is likely that there were other places along the path from Lemoore to Bakersfield that experienced wind speeds above the threshold velocity but there were no wind instruments to document it.

Therefore, Earthjustice's statement that none of the winds experienced outside of northwest Lemoore were capable of eroding

soils is simply not true. Based on actual recorded wind data, wind speeds in the central SJV on the morning of September 22, 2006 were high not just in Lemoore but throughout this portion of the Valley. Moreover, as pointed out above, even if the winds outside of Lemoore were not capable of eroding soil, the winds between Lemoore and Corcoran and Bakersfield were capable of keeping in suspension the particulate matter that the winds in the area around Lemoore had entrained.

Comment 17: Earthjustice states that no attempt was made to explain how high winds that began at 7 am on September 22, 2006 caused violating PM-10 levels at a monitor 25 miles away starting at 6 am.

Response 17: See responses to comments 10 and 11.

Comment 18: Earthjustice asserts that EPA failed to demonstrate that the concentrations measured on September 22, 2006 could have been caused by the wind-generated erosion of soils from agricultural and industrial sources in the Lemoore area.

Earthjustice states that all EPA offered as evidence is a study establishing a threshold velocity at which soil erosion may begin to occur, but that EPA has not analyzed whether the study's threshold wind speed is appropriate for the Lemoore area.

Earthjustice argues that the scouring of soil by winds depends on much more than simply the speed of the wind and that EPA has not attempted to analyze factors pertinent to fugitive dust generation such as the soil class and erodibility in the Lemoore area, the

types and stages of crop cover present at the time the winds occurred, the specific activities occurring in the area that contributed to PM-10 concentrations, or the specific measures employed by sources to reduce or prevent wind erosion.

Earthjustice maintains that this information should have been evaluated to help determine whether or not the winds in Lemoore could have realistically generated the levels of PM-10 observed on September 22, 2006.

Response 18: EPA has demonstrated that the concentrations measured on September 22, 2006 were caused by windblown dust generated in the Lemoore area. As stated above in response to comment 10, the State's documentation included a threshold wind speed needed to erode soils and entrain the resulting particulate matter in the atmosphere. This wind speed study was part of the 2002 CRPAQS Study. The wind speed study was performed in Angiola, California which is located about 8 miles SW of Corcoran and 34 miles SW of Lemoore. Based on the soil map included in the State's documentation, the soil type in Angiola is the same as those in Lemoore and Corcoran. See "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, April 20, 2007 at 76. Thus the threshold velocity at which soil erodes identified in the study is appropriate for the Lemoore and Corcoran areas.

Reviewing the graphic in the State's documentation, we see

that crop types throughout the areas in question are predominantly field crops. Id. at 77. Other sources in this rural portion of the SJV could include, but are not limited to, agricultural activities, unpaved roads and construction activity. These types of sources are all subject to BACM. Id. at 32-33. These BACM are part of the approved serious area PM-10 plan for the SJV. See 69 FR 30006. Therefore, EPA did in fact evaluate the principal factors identified by Earthjustice, including wind speed, sources and whether they were controlled. See also our proposed rule at 72 FR 49051 and 49053.

Comment 19: Earthjustice states that EPA must find that the documentation demonstrates a clear causal relationship between a measured exceedance and the alleged event. In this respect, Earthjustice, relying on a declaration of Jan Null (Null declaration), argues that the District's documentation concocts a barely-plausible story of severe scouring by winds not much greater than the alleged minimum velocity for entrainment, followed by rapid transport from one remote west-Valley location (Lemoore) down to Corcoran, where huge amounts of particulate matter were deposited on the monitor in order to cause violations, yet enough pollution was kept entrained by much slower winds to continue on for 60 miles down to Bakersfield and Oildale in substantial enough quantities to also cause violations in those locations. Earthjustice concludes that this "story" is unsupported by reliable meteorological evidence.

Response 19: As discussed in EPA's proposed rule (72 FR 49046) and in responses to comments 11 and 16, the State did provide reliable meteorological data to support its demonstration that winds in the central and southern SJV were of the appropriate intensity and direction to cause and transport fugitive dust to the affected monitors at Corcoran and Bakersfield. EPA relied on these data, as well as other publicly available data, to concur with the State's request to find that the exceedances of the NAAQS on September 22, 2006 were due to an exceptional event.

Furthermore, Earthjustice mischaracterizes the data used to support this action. It is not the case that winds were not much greater than the threshold wind speed of 18 mph; rather they were at times significantly higher and widespread in the central SJV. See Table 6 above. Winds between Lemoore and Corcoran were of the appropriate direction and intensity to transport windblown dust to Corcoran, 25 miles away. Winds in the areas south of Corcoran and north of Bakersfield were of sufficient intensity to transport suspended PM-10 the 55 miles from Corcoran to Bakersfield.²⁷ The timing, direction and intensity of the winds and hourly PM-10 concentrations at Bakersfield all support the demonstration of transport presented by the State. Based on the weight of evidence

²⁷ There may have been some deposition and dispersion of the dust plume, as discussed in our proposal at 72 FR at 49052, but enough material remained suspended to impact the Bakersfield area. The fact that the 24-hour average PM-10 concentrations in Bakersfield and Oildale were 157 $\mu\text{g}/\text{m}^3$ and 162 $\mu\text{g}/\text{m}^3$ compared to the 215 $\mu\text{g}/\text{m}^3$ recorded at Corcoran certainly indicates that some deposition or dispersion occurred along the 55 mile pathway.

presented, EPA has concluded the State's documentation shows a clear causal relationship between the wind event and the exceedances in contrast to the "barely-plausible story" Earthjustice alleges.

Comment 20: Earthjustice states that the Figure 1 in the Null declaration shows that winds originating in Lemoore at 7 am, which is when the data in the record show elevated winds began, may have traveled to Corcoran, arriving around noon. However, Earthjustice states that because the Corcoran monitor began reading exceedances of the PM-10 standard at 6 am, EPA cannot claim the winds caused the Corcoran exceedance.

Response 20: See our responses to comments 10 and 11.

Comment 21: Earthjustice claims that the Figures 1, 2 and 3 in the Null declaration show that the winds that did reach Corcoran proceeded northeast toward the Sierra foothills and did not move in the direction of Bakersfield.

Response 21: As discussed in our response to comment 11 above, EPA assumed a more realistic three-dimensional approach to using the HYSPLIT model than Earthjustice's two-dimensional approach. We also used a small range of starting points for our HYSPLIT runs, recognizing that simply because the available Lemoore meteorological data were from a single point at the Lemoore Naval Air Station, the data from that point represent meteorological conditions over a wider area. See footnote 11 above.

Based on our more realistic inputs, we initiated three

HYSPLIT runs, one starting half way between Lemoore and Kettleman City (about 11 miles southwest from Lemoore), one at Lemoore, and one about 11 miles northeast of Lemoore. EPA chose these two different starting locations outside of Lemoore because, based on the trajectory model, they more precisely depict the potential source regions for Corcoran, which is more east than south of Lemoore, and Bakersfield, which is more south than east of Lemoore. Since the Lemoore station can be considered representative of a larger area than Lemoore itself, the starting locations are considered part of the Lemoore area and dust was entrained from that entire area. Also, in support of that assumption, Hanford, which is about 15 miles east northeast of Lemoore, and Kettleman Hills, about 22 miles southwest of Lemoore, reported wind speeds above the threshold for the entrainment of dust.

The results of our HYSPLIT runs show that from Corcoran and eastward, some of the dust may have been transported more towards the Sierra foothills, but west of Corcoran the dust was transported southward towards Bakersfield. See Figures 1, 2 and 3. These results are in general agreement with Jan Null's statement that:

... winds out of Kettleman City continued down the westernmost side of the San Joaquin Valley, essentially following the contours of the Coastal Range. This is not unusual behavior for winds on the west side of the Valley, which are

generally faster than winds in the rest of the Valley due to the orientation of the Sacramento and San Joaquin Valleys. Null declaration at 11. Between Lemoore and Kettleman City, the winds were in transition from heading towards the east near Corcoran and following the Coastal Range as happened around Kettleman City. This caused the winds in a portion of that transition area to go in a direct path towards Bakersfield. In contrast to EPA's inputs to the HYSPLIT model, the inputs used by Jan Null did not reflect the wind flow structure in the Valley and did not demonstrate a comprehensive view of the meteorological events that took place during that day.

Comment 22: Earthjustice believes that EPA was "dazzled" by the District's use of the HYSPLIT model even though the model is not an appropriate tool for post hoc simulation of localized meteorology and EPA did no analyses of its own. Earthjustice further states that the District's single run does not show the connection between Lemoore winds and the violating monitors that EPA apparently thinks it does.

Response 22: See our response to comments 10, 11 and 21.

Comment 23: Earthjustice maintains that the winds just south of Lemoore, in and around Corcoran and between Corcoran and Bakersfield never exceeded the "alleged" threshold velocity to entrain dust and the winds originating in Lemoore that did exceed such threshold could not have carried sufficient particles of PM on to Bakersfield and Oildale. Earthjustice concludes therefore

that the timing, wind trajectories and the basic physics of wind movement do not support a causal connection between the Lemoore winds and the September 22, 2006 exceedances.

Response 23: See responses to comments 11 and 16.

Comment 24: Earthjustice notes that the District highlights a single data point showing sustained winds of 15.2 mph for one hour in Alpaugh. Earthjustice believes this is troubling because the District is relying on data from the California Irrigation Management Information System (CIMIS) monitoring network that the T & B Systems Report says should be used with "extreme caution." Earthjustice also believes that it is suspicious that the District puts forth data from this source while simultaneously providing almost none of the data it collects from its own meteorological sensors which are collocated with the monitors that record PM-10 concentrations.

Response 24: Earthjustice quotes from the T & B Systems Report without providing the context of the warning to use the data with "extreme caution." In its report, T & B Systems state:

CIMIS - This data set should be used with extreme caution. Two significant issues regarding the CIMIS data were noted. First, the fact that wind measurements are made at 2 meters instead of 10 meters appears to result in the reported wind speeds decreasing by about 30 percent relative to those made at 10 meters. This can be corrected, for the most part, by using the standard power law adjustment. Second, the results

brought about significant questions about the alignment of the wind direction system, with possible misalignments as much as 30° noted. This potential problem was noted at a significant number of sites investigated. The QA program for the CIMIS network is not known.

"T & B Systems Contribution to CRPAQS Initial Data Analysis of Field Program Measurements, Final Report Contract 2002-06," Technical & Business Systems, Inc.," November 9, 2004 at 3.

The issue of the height of the measurements taken at CIMIS meteorological stations was addressed by the State in its documentation.²⁸ Winds measured at two meters above ground level (AGL) are generally lower than those measured at the standard 10 meters.

Regarding the alignment of the wind direction system, there were many other meteorological stations that provided data on wind direction and these showed that the winds were predominantly from the north and northwest on September 22, 2006.

Any uncertainty regarding the quality assurance for the CIMIS data would carry more weight if we were relying solely on the CIMIS data. Most of the meteorological data included in the State's documentation²⁹ as well as the additional data obtained by

²⁸ "Addendum, Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," May 23, 2007 at 13.

²⁹ "Natural Event Documentation, Corcoran, Oildale and Bakersfield, California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, April 20, 2007; "Addendum, Natural Event Documentation, Corcoran, Oildale and Bakersfield,

EPA³⁰ and used to evaluate this exceptional event demonstration were from the District's meteorological stations and National Weather Service meteorological networks. Since the District does not operate any monitoring stations between Corcoran and Bakersfield, it did not have any District-collected meteorological data for this region.

Comment 25: Earthjustice believes that the District did little more than a blind search for the areas of the SJV that experienced winds that exceeded the "alleged" entrainment level and then concluded that pollution on September 22, 2006 must have originated from that area.

Response 25: EPA believes that the State and EPA conducted a thorough evaluation of the possible cause of the September 22, 2006 exceedances and considered potential sources, conditions and control measures at the time of the exceedances. We discuss in additional detail in our response to comment 16 the fact that a number of locations in the central SJV besides Lemoore experienced high winds on that day. After a consideration of the most likely cause of the exceedances and after evaluating all the circumstances, the State concluded that the unusually high winds in the Lemoore area caused the exceedances in Corcoran and

California, September 22, 2006," San Joaquin Valley Unified Air Pollution Control District, May 23, 2007.

³⁰ Mesowest historical meteorological data, Mesowest, <http://www.met.utah.edu/mesowest/>

Bakersfield on September 22, 2006. The State then established in its documentation the causal connection between the winds in the Lemoore area and the exceedances at Corcoran and Bakersfield.

Comment 26: Earthjustice asserts that neither the District nor EPA offers any basis for the statement in the proposed rule at 72 FR 49051 that "wind speeds [in Corcoran], though not sufficient to erode dust, were sufficient to keep entrained and transported dust from the high winds at Lemoore suspended for the period during which the exceedances occurred." Earthjustice further asserts that because winds 10 miles southeast of Lemoore at the SRR never exceeded the entrainment threshold and no other relevant location outside of the area northwest of Lemoore experienced erosive winds, there is very little basis for the conclusion that a clear causal relationship exists between dust entrained in Lemoore and violations of the standard in Corcoran, Oildale and Bakersfield.

Response 26: See responses to comments 10, 11, 15 and 16.

Comment 27: Earthjustice asserts that EPA fails to show that the exceedances at Corcoran, Bakersfield and Oildale were outside normal historical concentrations. Earthjustice claims that dust-intensive agricultural activities occur in the fall and that none of the September 22, 2006 exceedances are significantly beyond the normal fluctuating range of air quality concentrations in the SJV. Earthjustice presents a chart that it says demonstrates that the September 22, 2006 readings are within the historical range of PM-10 concentrations observed over the past 15 years during the fall

season.

Response 27: See our response to comment 12 above.

Comment 28: Earthjustice states that EPA suggests in the Exceptional Events Rule that a contemporary comparison of all seasonally-adjusted data is appropriate for determining historical frequency of the measurements in question. However, Earthjustice says, because fall is the season with the highest PM-10 concentrations, the comparison is most appropriately made by looking at historical data from September through November. Earthjustice claims that because the District's documentation limits its comparison to September measurements over a 7 year period, the result is a "typical value" based only on the "relatively good days monitored."

Response 28: See our response to comment 12 above.

Comment 29: Earthjustice maintains that EPA asserts that because the September 22, 2006 measurements were higher than what the District claims is the "typical value" for the month of September, these violations must have been caused by an exceptional event. Earthjustice claims that with this argument EPA is saying that any PM-10 exceedance should be ignored as exceptional which is an absurd assumption that would render the NAAQS meaningless.

Response 29: EPA did not decide to exclude the data from September 22, 2006 from its attainment finding simply because the data were outside of the typical range of values normally seen in these areas. The EER has a number of criteria that need to be met

in order for us to concur with a State's request to exclude data from consideration, including a demonstration that the event affected air quality, a causal connection between the event and the exceedance value recorded, an analysis demonstrating that the recorded exceedance was outside the normal fluctuation of the data, and a demonstration that "but for" the event the exceedance would not have occurred. EPA evaluates how the State meets all of these criteria, in addition to the procedural requirements of the EER and determines, based on the weight of the totality of the evidence presented, whether to concur with the State's request. In this case, EPA believes that the State has met the "weight-of-evidence" standard and has demonstrated that the cause of the exceedances on September 22, 2006 was a high wind exceptional event. See also our response to comment 12.

Comment 30: Earthjustice states that if EPA had compared the September 22, 2006 data to data from other days on which exceedances occurred, it would have found that the September 22, 2006 readings are typical of bad air days in the fall in the SJV and therefore would not have been able to dismiss these violations as "in excess of normal fluctuations."

Response 30: See response to comment 12.

Comment 31: Earthjustice states that it reviewed EPA's AQS reports of monitoring data from the past ten years and found that in Corcoran, 50 percent of all FRM readings showing elevated levels of PM-10 occur in September and October and that 95 percent

occur in the period from September to January. Earthjustice states that although the numbers are lower in Bakersfield and Oildale, with 31 percent and 29 percent of elevated PM-10 readings, respectively, occurring in September and October, these numbers do not paint the picture of exceptionality the District and EPA claim. Instead, Earthjustice declares, these numbers confirm that the concentrations recorded on September 22, 2006 were within the normal historical range of PM-10 concentrations experienced in the central and southern SJV during the fall PM season when concentrations are historically at their highest.

Response 31: As discussed in our response to comment 12, EPA analyzed data from these sites and determined that the concentrations recorded on September 22 and October 25, 2006 were well outside the normal historical fluctuation of data normally recorded at these sites. In its comment, Earthjustice analyzes what it states are "elevated levels" of PM-10 concentrations that were recorded at the Corcoran, Oildale, and Bakersfield-Golden State Highway sites. Earthjustice asserts that an "elevated level" is "defined by EPA" as $90 \mu\text{g}/\text{m}^3$ or greater.³¹ This is not the case. For the source of its definition, Earthjustice cites a Federal Register notice in which EPA proposed to approve a PM-10 maintenance plan for Wallula, Washington. In that proposed rule the $90 \mu\text{g}/\text{m}^3$ or greater was a figure employed by the Washington State Department of Ecology for use in modeling a PM-10

³¹ EC at 6, footnote 16.

maintenance demonstration. 70 FR 38076 (July 1, 2005). EPA did not endorse or adopt this level as a definition of what constitutes "elevated levels" of PM-10 for the purposes of performing an analysis of historical fluctuations for the EER, and Earthjustice's evaluation of "elevated levels" at the SJV monitoring sites is not based on an EPA definition of what constitutes "elevated levels" for this purpose.

Comment 32: Earthjustice claims that the "but for" test requires a showing that without the winds scouring the soils near Lemoore, the monitors in Corcoran, Bakersfield, and Oildale would not have recorded violations of the PM-10 standard and that such a showing cannot be made. Specifically, Earthjustice asserts that the monitor in Corcoran was violating the PM-10 standard on September 22, 2006 before the winds in Lemoore even picked up. Earthjustice states that Table 3 of the District's April 20, 2007 documentation shows that the continuous monitor in Corcoran was recording concentrations in excess of 150 $\mu\text{g}/\text{m}^3$ starting at 6 am. Earthjustice further maintains that Jan Null in his declaration states that there is no way the winds in Lemoore could transport entrained dust instantaneously from Lemoore to Corcoran.

Response 32: We address these issues in our responses to comments 10, 11, 16 and 21. In our proposed rule we also discussed how the State met the "but for" criteria. 72 FR at 49053.

Comment 33: Earthjustice further asserts that the winds in Corcoran never even got above 11 miles per hour, so local wind

entrainment of particulate matter is not a factor. Earthjustice concludes that activities in and around Corcoran must have been responsible for the high PM-10 concentrations on September 22, 2006, not winds from Lemoore.

Response 33: We addressed the lower wind speed issue in Corcoran in our proposed rule at 72 FR 49052 and also in our responses to comments 10 and 15. As we discussed in the proposed rule, the lower wind speeds in Corcoran do not preclude the transport of dust from the areas northwest of Corcoran. The wind data from September 22, 2006 show high winds in the area centered around Lemoore. It was this area northwest of Corcoran that contributed PM-10 to the air parcel that impacted the monitors at Corcoran and Bakersfield. While any sources in the local area represented by the Corcoran monitor may have contributed some PM-10 to the total 24-hour average, it was the wind-generated dust from the area of Lemoore that contributed enough PM-10 to cause the monitor to record an exceedance of the 24-hour PM-10 NAAQS.

Given the evaluation of all information and circumstances surrounding the exceedance at the Corcoran monitor on September 22, 2006, the weight of evidence supports the conclusion that the windblown dust from the area of Lemoore rather than contributions from sources in the area represented by the Corcoran PM-10 monitor were the "but for" cause of the exceedance.

Comment 34: Earthjustice argues that, even if 6 hours worth of readings from the Corcoran continuous monitor were removed

starting at 11 am, in order to account for the 6 hours during which winds in Lemoore exceeded the alleged threshold velocity, there is still a violation of the PM-10 standard. Therefore, Earthjustice concludes, there is no way the District can argue and EPA can concur that winds from Lemoore were the cause of the violation of the PM-10 standard in Corcoran on September 22, 2006.

Response 34: As discussed in the preamble to the EER, EPA's historical practice has been to exclude a daily measured value in its entirety when an exceptional event causes that value. See 72 FR at 13572. EPA is not aware of the existence of precise and universally applicable techniques that are administratively and technically feasible and that could support partial adjustment of air quality data. Thus, the approach suggested by Earthjustice is not viable and is not permitted by the EER except in some very limited cases not applicable here. See also response to comments 10.

Moreover, Earthjustice suggests that the winds from Lemoore began affecting the Corcoran monitor at 11:00 am. In fact the Lemoore area experienced winds higher than the threshold wind speed beginning at 6:00 am PST and these winds likely began affecting the monitor at Corcoran between 7:00 and 8:00 am PST (the value reported for 7:00 am PST). See response to comment 10.

When the winds at Lemoore decreased to levels below the threshold wind speed at 2:00 pm PST, the dust entrained in the atmosphere most likely still continued to impact the Corcoran monitor, though

we see a leveling off and then gradual decrease in hourly PM-10 concentrations from that point forward. See Table 3 above in our response to comment 10. We further addressed this timing question by performing our own HYSPLIT analyses. See response to comment 11 above. The result of our analysis of the winds on September 22 supports the State's demonstration that winds originating in the area around Lemoore starting at 6:00 am PST could have transported dust and impacted the Corcoran monitor within one to two hours. See Figures 1 and 2.

Earthjustice appears to assume that particles are deposited as soon as winds decrease below the threshold speed for entrainment; in fact, PM-10 particles remain in suspension for many hours after being entrained and, as in the case of Corcoran, continued to affect concentrations recorded at the monitor until the early evening hours of September 22, 2006. Thus, Earthjustice assumes that the windblown dust started to affect the concentrations monitored at Corcoran many hours later than it did in fact, and that it ceased to impact the monitor many hours before it did in fact. Thus EPA believes that the impact on the monitor started earlier and ended later than Earthjustice contends, and was thus the "but for" cause of the exceedance.

Comment 35: Earthjustice maintains that there is no support for the claim that but for the winds originating in Lemoore, the monitors in Bakersfield and Oildale would not have exceeded the PM-10 standard. Earthjustice states that Jan Null shows in

Figures 1, 2 and 3 in his declaration that the winds originating in Lemoore may have reached Corcoran at some point in the day, but they certainly did not continue on to Bakersfield and Oildale.

Earthjustice states that the trajectories of winds out of Lemoore and Corcoran were decidedly away from Bakersfield and could not have carried particulate matter to Bakersfield and Oildale to cause the violations of the standard seen in these locations.

Earthjustice states that Figure 4 in Jan Null's declaration shows that, in fact, any winds arriving in Bakersfield by 1 pm were slow and moving in a circular pattern up from the southwest. Further, Earthjustice asserts that, as illustrated in Table A-1 of the District's May Addendum to its April 20, 2007 documentation, wind speeds in the Bakersfield area never reached speeds capable of eroding soils.

Response 35: We have previously addressed the issue of dust transport to Bakersfield in our responses to comments 10, 11, 15, 16 and 21. EPA does not contend that the wind speeds in Bakersfield reached the speeds necessary to erode and entrain dust, but rather that windblown dust from the area beginning in Lemoore and moving south affected the monitors in Bakersfield.

The trajectory calculation that Jan Null used for Bakersfield was not illustrative of the complete meteorological scenario. Again, he used a single trajectory calculation starting at zero meters height which does not account for the third dimension of height of the dust above ground level. In HYSPLIT runs performed

by EPA, forward trajectory calculations within the mixed layer starting between Lemoore and Kettleman Hills show transport directly to Bakersfield within 7 hours.

In addition, the circular wind pattern or eddy near Bakersfield discussed by Earthjustice was produced by a HYSPLIT analysis using a backward trajectory. However there appears to be a discrepancy between forward trajectories and backward trajectories produced by the HYSPLIT model. In source-receptor determinations, forward trajectories are considered more appropriate in determining precise locations of sources because they more accurately account for where the weather is coming from. EPA's forward trajectories did not show any indication of an eddy. The eddies that Earthjustice states occurred around Bakersfield are around 15 km in size for September 22, 2006. Since the EDAS meteorological data used for the trajectories has 40 km spacing between each grid point or meteorological data point, it is not of high enough resolution to accurately represent an eddy in the 15 km size range. There is too much uncertainty to conclude that there is an eddy because it is less than one grid cell spacing in dimension and would be considered a sub-grid scale feature. Thus, EPA's HYSPLIT runs, using more appropriate height levels in the atmosphere and forward trajectories, support the conclusion that the winds transported dust from the Lemoore area and caused the exceedances recorded at the monitors in the timeframe of the exceedances.

Comment 36: Earthjustice argues that, in evaluating the "but for" demonstration, no attempt was made to determine which of the many diverse sources that contribute to particulate matter concentrations in the SJV might have been contributing to the pollution load and in what quantities on September 22, 2006. Earthjustice concludes that for EPA to declare that no "unusual activities" were taking place on this day is to say that the same dust-generating sources that have always caused periodic violations of the standards in the fall were again responsible for exceedances.

Response 36: See responses to comments 6, 12 and 14.

3. Comments Specific to October 25, 2006 - Corcoran and Bakersfield

Comment 37: Earthjustice states that the documentation for the exceedances on October 25, 2006 is remarkably similar to that of September 22, 2006, and as such, suffers from the same significant flaws. Earthjustice also states that since the meteorology for both days was very similar, much of its analysis for September 22, 2006 also applies to October 25, 2006. Earthjustice provides a chart which it contends shows that wind speeds in Lemoore on October 25 were very similar to wind speeds on September 22. With respect to this chart, Earthjustice asserts the following:

...there was a period of several hours during which the alleged wind speed threshold was exceeded in northwest Lemoore at the Naval Air Station monitor, though again wind

speeds at the Santa Rosa Rancheria monitor only 10 miles southeast never reached that threshold....Winds in Corcoran never got above 11.3 miles per hour and Bakersfield, likewise, did not exceed the District's alleged entrainment threshold with maximum winds just under seven miles per hour. ... Further, the District can point to no data between Lemoore and Bakersfield that show winds capable of entraining dust, offering instead only data from CIMIS stations located far to the north and west that experienced higher wind speeds on October 25, 2006. As has already been established by Mr. Null, higher wind speeds on the west side of the Valley along the Coastal Range are not unusual due to the orientation of the Sacramento and San Joaquin Valleys....

Response 37: To the extent there are similarities between Earthjustice's analyses for September 22 and October 25, 2006, EPA's responses to comments regarding September 22 are also applicable.

In addition, EPA notes that the wind speeds in the central SJV, as represented by the meteorological monitoring station at Lemoore, on October 25 were quite high, reaching hourly average speeds of 31 mph and gusts of up to 40 mph, and were sustained at levels above the threshold wind speed for 11 hours (5:00 am to 3:00 pm PST),³² as shown in Table 5 above. We do not contend that

³² As discussed in response to comment 10 above, the meteorological data for Lemoore must be adjusted to correct for Daylight Savings Time.

the wind speeds in the vicinity of Corcoran and Bakersfield were sufficient to entrain dust but, like September 22, 2006, the windblown dust generated in the Lemoore area in the central SJV was the "but for" cause of the exceedances recorded in Corcoran and Bakersfield on October 25, 2006. Moreover, the wind speeds that occurred in between Lemoore and Corcoran and Bakersfield were of sufficient speed to transport the entrained dust from Lemoore to the affected areas. Id.

Earthjustice again selectively presents meteorological data to support its own position and neglects to include other data that support the State's demonstration. From the data supplied by the State in its documentation as well as additional publicly available data, it is clear that wind speeds in Lemoore, as well as throughout the central San Joaquin Valley, were either in excess of the threshold wind speed for entrainment (18 mph) or of sufficient intensity to transport dust from the Lemoore area to Corcoran and the southern SJV. See Table 7 below.

TABLE 7: OCTOBER 25, 2006 DAYTIME WIND SPEEDS AT METEOROLOGICAL MONITORING STATIONS IN THE CENTRAL SAN JOAQUIN VALLEY

Hour	Mendota (Hour/Gust)	Tranquility (Hour/Gust)	Lemoore (Hour/Gust)	Hanford Airport (Hour/Gust)	Kettleman Hills (Hour/Gust)	Alpaugh (Hour)	Wasco (Hour/Dir/ Gust)
6	12/ND	9/15	22/30	17/23	11/21	3.5	2/SW/3
7	15/20	10/17	22/32	15/ND	20/28	2.9	0
8	18/25	13/19	26/36	17/ND	15/27	5.6	7/NNW/15

9	17/30	20/22	29/39	24/29	19/32	16.9	5/NNE/18
10	22/31	17/21	31/37	20/28	25/35	16.5	9/N/22
11	22/30	15/20	30/40	15/24	25/35	16.8	7/N/15
12	21/28	17/20	28/38	12/21	24/45	15.6	6/N/16
13	20/28	15/23	26/35	12/ND	25/34	14.8	8/N/16
14	18/29	18/19	22/31	9/ND	21/35	13.2	2/NNE/10
15	12/23	10/18	20/26	12/18	22/33	13.3	ND/N/12
16	15/20	8/17	14/ND	8/16	15/28	12.7	3/N/7
17	8/17	4/10	3/ND	8/ND	9/22	6.5	2/N/ND
18	5/6	1/5	6/ND	6/ND	10/14	4.4	0

Source: Mesowest historical meteorological data, Mesowest,
<http://www.met.utah.edu/mesowest/>
 ND - No Data available

South of Corcoran, wind speeds measured at Alpaugh,³³ 15 miles SSE of Corcoran and 44 miles NW of Bakersfield, were close to exceeding the threshold wind speed and as such were sufficient to transport particulate matter from the Lemoore area to Bakersfield as discussed above and in our proposed action. Furthermore, meteorological data from a station in Wasco, 40 miles SSE of Corcoran and 25 miles NW of Bakersfield and not part of the CIMIS network, recorded data that indicate that the daytime winds, while not high enough to erode soils, were predominantly from the north.

Comment 38: Earthjustice states that like the documentation for September 22, 2006, the District's documentation for the alleged October event also fails to analyze the actual ability of the area to generate particulate matter concentrations in quantities great enough to cause the exceedances, fails to provide anything more

³³ See response to comment 24.

than anecdotal evidence of activity levels and compliance with dust controls, and therefore fails to demonstrate that the winds in Lemoore affected air quality at all. Earthjustice states that, like the case for the September 22 demonstration, a claim that the wind entrained significant amounts of dust requires looking at more than just the wind speeds in the area. There are many factors that EPA and the District failed to support with any reliable and accurate data, starting with whether there was any dust available to be entrained.

Response 38: See responses to comments 6, 14 and 18. As is the case with the September 22, 2006 documentation, the State has evaluated a variety of factors and circumstances to demonstrate that windblown dust caused the exceedances on October 25. See "Natural Event Documentation, Corcoran and Bakersfield, California, October 25, 2006," San Joaquin Valley Unified Air Pollution Control District, April 23, 2007 at section 7.

The State also provided information on the inspection and compliance activities that were conducted on October 25, 2006. Section 9.2 of the State's documentation lists the number of inspections and the location of inspection activity and indicates that the District was actively enforcing its rules on October 25, 2006. Two newspaper accounts of the high winds that occurred on October 25, 2006 provide independent verification of meteorological conditions. This type of documentation has been historically used to support these types of exceptional events

requests. EPA's EER states that the simplest demonstrations could consist of newspaper accounts or satellite images to demonstrate that an event occurred together with daily and seasonal average ambient concentrations to demonstrate an unusually high ambient concentration level, which is clearly indicative of an exceptional impact. 72 FR at 13573.

Comment 39: Earthjustice states that, as explained in its comments for September 22, 2006, the generation of particulate matter from winds of the type experienced on October 25, 2006 could have been controlled or prevented had reasonable controls been required of dust-producing sources. Earthjustice believes that the fact that the District is trying to blame winds only slightly above the alleged wind speed threshold, and significantly below the velocities at which the aforementioned controls stop being effective, suggests that either winds could not have entrained dust or the reasonable measures referenced in the proposal were not actually in place at the time of the event.

Response 39: See responses to comments 5, 6 and 7. The winds in the Lemoore area on October 25 were not "slightly above" the wind speed threshold but rather included sustained high winds between 26 and 31 mph with gusts ranging from 26 to 40 mph. These wind speeds were clearly sufficient to entrain and transport PM-10.

Comment 40: Earthjustice states that high winds entraining dust may qualify as a natural event, but it also believes the source of the dust is of equal importance under the law. Earthjustice

states that EPA admits that on October 25, 2006, the wind-entrained particulate matter originated from anthropogenic sources such as agricultural and industrial activities, but that under the EER, only "an event in which human activity plays little or no direct causal role" can be considered a natural event.

Earthjustice states that Congress did not intend for exceptional events to include sources that are caused by human activity.

Alternatively, Earthjustice states that the source of the dust cannot be considered a non-recurring human activity, as agricultural and industrial activities are a constant source of emissions in the Valley.

Response 40: See response to comment 5. Also, regarding Earthjustice's argument that dust from agricultural and industrial activities cannot be considered a non-recurring human activity because these activities are a constant source of emissions in the Valley, EPA does not consider (and has not stated anywhere) that normal agricultural and industrial activities are "non-recurring human activity" because such human activities often recur on a regular basis. By contrast, examples of non-recurring human activities may include major construction projects such as highways if they meet the criteria and requirements established in the EER. However, a recurring natural event such as a high wind event may entrain dust from anthropogenic sources. The entrainment of dust from "reasonably controlled sources" such as agricultural sources does not convert a natural event that

qualifies as a high wind event into a recurring human activity which appears to be the result Earthjustice is seeking.

Comment 41: Earthjustice states that, like the September 22, 2006 documentation, the District did not provide the requisite amount of time for public comment on its October 25, 2006 documentation and did not re-publish its final documentation after radically changing its rationale. These procedural deficiencies alone should give EPA pause in considering the District's requests to flag this data.

Response 41: See response to comment 8.

Comment 42: Earthjustice states that since the meteorology on October 25, 2006 is so similar to that of September 22, 2006, it is not surprising that a causal connection cannot be established for October 25 either. Earthjustice points out that the Corcoran monitor began reading concentrations above the national standard at 6:00 am, the same time that the winds in Lemoore, 25 miles away, began exceeding the District's alleged wind speed threshold at the same time. Earthjustice believes that it should go without saying that it is not possible for winds in Lemoore to transport entrained dust to Corcoran instantaneously, which is what would have to be the case if we are to believe the District's claims that those winds caused the exceedances in Corcoran, and that therefore, something other than the Lemoore winds caused the initial exceedances recorded at that monitor.

Response 42: See responses to comments 10 and 11.

Comment 43: Earthjustice states that even if we were to assume that the winds carried dust from Lemoore to Corcoran, the trajectory of those winds does not support the conclusion that the dust then moved down to Bakersfield. Earthjustice cites Figure 7 in the Null declaration which shows that winds originating in Lemoore moved on a due-east path toward Hanford and Corcoran and continued on toward the Sierra foothills. Jan Null uses HYSPLIT to determine the source of wind parcels arriving in Bakersfield at noon, which is approximately when the exceedances began, and shows that the same slow eddy effect that occurred on September 22, 2006 was also occurring in Bakersfield on October 25, 2006, which means that the winds impacting Bakersfield during the time of the exceedances were coming in slowly from the southwest. Figure 8 in the Null declaration

Response 43: As discussed in our responses to comments 11 and 21 above, EPA assumed a more realistic three dimensional approach to using the HYSPLIT model than did Jan Null. We also used a small range of starting points for our HYSPLIT runs, recognizing that although the available Lemoore meteorological data were from a point located at the Lemoore Naval Air Station, the data represent conditions over a wider area. See footnote 11 above.

As with our analysis of the September 22, 2006 event, we initiated three HYSPLIT runs for October 25, 2006, one starting half way between Lemoore and Kettleman City (about 11 miles southwest from Lemoore), one at Lemoore, and one about 11 miles

northeast of Lemoore. On October 25, 2006, the HYSPLIT trajectory presented by Null in Figure 7 of his declaration indicates that the winds starting in Lemoore went to the east southeast. However, EPA's HYSPLIT runs initiated half way between Lemoore and Kettleman City, northwest of Corcoran, demonstrate that the winds continued down the SJV towards Bakersfield, along a path just west of Corcoran. See Figures 5 and 6 above. Between Lemoore and Kettleman City, the winds were in transition from heading towards the east near Corcoran and following the Coastal Range as happened around Kettleman City. This caused the winds in a portion of that transition area to go in a direct path towards Bakersfield. See Figure 5.

For Bakersfield, Null used a trajectory in Figure 8 of his declaration at zero meters height to show the same eddy effect occurring on October 25 as on September 22. Again, this height does not take into account dust mixing up into the atmosphere. In EPA's HYSPLIT runs, more appropriate forward trajectories were used which showed that dust coming from the Lemoore area could have reached Bakersfield within about 6 hours. See Figure 6. They also did not show any indication of the eddy effect near Bakersfield that Earthjustice found with back trajectories. Id. and response to comment 35. This supports the conclusion that dust-laden winds from the Lemoore area reached Bakersfield on October 25, 2006 consistent with the impacts reflected at the Bakersfield monitor.

Comment 44: Earthjustice states that while the District and EPA cite wind speeds averaging 12 miles per hour in Alpaugh, an area 15 miles south of Corcoran, neither agency provides a basis for concluding that such winds could transport and keep suspended the plume of entrained dust that was allegedly carried to Bakersfield, nor do they explain how the evidence provided even suggests such transport could have taken place.

Response 44: See responses to comments 11, 15 and 43. EPA finds that the documentation does establish a clear causal relationship between the winds in Lemoore and the exceedances in Corcoran and Bakersfield. See "Natural Event Documentation, Corcoran and Bakersfield, California, October 25, 2006," San Joaquin Valley Unified Air Pollution Control District, April 23, 2007.

Earthjustice neglects to consider that the CIMIS data need to be adjusted, as discussed in the State's documentation, due to the fact that CIMIS stations collect data at 2 meters above ground level as opposed to the standard 10 meter height. Id. at 25. See also response to comment 24. When this adjustment is made, we can see that the wind speeds at Alpaugh would have been approximately 25 percent higher at 10 meters than at 2 meters. Winds at nearly 17 mph were recorded from 9:00 am to 11:00 am PST, dropping to between 15 mph and 13 mph between 12:00 pm and 3:00 pm PST. The lower wind speeds recorded at stations farther south, such as Shafter and Arvin, are consistent with the State's demonstration that after the winds in the central SJV transported particulate

matter southward, lower wind speeds in the Bakersfield area facilitated the settling of the particulates at the monitoring station.

Comment 45: Earthjustice states that while the readings from October 25, 2006 were relatively high, they were probably not beyond the normal historical fluctuations experienced in the Valley in late October. Earthjustice also states that fall is when the Valley's PM-10 concentrations are at their highest and also the peak season for many dusty crops in the Valley.

Response 45: See our responses to comment 7 and 12 above.

Comment 46: Earthjustice states that EPA's "but for" analysis for the October 25, 2006 event is based entirely on speculation and conjecture and that EPA cannot say for sure what activities were taking place in the areas of Corcoran or Bakersfield and cannot say for sure that without the alleged high winds in Lemoore the monitors in Corcoran and Bakersfield would not have exceeded the standard.

Response 46: See responses to comments 6 and 7 and EPA's "but for" analysis in our proposed rule at 72 FR 49056-49057. EPA's conclusion is not based on speculation and conjecture but rather on the weight of evidence presented.

Comment 47: Earthjustice states that since the HYSPLIT analyses provided both by the District and by meteorologist Jan Null contradict the claim that the winds from Lemoore had a sufficient speed or trajectory to impact Corcoran and Bakersfield, and

because the Corcoran and Bakersfield monitors were already measuring exceedances of the PM-10 standard before the winds from Lemoore could have arrived, EPA cannot conclude that the District has established that "but for" the winds in Lemoore, the exceedances would not have occurred.

Response 47: See responses to comment 10, 11, 21, 43 and 44.

B. Other Comments

Comment 48: A commenter notes that the concept of exceptional events for air quality purposes is "a bad idea" because they provide a loophole to gut the intent of the original regulation. The commenter expresses concern that discarding data related to exceptional events would substantially weaken the regulation designed to protect the health of residents in an area. In the particular instance of the SJV, the commenter notes that the exceptional events were high winds and construction activity. According to the commenter, these events should not be used to justify poor air quality because high winds are a natural occurrence and construction activity occurs repeatedly. The commenter expresses concern that exceptional events not be used as "additional excuses to rationalize bad air on certain days."

Response 48: Congress amended section 319 of the CAA and required EPA to establish regulations governing the review and handling of air quality monitoring data influenced by exceptional events. In amending section 319, Congress indicated that states should not have to prepare and implement regulatory strategies designed to

remedy poor air quality when their air quality is affected by events beyond their reasonable control. To accomplish this goal, Section 319, as amended, defined an exceptional event and required EPA to set certain minimum substantive and procedural requirements before data could be excluded as due to an exceptional event. In response, as described below, EPA proposed regulations for exceptional events in March 2006 and sought public comments on its proposal. See 71 FR 12592 (March, 10, 2006). In March 2007, after considering all comments received, EPA published its final rule on exceptional events which became effective on May 21, 2007. 72 FR 13560. During the exceptional events rulemaking process, EPA took comments on the definition of exceptional events, the substantive and procedural requirements for an event to qualify as an exceptional event and appropriate mitigation measures in these circumstances. In this rulemaking on air quality in the SJV, EPA is neither seeking nor considering comments on the concept of exceptional events, which activities would constitute exceptional events, and/or whether air quality data may be excluded due to such events. EPA has already addressed these issues in its EER. Comments about the concept of exceptional events and whether such events should be considered in air quality determinations have been decided in the exceptional events rulemaking process and thus are outside the scope of this rulemaking.

The commenter also notes that as a general matter high winds should not be considered an exceptional event because they are

natural occurrences. EPA has discussed high wind events extensively in the preambles to both the proposed and the final rules on exceptional events. The EER indicates the circumstances under which high winds can qualify for treatment as exceptional events. Again, these general issues were decided in the EER and EPA did not reopen comment on that general issue in this SJV rulemaking. The commenter does not provide data relevant to whether the high winds in this instance meet the provisions of the EER, the issue under consideration in this rulemaking action.

The commenter asserts that "construction is always occurring" and therefore data related to these events should not be excluded. Not all construction activity qualifies as an exceptional event. A construction activity, like other exceptional events must meet the definitional, substantive and procedural requirements specified in the EER. For example, for any construction activity to be considered an exceptional event, it must meet the definition of an exceptional event, including for anthropogenic events such as construction, that it is an event that is unlikely to recur at that location. Thus, by definition, construction activity that is "always occurring" at a particular location is not an exceptional event under the rule.

Comment 49: The commenter states that he is unfamiliar with details of the SJV case but wishes to comment on the concept of exceptional events and expressed his view that such events should not be considered in air quality determinations. The commenter

believes that there are a wide variety of loopholes such as permitting rounding down of numbers, exclusion of three worst days and using three year averages for final attainment which "degrade the rigor of the standard." According to the commenter, excluding air quality data affected by exceptional events further softens the initial regulation. In the SJV case, the commenter questions why the construction activity was not limited to periods when the atmosphere could "handle the load." In addition, the commenter discusses the construction of an asphalt plant in a local community and notes that during the construction of such a plant, officials sought to exclude data on certain days because they attributed the poor air quality to interstate transport. The commenter also refers to the treatment of fires in his area.

Response 49: With respect to that portion of the comment concerning the concept of exceptional events, see response to comment 48. In response to the commenter's question about why the construction activity was not limited to periods when the atmosphere could handle the load, EPA notes that air quality "load" is not an issue for the SRR area where construction contributed to the exceptional event. There have been no exceedances or air quality issues in the SRR area either before or after the construction activity. As explained in the proposed rule, the monitor in the SRR was affected by the construction activity because it was in such close proximity to the construction activity (25 - 100 feet). 72 FR at 49062. The

monitor has not recorded any exceedances since the construction activity at the parking lot was completed. The comments on the construction of the asphalt plant and the fires do not relate to issues in the SJV area and thus are outside the scope of this rulemaking.

C. List of EPA Figures in Docket

- Figure 1. "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Corcoran, September 22, 2006, 6:00 am to 8:00 am PST," March 6, 2008
- Figure 2. "Forward Trajectories at 250 meters, Lemoore to Corcoran and Bakersfield, September 22, 2006, 6:00 am to 1:00 pm PST," March 6, 2008
- Figure 3. "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Bakersfield, September 22, 2006, 6:00 am to 1:00 pm PST," March 6, 2008
- Figure 4. "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Corcoran, October 25, 2006, 5:00 am to 7:00 am PST," March 6, 2008
- Figure 5. "Forward Trajectories at 250 meters, Lemoore to Corcoran to Bakersfield, October 25, 2006, 5:00 am to 11:00 am PST," March 6, 2008
- Figure 6. "Forward Trajectories at 10, 100, & 250 meters, Lemoore Area to Bakersfield, October 25, 2006, 5:00 am to 11:00 am PST," March 6, 2008

- Figure 7. "Annual Peak Day PM10 Concentrations at Corcoran," March 6, 2008
- Figure 8. "Annual Peak Day PM10 Concentrations at Bakersfield," March 6, 2008
- Figure 9. "Annual Peak Day PM10 Concentrations at Oildale," March 6, 2008
- Figure 10. "Annual Peak Fall Day PM10 Concentrations at Corcoran (September, October, November Data Only)," March 6, 2008
- Figure 11. "Annual Peak Fall Day PM10 Concentrations at Bakersfield (September, October, November Data Only)," March 6, 2008
- Figure 12. "Annual Peak Fall Day PM10 Concentrations at Oildale (September, October, November Data Only)," March 6, 2008

III. Final Action

For the reasons set forth in detail in EPA's proposed rule and in today's final rule, including the responses to comments, EPA is concurring with the State's and the Santa Rosa Rancheria Tribe's requests to flag exceedances occurring in 2006 as being caused by exceptional events. (i.e., high winds and construction activity in very close proximity to the monitor, respectively). In addition, as set forth in its proposed rule, EPA is finding that the monitor at the Santa Rosa Rancheria was not properly sited for purposes of collecting data for comparison to the NAAQS

during the period that exceedances were monitored in 2006. EPA is thus concluding that the exceedances that are the subject of these requests should be excluded from use in determining whether the SJV has attained the PM-10 NAAQS. EPA is finalizing its proposal to affirm the determination of attainment for the SJV, based on quality-assured data through December, 2006.³⁴

For the reasons set forth in its proposed rule and in this final rule, EPA is denying the December 29, 2006 petition for reconsideration and the March 21, 2007 petition for withdrawal of EPA's 2006 determination of attainment filed by Earthjustice on behalf of the Sierra Club, Latino Issues Forum, and others.

IV. Statutory and Executive Order Reviews

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely makes a determination based on air

³⁴ The District has flagged exceedances occurring on July 4, 2007 and January 4, 2008 as being caused by exceptional events. We intend to address these exceedances in the future.

quality data, and imposes no additional requirements.

Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.). Because this rule does not impose any additional enforceable duty, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4).

Executive Order 13175 (65 FR 67249, November 9, 2000) requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." As discussed in our proposed rule, several Indian tribes have reservations located within the boundaries of the SJV. EPA is aware of only one tribe in the SJV that operates a PM-10 monitor, the Santa Rosa Rancheria. Prior to and since the proposed rule, EPA has consulted with representatives of the Santa Rosa Rancheria Tribe on the data recorded by its monitor, and the flagging of the data, and will continue to work with the Tribe, as provided for in Executive Order 13175. Accordingly, EPA has addressed Executive Order 13175 to the extent that it applies to this action. This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various

levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely makes a determination based on air quality data and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. Executive Order 12898 establishes a Federal policy for incorporating environmental justice into Federal agency actions by directing agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Today's action involves determinations based on air quality considerations and affirms that the SJV attained the PM-10 NAAQS. It will not have disproportionately high and adverse effects on any communities in the area, including minority and low-income communities.

This rule also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant. The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply because it would be inconsistent with applicable law for EPA, when determining the attainment status of an area, to use voluntary consensus standards in place of promulgated air quality standards and monitoring procedures that otherwise satisfy the provisions of the Clean Air. This rule does not impose an information collection burden under the

provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

The Congressional Review Act, 5 U.S.C. section 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. section 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by [FEDERAL REGISTER OFFICE: insert date 60 days from date of publication of this document in the Federal Register]. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See

section 307(b)(2).)

List of Subjects

40 CFR Parts 52

Environmental protection, Air pollution control, Incorporation by reference, Particulate matter, Reporting and recordkeeping requirements.

40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

____3/7/08_____
Dated

_____/s/_____
Wayne Nastri,
Regional Administrator,
Region 9.