

**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 50****[EPA-HQ-OAR-2013-0572, EPA-HQ-OAR-2015-0229; FRL-9935-73-OAR]****RIN 2060-AS02****Treatment of Data Influenced by Exceptional Events****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Proposed rule; notice of availability of related draft guidance; notice of hearing.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing revisions to certain sections within the regulations that govern the exclusion of event-affected air quality data from regulatory decisions. The EPA is also providing a notice of availability of a draft version of the non-binding guidance document titled *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*.

**DATES:** *Comments.* Written comments on this proposal and draft guidance must be received by January 19, 2016.

*Public hearing:* The EPA will hold a public hearing on this proposal on Tuesday, December 8, 2015, in Phoenix, Arizona. Please refer to **SUPPLEMENTARY INFORMATION** for additional information on the comment period and public hearing.

**ADDRESSES:** Submit your comments on the EPA's proposed revisions to 40 CFR part 50, identified by Docket ID No. EPA-HQ-OAR-2013-0572, at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, Cloud or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions and general guidance on

making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

Submit your comments on the EPA's *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*, identified by Docket ID No. EPA-HQ-OAR-2015-0229, at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be CBI or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

*Public hearing:* A public hearing will be held on Tuesday, December 8, 2015, in room 3175 in the Arizona Department of Environmental Quality main office building located at 1110 W. Washington Street, Phoenix, Arizona 85007. The public hearing will convene at 10 a.m. and continue until the earlier of 6 p.m. or 1 hour after the last registered speaker has spoken. We have scheduled a lunch break from 12:30 p.m. until 2 p.m. People interested in presenting oral testimony should contact Ms. Pamela Long, Air Quality Planning Division, Office of Air Quality Planning and Standards (C504-01), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone (919) 541-0641, fax number (919) 541-5509, email address [long.pam@epa.gov](mailto:long.pam@epa.gov), at least 2 days in advance of the public hearing (*see DATES*). People interested in attending the public hearing should also call Ms. Long to verify the time, date and location of the hearing.

**FOR FURTHER INFORMATION CONTACT:** For additional information regarding this proposed rule, please contact: Beth W. Palma, U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Policy Division, Mail Code C539-04,

Research Triangle Park, NC 27711, telephone (919) 541-5432, email at [palma.elizabeth@epa.gov](mailto:palma.elizabeth@epa.gov). For additional information regarding the *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*, please contact Melinda Beaver, U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Policy Division, Mail Code C539-04, Research Triangle Park, NC 27711, telephone (919) 541-1062, email at [beaver.melinda@epa.gov](mailto:beaver.melinda@epa.gov). For information on the public hearing or to register to speak at the hearing, contact Ms. Pamela Long, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Air Quality Planning Division, Mail Code C504-01, Research Triangle Park, NC 27711, telephone (919) 541-0641, fax number (919) 541-5509, email at [long.pam@epa.gov](mailto:long.pam@epa.gov) (preferred method for registering).

**SUPPLEMENTARY INFORMATION:****I. General Information****A. Does this action apply to me?**

Entities potentially directly affected by this proposal and the draft guidance document include all state air agencies and any local air quality agency to whom a state has delegated relevant responsibilities for air quality management, including air quality monitoring and data analysis. Tribal air agencies operating ambient air quality monitors that produce regulatory data may also be directly affected. Entities potentially affected indirectly by this proposal and the draft guidance document include federal land managers (FLMs) of Class I areas, other federal agencies and other entities that operate ambient air quality monitors and submit collected data to the EPA's Air Quality System (AQS) database.

**B. What should I consider as I prepare my comments for the EPA?**

1. *Docket.* The EPA has established one docket for the proposed revisions to the 2007 Exceptional Events Rule and another docket for the draft guidance document. All documents in these dockets are listed on the <http://www.regulations.gov> Web site in the respective docket. The rulemaking docket is Docket ID No. EPA-HQ-OAR-2013-0572. The separate docket established for the *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations* is Docket No. EPA-HQ-OAR-2015-0229. The EPA will not respond to comments relating to the guidance document as

part of this rulemaking, but will consider these comments in the development of the final guidance document. If comments on the draft guidance document are submitted to the rulemaking docket, the EPA will respond only to the portion of such comments that are relevant to the rulemaking. The EPA also relies on the documents in Docket ID No. EPA-HQ-OAR-2011-0887, the docket established for the July 2012 notice of availability for the Draft Exceptional Events Implementation Guidance, and incorporates this docket into the record for this action. However, no new comments may be directed to Docket ID No. EPA-HQ-OAR-2011-0887 and the EPA will not respond to comments that have already been submitted to this docket unless they are resubmitted to Docket ID No. EPA-HQ-OAR-2013-0572. Although listed in the indices to the rulemaking docket and the guidance docket associated with this action (*i.e.*, Docket ID No. EPA-HQ-OAR-2013-0572 and Docket No. EPA-HQ-OAR-2015-0229), some information is not publicly available, (*e.g.*, CBI or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted material, will not be placed on the Internet but may be viewed, with prior arrangement, at the EPA Docket Center. Publicly available docket materials are available either electronically in [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA William Jefferson Clinton West Building, Room 3334, 1301 Constitution Avenue NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744 and the telephone number for the Air and Radiation Docket and Information Center is (202) 566-1742. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at: <http://www.epa.gov/epahome/dockets.htm>.

2. *Submitting CBI.* Do not submit this information to the EPA through <http://www.regulations.gov> or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD-ROM that you mail to the EPA, mark the outside of the disk or CD-ROM as CBI and then identify electronically within the disk or CD-ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a

copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

3. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking and/or draft guidance document by docket number and other identifying information (subject heading, **Federal Register** date, page number and guidance document title, if applicable).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number in the guidance.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the identified comment period deadline.

*C. Where can I get a copy of these documents and other related information?*

In addition to being available in the docket, an electronic copy of this notice and the draft guidance will be posted at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>.

*D. What should I know about the public hearing?*

The EPA intends to hold a public hearing on Tuesday, December 8, 2015, in room 3175 in the Arizona Department of Environmental Quality main office building located at 1110 W. Washington Street, Phoenix, Arizona 85007. If you would like to attend or speak at the public hearing, please contact Ms. Pamela Long, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Air Quality Planning Division, Mail Code C504-01, Research Triangle Park, NC 27711, telephone (919) 541-0641, fax number (919) 541-5509, email at [long.pam@epa.gov](mailto:long.pam@epa.gov) (preferred method for

registering) at least 2 days in advance of the public hearing (*see DATES*). Interested parties may submit oral and/or written comments. Interested parties do not need to attend the public hearing to submit written comments. Additional details concerning any public hearing for this proposed rule will be posted on the EPA's Web site for this rulemaking at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>.

The public hearing will provide interested parties the opportunity to present data, views or arguments concerning the proposed revisions to the 2007 Exceptional Events Rule. The EPA will make every effort to accommodate all speakers who arrive and register. Individuals planning to attend the hearing will be required to sign in, and may be required to show valid picture identification to the security staff to gain access to the meeting room. In addition, no weapons will be allowed in the facility. Any weapons brought to the site will be stored in a locker at the facility. No large signs will be allowed in the building, and cameras may only be used outside of the building. The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the public hearing. Commenters must submit written comments on the proposed rule and/or draft guidance by January 19, 2016. Commenters should notify Ms. Long if they will need specific equipment, or if there are other special needs related to providing comments at the hearing. The EPA will provide equipment for commenters to show overhead slides or make computerized slide presentations if we receive special requests in advance. Oral testimony will be limited to 5 minutes for each commenter. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email or CD) or in hard copy form. The hearing schedule, including the list of speakers, will be posted on the EPA's Web site at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>. Verbatim transcripts of the hearing and written statements will be included in the docket for the rulemaking. The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearing to

run either ahead of schedule or behind schedule.

#### *E. How is this document organized?*

The information presented in this document is organized as follows:

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#### X. Statutory Authority

### II. Glossary of Terms and Acronyms

The following are abbreviations of terms used in the preamble.

AQCR Air Quality Control Region  
 AQS Air Quality System  
 Be Beryllium  
 BACM Best available control measures  
 BLM Bureau of Land Management  
 BMP Best management practice(s)  
 BSMP Basic smoke management practices  
 CAA Clean Air Act  
 CASTNET Clean Air Status and Trends Network  
 CBI Confidential business information  
 CFR Code of Federal Regulations  
 CO Carbon monoxide  
 EPA Environmental Protection Agency  
 FLM Federal land manager responsible for management of a federally owned area that has been designated a Class I area as codified in 40 CFR part 81, subpart D  
 FR Federal Register  
 IPV Isentropic potential vorticity  
 Lidar A remote sensing technology that measures distance by illuminating a target

with a laser and analyzing the reflected light  
 µg/m<sup>3</sup> Micrograms per cubic meter  
 mph Miles per hour  
 NAAQS National ambient air quality standard or standards  
 NAM North American Mesoscale Forecast System  
 NASA National Aeronautics and Space Administration  
 NEPA National Environmental Policy Act  
 NO<sub>2</sub> Nitrogen dioxide  
 NOAA National Oceanic and Atmospheric Administration  
 NOV Notice of violation  
 NOx Nitrogen oxides  
 NPS National Park Service  
 NSR New source review  
 NRCS Natural Resources Conservation Service  
 NRDC Natural Resources Defense Council  
 NWCG National Wildfire Coordinating Group  
 NWS National Weather Service  
 OAQPS Office of Air Quality Planning and Standards, U.S. EPA  
 OMB Office of Management and Budget  
 Pb Lead  
 PM Particulate matter  
 PM<sub>10</sub> Particulate matter with a nominal mean aerodynamic diameter less than or equal to 10 micrometers  
 PM<sub>2.5</sub> Particulate matter with a nominal mean aerodynamic diameter less than or equal to 2.5 micrometers  
 ppb Parts per billion  
 PSD Prevention of significant deterioration  
 PT Potential temperature  
 RACM Reasonably available control measures  
 RAQMS Real-time Air Quality Modeling System  
 RUC Rapid Update Cycle  
 SIP State implementation plan  
 SMP Smoke management program  
 SO<sub>2</sub> Sulfur dioxide  
 TAR Tribal Authority Rule  
 TIP Tribal implementation plan  
 UMRA Unfunded Mandates Reform Act  
 USDA U.S. Department of Agriculture  
 USFS U.S. Forest Service  
 VOC Volatile organic compound or compounds

### III. Executive Summary

This section summarizes the purpose of this regulatory action, the major provisions of this action, and the development of associated guidance.

#### *Purpose of This Regulatory Action*

Recognizing that it may not be appropriate for the EPA to use certain monitoring data collected by the ambient air quality monitoring network and maintained in the air quality data system (AQS) in the EPA's regulatory determinations, in 2005 Congress provided the statutory authority for the exclusion of data in specific situations by adding section 319(b) to the Clean Air Act (CAA). The EPA promulgated the 2007 Exceptional Events Rule (March 22, 2007, 72 FR 13560) to

implement this 2005 amendment of the CAA. The purpose of this action is to propose revisions to the 2007 Exceptional Events Rule to address certain substantive issues raised by state, local and tribal co-regulators and other stakeholders since promulgation of the rule and to increase the administrative efficiency of the Exceptional Events Rule criteria and process. The EPA intends to promulgate these rule revisions in advance of the date by which states, and any tribes that wish to do so, are required to submit their initial designation recommendations for the revised 2015 ozone NAAQS (expected in October of 2016). In addition, the EPA intends to address a 2008 D.C. Circuit Court decision in which the court found that certain preamble language was “legally null” because there was no associated implementing rule language.

Interpreting and implementing the 2007 Exceptional Events Rule has been challenging in certain respects both for the air agencies developing exceptional events demonstrations and for the EPA Regional offices reviewing and acting on these demonstrations. Since 2007, air agencies have submitted exceptional event demonstrations for a variety of pollutant and event combinations ranging from volcanic activity influencing sulfur dioxide (SO<sub>2</sub>) and particulate matter (PM) concentrations to stratospheric ozone intrusions. Air agencies preparing demonstrations have expressed specific concerns and identified challenges associated with preparing analyses to satisfy the “but for” rule criterion, determining what controls constitute reasonable controls particularly for natural sources and for interstate and international transport and identifying how much documentation to include in a demonstration.

As a result of both our experiences and feedback related to implementing the 2007 Exceptional Events Rule received from state, local and tribal co-regulators and other stakeholders via letters and numerous conference calls and meetings, the EPA developed and released Interim Exceptional Events Implementation Guidance in May of 2013. This guidance has addressed some of the concerns and challenges raised by interested parties, has helped reduce the burden of preparing demonstrations and has reduced the time needed for review. However, the EPA acknowledged that additional changes could only be accomplished through a notice-and-comment rulemaking. Therefore, when the EPA released the Interim Exceptional Events Implementation Guidance in May of 2013, we

simultaneously announced our intent to pursue revisions to the Exceptional Events Rule. These changes are reflected in this proposed action.

Concurrent with preparing this proposed action, the EPA held conference calls with some air agencies to discuss more recent implementation experiences and to better understand currently employed exceptional events implementation processes and practices. As a result of these discussions, the EPA developed a list of best practices for communication and collaboration between the EPA and air agencies. Agencies using these approaches have developed a common understanding of expectations, terminology and interpretation of the EPA’s regulations and policy, which, in turn, helps focus efforts, optimize resources and save time during the demonstration development and review process.

Based on our experiences and the input we have received from our collaborations with interested parties (including state, local and tribal air agencies) following the promulgation of the 2007 Exceptional Events Rule and since the development of the Interim Exceptional Events Implementation Guidance and based on the previous legal challenge, we have determined those aspects of the 2007 Exceptional Events Rule that most need to be addressed in this proposed action.

#### *Summary of Major Provisions*

For the first time, the EPA proposes to interpret CAA section 319(b) as applying to only a specific set of regulatory actions (e.g., designations) because we believe that the criteria and process steps specified in the CAA were not clearly intended by Congress to apply to all types of regulatory actions and in some cases certain of the criteria and steps are not appropriate. We address this concept in this document in general terms, but we also intend to develop a separate guidance document to provide guidance on when data can be excluded and when they cannot for other specific types of regulatory actions.

The EPA proposes to return to the core statutory elements and implicit concepts of CAA section 319(b): The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation, the event was not reasonably controllable or preventable and the event was caused by human activity that is unlikely to recur at a particular location or was a natural event. Within each of these elements, we are proposing clarifications regarding the

desired analyses to include in exceptional events demonstrations and we discuss the applicability of these clarifications to certain event types or categories. As part of this return to the core statutory elements, we are proposing to remove from the Exceptional Events Rule a paragraph containing what is commonly referred to as the “but for” criterion.

The EPA is proposing to incorporate the statutory “affects air quality” criterion and the regulatory “historical fluctuations” criterion within the “clear causal relationship” element. We believe that if an air agency demonstrates that an event has a clear causal relationship to an exceedance or violation of a NAAQS, then the event has certainly affected air quality and that a submitting air agency does not need to address “affects air quality” as a distinct component. As we indicated in the Interim Exceptional Events Implementation Guidance (see section IV.D), we believe that a comparison of the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times is extremely useful evidence in an exceptional events demonstration, particularly as part of showing a clear causal relationship, and we propose to continue requiring this type of comparison. This proposed action details the minimum set of statistical analyses that the EPA expects to see in demonstrations.

With respect to the “not reasonably controllable or preventable” criterion, many states have requested that the EPA automatically consider an event to be reasonably controlled if the EPA has approved a state implementation plan (SIP) that contains controls for anthropogenic sources that contribute to the event that are also specific to the pollutant of concern in the exceptional events demonstration. In response, the EPA proposes that enforceable control measures implemented in accordance with an attainment or maintenance SIP, approved by the EPA within 5 years of the date of a demonstration submittal, that address the event-related pollutant and all sources necessary to fulfill the requirements of the CAA for the SIP to be reasonable controls with respect to all anthropogenic sources that have or may have contributed to event-related emissions. Also for this criterion, the EPA clarifies that air agencies generally have no obligation to specifically address controls if the event was natural or if it was due to emissions originating outside their jurisdictional (i.e., state or tribal) border(s).

With respect to the “human activity that is unlikely to recur at a particular

location or was a natural event” criterion, we propose a general approach to determining whether the recurrence frequency of an event is “unlikely to recur at a particular location” and an approach applicable to prescribed fire on wildland only. We also clarify that natural events can recur, sometimes frequently, and reiterate our belief that we generally consider human activity to have played little or no direct role in causing emissions if anthropogenic emission sources that contribute to the event emissions are reasonably controlled at the time of the event.

Air agencies must address all of the core statutory elements and implicit concepts of CAA section 319(b) within an exceptional events demonstration. In this proposed action, the EPA clarifies the content and organization of exceptional events submittals to include the core statutory elements, but we also propose that states be required to include a conceptual model, or narrative, describing the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance at the affected monitor(s) and documentation that the air agency conducted a public comment process. We are proposing to require an initial notification by the state to the EPA of a potential exceptional event as a preliminary step before submitting a demonstration, to ensure the submitting air agency and the reviewing EPA Regional office share a common understanding regarding the potential event and are in communication regarding the timeline for the demonstration to be submitted and to be reviewed by the Regional office.

Because affected air agencies have provided feedback regarding the difficulty associated with meeting the current regulatory timelines associated with data flagging, initial event descriptions and demonstration submittals, the EPA proposes to remove the specific deadlines that apply in situations other than initial area designations following promulgation of a new or revised NAAQS. Also associated with demonstration timing, the EPA proposes to officially terminate review of demonstrations that, due to the passage of time, will have no further regulatory significance specifically for the five types of regulatory actions identified in section V.C. of this preamble.

Since promulgation of the 2007 Exceptional Events Rule, stakeholders have raised numerous questions about fire-related components that were discussed, but not fully defined or

clarified in the preamble to the 2007 Exceptional Events Rule. This proposed action addresses fire-related definitions, provides more clarity regarding expectations for smoke management programs (SMPs) and basic smoke management practices (BSMP), and proposes limited scenarios under which FLMs and other federal agencies may prepare and submit exceptional events demonstrations and data exclusion requests directly to the EPA.

#### *Associated Guidance Documents*

In addition to proposing revisions to the 2007 Exceptional Events Rule, this proposed action simultaneously provides a notice of availability of a draft non-binding guidance document titled, *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*, which applies the proposed Exceptional Events Rule revisions to wildfire/ozone events. This guidance document is intended to further address specific stakeholder questions regarding the Exceptional Events Rule and further increase the efficiency of rule implementation. In addition, the EPA is currently developing a guidance document titled, *Draft Guidance for Excluding Some Ambient Pollutant Concentration Data from Certain Calculations and Analyses for Purposes Other than Retrospective Determinations of Attainment of the NAAQS*, which will apply to the exclusion of certain data for certain applications using a process and criteria outside of the Exceptional Events Rule. The EPA intends to make this guidance document available shortly after proposing revisions to the Exceptional Events Rule. The EPA expects to finalize these guidance documents concurrently with promulgating revisions to the Exceptional Events Rule.

#### **IV. Background for Proposal**

##### *A. Purpose of and Statutory Authority for This Regulatory Action*

Part of the EPA’s mission is to preserve and improve, when needed, the quality of our nation’s ambient air to protect human health and the environment. As part of accomplishing this, the EPA develops the national ambient air quality standards (NAAQS) for criteria pollutants and oversees the states’ programs to improve air quality in areas where the current air quality is unacceptable and to prevent deterioration in areas where the air quality meets or exceeds the NAAQS. The EPA then evaluates the status of the ambient air as compared to these

NAAQS by using data collected in the national ambient air quality monitoring network established under the authority of section 319(a) of the CAA.

Recognizing that it may not be appropriate for the EPA to use certain monitoring data collected by the ambient air quality monitoring network and maintained in AQS in our regulatory determinations, in 2005 Congress provided the statutory authority for the exclusion of data in specific situations by adding section 319(b) to the CAA in 2005. The EPA promulgated the 2007 Exceptional Events Rule (March 22, 2007, 72 FR 13560) to implement this 2005 amendment of the CAA. The purpose of this action is to propose revisions to the 2007 Exceptional Events Rule to address certain issues raised by stakeholders since promulgation of the rule and to increase the administrative efficiency of the Exceptional Events Rule criteria and process.

In addition to proposing revisions to the 2007 Exceptional Events Rule, we are simultaneously providing a notice of availability of a draft non-binding guidance document titled, *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*, which applies the proposed Exceptional Events Rule revisions to wildfire/ozone events. We seek comment on whether the concepts in this guidance document should be finalized as rule text. We are also currently developing a second guidance document titled, *Draft Guidance for Excluding Some Ambient Pollutant Concentration Data from Certain Calculations and Analyses for Purposes Other than Retrospective Determinations of Attainment of the NAAQS*, which will apply to the exclusion of certain data for certain applications using a process and criteria outside of the Exceptional Events Rule. Both of these draft guidance documents are intended to further address specific stakeholder concerns regarding the Exceptional Events Rule and further increase the efficiency of rule implementation.

##### *B. The 2007 Exceptional Events Rule*

The 2007 Exceptional Events Rule created a regulatory process codified at 40 CFR parts 50 and 51 (sections 50.1, 50.14 and 51.930). These regulatory sections contain definitions, procedural requirements, requirements for air agency demonstrations, criteria for the EPA’s approval of the exclusion of event-affected air quality data from the data set used for regulatory decisions,

and requirements for air agencies<sup>1</sup> to take appropriate and reasonable actions to protect public health from exceedances or violations of the NAAQS.<sup>2</sup> The 2007 Exceptional Events Rule superseded the EPA's previous natural events guidance and those sections of an earlier guidance document that addressed the treatment of data affected by exceptional events.<sup>3</sup>

In general, the exceptional events regulatory process consists of the following steps. First, an air agency

<sup>1</sup> References to "air agencies" are meant to include state, local and tribal air agencies responsible for implementing the Exceptional Events Rule. The regulatory text in the 2007 Exceptional Events Rule often uses "State" to apply to "air agencies." In the context of flagging data and preparing and submitting demonstrations, the role of and options available to air agencies would also apply to federal land managers of Class I areas and other federal agencies managing federal land.

<sup>2</sup> Per the definition at 40 CFR 50.1(l), an exceedance with respect to a national ambient air quality standard means one occurrence of a measured or modeled concentration that exceeds the specified concentration level of such standard for the averaging period specified by the standard. Violations of a standard are standard-specific and are determined by applying the standard-specific procedures for air quality data handling identified in the appendices to 40 CFR part 50. For example, per the requirements in 40 CFR part 50, appendix N, an exceedance of the 2006 24-hour PM<sub>2.5</sub> NAAQS of 35 µg/m<sup>3</sup> occurs when the 24-hour concentration is above 35 µg/m<sup>3</sup> on a single day. A violation of the 2006 24-hour PM<sub>2.5</sub> NAAQS occurs when the 3-year average of the annual 98th percentile 24-hour concentrations is above 35 µg/m<sup>3</sup>.

<sup>3</sup> Previous guidance and policy documents that either implied or stated the need for special treatment of data affected by an exceptional event include:

i) *Guideline for the Interpretation of Air Quality Standards*, U.S. EPA, OAQPS No. 1.2-008, Revised February 1977. Available at <http://nepis.epa.gov/Exe/ZyNET.exe/2000YFDB.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1976+Thru+1980&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C76thru80%5CTxt%5C00000007%5C2000YFDB.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

ii) *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events* (the Exceptional Events Policy), U.S. EPA, OAQPS, EPA-450/4-86-007, July 1986.

iii) *Areas Affected by PM-10 Natural Events* (the PM<sub>10</sub> Natural Events Policy), memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation, to EPA Regional Offices, May 30, 1996. Available at <http://www.epa.gov/ttn/caaa/t1/memoranda/nepol.pdf>.

iv) *Interim Air Quality Policy on Wildland and Prescribed Fires*. U.S. EPA. April 23, 1998. Available at <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf>.

v) *Guideline on Data Handling Conventions for the PM NAAQS*. U.S. EPA, OAQPS, EPA-454/R-98-017, December 1998.

identifies a potential event-related exceedance or violation. After noting these data in AQS, the air agency prepares a draft demonstration package to support the exclusion of the identified event-related data and provides an opportunity for public comment. The air agency submits the draft demonstration and any received public comments to its EPA Regional office, which then reviews the submittal and concurs, nonconcurs or defers a decision related to the air agency's request to exclude data that have been affected by exceptional events. If the EPA agrees with the air agency's request, the data are excluded. If the EPA does not agree with the air agency claim, or if the EPA decides to defer a decision on the submittal, the data are used in regulatory determinations.

The 2007 Exceptional Events Rule was challenged in 2008. In *NRDC v. EPA*, 559 F.3d 561 (D.C. Cir. 2009), the Natural Resources Defense Council (NRDC) brought a petition for review challenging the EPA's definition of a natural event and seeking to vacate several statements in the preamble to the final 2007 Exceptional Events Rule concerning the types of events that could qualify as being eligible for exclusion under the rule provisions. In particular, NRDC objected to treating "events in which human activities play 'little' causal role" as natural events. Regarding the definition of a natural event, the D.C. Circuit Court determined that NRDC did not identify its objection during the rulemaking process and, therefore, did not have standing under CAA section 307 to challenge the definition.

NRDC also challenged the preamble language addressing high wind events. In its decision, the D.C. Circuit stated,

In one section of the preamble, EPA refers to its "final rule concerning high wind events," which "states that ambient particulate concentrations due to dust being raised by unusually high winds will be treated as due to uncontrollable natural events" when certain conditions apply. . . . There is no such final rule. The final rule does not mention high wind events or anything about "ambient particulate matter concentrations." EPA calls this a drafting error. In light of the error, the high wind events section of the preamble is a legal nullity.

The EPA believes it is clear that the "high wind events section of the preamble" to which the court referred is the entire section titled, "*B. High Wind Events*" beginning at 72 FR 13576. Accordingly, since 2007, the EPA has not relied solely on this section of the preamble when implementing the 2007 Exceptional Events Rule. The EPA

maintains that certain of the preamble passages determined to be "legally null" are in fact appropriate interpretations of the Exceptional Events Rule and are consistent with the CAA. For clarity and regulatory certainty, the EPA is proposing in rule text form some of the interpretative positions originally stated in the High Wind Events section of the preamble to the 2007 Exceptional Events Rule.

Within each topical area of this notice, the EPA has provided more detailed background information on specific aspects of the 2007 Exceptional Events Rule and its implementation to allow readers to consider the proposed changes in the context of the current situation.

### C. Early Experience in Implementing the 2007 Exceptional Events Rule

Interpreting and implementing the 2007 Exceptional Events Rule has been a challenging process both for the air agencies developing exceptional events demonstrations and for the EPA Regional offices reviewing and acting on these demonstrations. Shortly after the EPA promulgated the rule in 2007, air agencies asked the EPA to clarify key rule provisions and expectations for these demonstrations. Air agencies also asked for demonstration templates and/or examples of acceptable demonstrations for various event and pollutant combinations. Although the EPA provided some of this information via the exceptional events Web site at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>, air agencies noted that, in their view, the information provided was insufficient and sought additional guidance to facilitate consistency among the EPA Regional offices in interpreting and implementing the 2007 Exceptional Events Rule. In the years since rule promulgation, air agencies continued to express concern, through various mechanisms including formal letters, informal emails, interaction at various meetings and Congressional testimony, about the consistent application of the 2007 Exceptional Events Rule and the resources expended to prepare exceptional events demonstrations.

The EPA has also faced challenges in reviewing submitted demonstrations. Because exceptional events are fact-specific and thus unique and varied, providing templates or general guidance was, and still is, challenging. The EPA also acknowledges that the final rule and preamble language for the 2007 Exceptional Events Rule provided room for interpretation, making it difficult for air agencies and the EPA to determine



how much evidence or technical analysis for demonstrations is needed. We do, however, think that providing additional recommendations on appropriate documentation would be helpful. Throughout this proposal, for example in section V.E, Technical Criteria for the Exclusion of Data Affected by Events, and in section V.F, Treatment of Certain Events Under the Exceptional Events Rule, we provide recommendations for language and analyses to include in demonstration packages. Additional detail regarding specific recommendations is available in the EPA's guidance documents and on the EPA's exceptional events Web site, which the EPA will update to incorporate the finalized rule changes concurrently with or shortly after promulgating the final rule. The EPA will also continue to maintain and update the exceptional events submissions table on its Web site with examples of approved submissions. These examples may help air agencies develop demonstration packages; however, they may not contain the minimum level of data or case-specific analyses necessary for all exceptional events demonstrations of the same event type. In addition, commenters on this notice may wish to provide suggestions on the appropriate documentation for specific types of exceptional events demonstrations.

#### *D. The EPA's Interim Exceptional Events Implementation Guidance*

As a result of stakeholder-identified concerns and the EPA's own experience related to implementing the 2007 Exceptional Events Rule, in 2010 the EPA began developing additional implementation guidance. In May of 2011, the EPA released the Draft Exceptional Events Implementation Guidance: *The Draft Guidance to Implement Requirements for the Treatment of Air Quality Monitoring Data Influenced by Exceptional Events*, the *Draft Exceptional Events Rule Frequently Asked Questions* document and the *Draft Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule*. The EPA provided these draft guidance documents to interested air agencies, FLMs, other federal agencies and other parties upon request, for preliminary review to solicit comment and help ensure that the EPA's final guidance provided an efficient and effective process to make determinations regarding air quality data affected by exceptional events. The EPA also placed additional examples of

approved demonstrations on the EPA's Web site.

The EPA incorporated the commenters' feedback, as appropriate, into revised draft guidance documents, which were made available for broad public review in a July 6, 2012, **Federal Register** Notice of Availability (77 FR 39959) and in the associated docket (Docket ID No. EPA-HQ-OAR-2011-0887).<sup>4</sup> This docket includes a summary of the comment and response process from the 2011 preliminary review of the draft guidance documents. In addition to identifying specific comments on the draft guidance documents, this summary clearly identifies that implementation challenges originated shortly after the EPA promulgated the 2007 Exceptional Events Rule.<sup>5</sup> In May 2013, after a round of review and comment by the general public, the EPA finalized the Interim Exceptional Events Implementation Guidance and made these documents publicly available on the exceptional events Web site at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>.<sup>6</sup>

With the release of the Interim Exceptional Events Implementation Guidance, the EPA simultaneously acknowledged the need to consider additional changes that could only be accomplished through a notice-and-comment rulemaking to revise the 2007 Exceptional Events Rule. To inform the development of proposed rule revisions, the EPA hosted exceptional events listening sessions in August and November of 2013 for interested air agencies, FLMs, other federal agencies, regional planning organizations, non-governmental organizations and other members of the public. The EPA has considered feedback from these listening sessions and the previous public comments on the Interim Exceptional Events Implementation Guidance in the development of these

proposed revisions to the 2007 Exceptional Events Rule.

#### *E. More Recent Implementation Experience Including EPA-Recommended Best Practices for the Development of Exceptional Events Demonstrations*

Because of the passage of time since the 2013 exceptional events listening sessions, the EPA's Office of Air Quality Planning and Standards (OAQPS) held conference calls with some air agencies and the EPA Regional offices between September 2014 and March 2015 to ask whether any new implementation concerns had arisen and to better understand currently employed exceptional events implementation processes and practices.

As a result of these discussions, the EPA developed a list of best practices for communication and collaboration between the EPA and air agencies. These best practices include having discussions before, during and after the development and submission of exceptional events demonstration packages. Specifically, these best practices recommend that the EPA Regional offices and their air agencies discuss, on a mutually agreed upon frequency, those demonstrations that the agencies have developed and submitted for the EPA's action. These regular discussions should focus on whether the demonstrations have regulatory significance (e.g., significance for any of the five types of regulatory actions identified in section V.C.) and, if not, whether the EPA can provide general technical or policy feedback that the air agency can include in future demonstrations. Prior to an air agency's development of future demonstrations, the air agency and the EPA should identify the relevant days and monitors of focus, the regulatory significance of these monitor days, the analyses of particular interest for a specific event and pollutant combination and the anticipated timeframe for demonstration submission and response. Discussions should continue while the air agency is developing the demonstration and after the agency submits the demonstration and while the EPA is reviewing the demonstration, to ensure both the air agency and the EPA are aware of status, direction and progress. Finally, after the EPA has acted on the demonstration, the reviewing EPA Regional office and the air agency should discuss elements of the process that should continue and those that should be improved, should understand the information in the demonstration that was useful versus the information that was extraneous and should discuss the possibility of

<sup>4</sup> The EPA established Docket ID No. EPA-HQ-OAR-2011-0887 for the July 2012 notice of availability for the Draft Exceptional Events Implementation Guidance and has incorporated this docket into the record for this action.

<sup>5</sup> *Responses to Significant First-Round Comments on the Draft Guidance Documents on the Implementation of the Exceptional Events Rule*, U.S. EPA, June 2012. Available in Docket No. EPA-HQ-OAR-2011-0887.

<sup>6</sup> The Interim Exceptional Events Implementation Guidance includes: *The Interim Guidance to Implement Requirements for the Treatment of Air Quality Monitoring Data Influenced by Exceptional Events*, the *Interim Exceptional Events Rule Frequently Asked Questions* (the Interim Q&A document), and the *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule* (the Interim High Winds Guidance document).

developing a demonstration template(s) for future events of the same type(s).

Agencies using this communications approach have developed a common understanding of expectations, terminology and interpretation of the EPA's regulations and policy, which, in turn, helps focus efforts, optimize resources and save time during the demonstration development and review process. A summary of this "best practices" approach to implementation is available at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>.

## V. Proposed Rule Revisions

### A. To whom and to what pollutants does the Exceptional Events Rule apply?

#### 1. Current Situation

Under the CAA, states are primarily responsible for the administration of air quality management programs within their borders, which includes monitoring and analyzing ambient air quality, submitting monitoring data to the EPA, which are then stored in the EPA's AQS database, and identifying measurements that may warrant special treatment under the Exceptional Events Rule. The 2007 Exceptional Events Rule applies to all state air agencies and to local air quality agencies to whom a state has delegated relevant responsibilities for air quality management, including air quality monitoring and data analysis.

Additionally, the 2007 Exceptional Events Rule applies to some tribal air quality agencies who have been granted treatment as a state for section 319 of the CAA. Section 301(d) of the CAA authorizes the EPA to recognize tribal authority, allowing eligible, federally-recognized tribal governments to implement provisions of the CAA. Pursuant to section 301(d)(2), the EPA promulgated regulations, known as the Tribal Authority Rule (TAR), on February 12, 1999 (63 FR 7254, codified at 40 CFR part 49). That rule specifies those provisions of the CAA for which it is appropriate to treat tribes in a similar manner as states. Under the TAR, tribes may choose to develop and implement their own CAA programs, but are not required to do so. The TAR also establishes procedures and criteria by which tribes may request from the EPA a determination of eligibility to implement the provisions of the CAA. In cases where a tribal air quality agency is eligible to implement CAA section 319 and has installed and operates an air quality monitoring network that produces regulatory data that is affected by emissions from exceptional events, the criteria and procedures identified in

these proposed rule revisions may be used to exclude data for purposes of regulatory decisions. Some tribes may implement only portions of the relevant air quality monitoring program and may choose not to address all of the procedures and requirements associated with excluding data that have been influenced by exceptional events (e.g., a particular tribe may operate a monitoring network for purposes of gathering and identifying data appropriate for informational or educational purposes, but may choose not to implement relevant programs for the purpose of mitigating the effects of exceptional events). Where a tribal air quality agency is not eligible to implement CAA section 319 but operates an air quality monitoring network that produces regulatory data that is affected by emissions from exceptional events, the tribal air quality agency should consult with the EPA Regional office prior to addressing the procedures and requirements associated with excluding data that have been influenced by exceptional events.<sup>7</sup> In all cases, the EPA will continue to work with tribes in implementing any promulgated rule revisions.

While air agencies are responsible for administering air quality management programs within their borders, FLMs of Class I areas, other federal agencies and/or other entities (e.g., industrial facilities pursuant to permit conditions) may also operate ambient air quality monitors that meet all requirements of 40 CFR parts 50 and 58.<sup>8</sup> The FLMs, other federal agencies and other entities operating these regulatory monitors may submit collected data to the EPA's AQS database.<sup>9</sup> These concentration measurements can be affected by exceptional events. The AQS software allows only the entity operating a monitor (and the EPA data system

manager) to apply exceptional events flags to data from that monitor. Although FLMs and other entities can apply exceptional events flags to data from monitors they operate, the Exceptional Events Rule at 40 CFR 50.14(b)(1) states that the EPA shall exclude data from use in determinations of exceedances and NAAQS violations where a state demonstrates to the EPA's satisfaction that an exceptional event caused a specific air pollution concentration in excess of one or more NAAQS. The language, "where a State demonstrates" has resulted in an interpretation that only states can initiate the exceptional events process and submit demonstrations. Some stakeholders have asked the EPA to identify the process that the state air agency should follow if the state air agency does not have AQS access rights to place exceptional events flags on event-affected data from monitoring stations located within the state but not operated by the state. The EPA addressed this issue generally in Question 23 of the Interim Q&A document by indicating that air agencies should consult with their EPA Regional office early in the development of an exceptional event demonstration package if they believe that monitors on federally-owned and managed land (e.g., national parks within the state) have been affected by an event. In these instances, the EPA has assisted in facilitating cross-agency coordination regarding the flagging of data, where needed.

The 2007 Exceptional Events Rule applies to all criteria pollutant NAAQS.<sup>10</sup> This is appropriate given the language in CAA section 319(b)(3)(B)(iv), which applies to exceedances or violations of "the national ambient air quality standards." The EPA regulations for the interpretation of ambient data with respect to the NAAQS that were in place prior to the 2007 Exceptional Events Rule and that have not been revised do not contain provisions allowing for the special handling of air quality data affected by exceptional events or do so without explicit reference to the Exceptional Events Rule as governing such exclusion. One NAAQS without a specific provision for handling event-

<sup>7</sup> As of the signature date of this action, only one tribe is eligible to implement all portions of CAA section 319 under the TAR. Several other tribes, however, operate air quality monitoring networks that produce regulatory data that could be affected by emissions from exceptional events.

<sup>8</sup> The Ambient Air Quality Surveillance provisions in 40 CFR part 58 include, among other elements, the requirements for monitoring data certification and data submittal and archive in AQS. 40 CFR 58.3 provides that these data reporting requirements specifically apply to state air pollution control agencies and any local air pollution control agency to which the state has delegated authority to operate a portion of the state's monitoring network.

<sup>9</sup> For a description of one network of monitoring sites operated by federal agencies, see the 2014 CASTNET (Clean Air Status and Trends Network) Annual Network Plan, available at [http://epa.gov/castnet/javaweb/ozone/CASTNET\\_Plan\\_2014\\_Final.pdf](http://epa.gov/castnet/javaweb/ozone/CASTNET_Plan_2014_Final.pdf), which applies to National Park Service (NPS) and Bureau of Land Management (BLM) site managers operating CASTNET monitors.

<sup>10</sup> There are NAAQS for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone, particle pollution and sulfur dioxide (SO<sub>2</sub>). This applicability includes the primary and secondary NAAQS. At present, most of the secondary NAAQS are identical to the primary NAAQS for the same pollutant, so there is no distinction in how the Exceptional Events Rule applies. To date, the EPA has not encountered an exceptional event situation with respect to a non-identical secondary NAAQS.



affected data is 40 CFR part 50, appendix K for PM with a nominal mean aerodynamic diameter less than or equal to 10 micrometers (PM<sub>10</sub>). Nevertheless, the EPA has enabled in AQS the capability to flag all criteria pollutant data, including the option for the EPA's concurrence, as the EPA maintains that the monitored concentrations of all NAAQS pollutants have the potential to be elevated by one or more event types and the Exceptional Events Rule should govern the process of data exclusion for certain types of regulatory actions (see section V.C).

## 2. Proposed Changes

As noted above, because FLMs and other federal agencies may operate regulatory monitors and submit collected data to the EPA's AQS database and emissions from exceptional events could affect these same monitors, the EPA proposes to allow FLMs and other federal agencies to prepare and submit exceptional events demonstrations and data exclusion requests directly to the EPA. The EPA believes that the CAA language at section 319(b)(3)(B)(i), which states that "the occurrence of an exceptional event must be demonstrated by reliable, accurate data that is promptly produced and provided by Federal, State, or local government agencies" provides authority for FLMs to initiate and submit such demonstration packages and data exclusion requests. Further, the EPA believes this is appropriate because, in many cases, the lands managed and/or owned by federal entities are not entirely within the jurisdictional boundary of a single state or local government. Also, as we discuss in more detail in section V.F.2, federal entities may either initiate prescribed fires or fight wildfires on lands managed and/or owned by federal entities. The EPA could determine both of types of fires to be exceptional events. The EPA expects that allowing FLMs and other federal agencies to submit exclusion requests directly will expedite the exceptional events demonstration development and submittal process. The EPA solicits comment on this proposed addition to the rule text, which appears at the end of this document. Based on comments received, the EPA may retain, modify or not include this provision in the final promulgated rule. This provision would apply only to FLMs and other federal agencies that either operate a monitor that has been affected by an event or that manage land on which an exceptional event originates. The provision would allow such FLMs and other federal agencies to provide demonstrations directly to the EPA only

after a discussion with the state in which the monitor is operated. Alternatively, this discussion might result in an agreement that the federal agency flag the data in AQS at the air agency's request and then provide a draft demonstration document to the appropriate state air agency for adoption and submission by the air agency to the EPA, as is currently allowed. Regardless of who ultimately submits the demonstration, the EPA encourages collaboration between the FLMs and other federal agencies and the appropriate state air agency during the event identification and demonstration development process. If the provision for direct submission to the EPA is included in the final action, demonstrations prepared by FLMs or other federal agencies would be required to meet all provisions in the Exceptional Events Rule, including the requirement for a public comment period on a prepared demonstration <sup>11</sup> and the requirements related to schedules and procedures for demonstration package submittal (see sections V.G.4, V.G.5 and V.G.6) that apply to state agencies that operate monitors.

## B. What is an exceptional event?

### 1. Current Situation

The existing definition of an exceptional event at 40 CFR 50.1(j) repeats the CAA definition, which provides that an exceptional event is one that affects air quality, is not reasonably controllable or preventable, is caused by human activity that is unlikely to recur at a particular location or is a natural event, and is determined by the Administrator in accordance with 40 CFR 50.14 to be an exceptional event. Also, CAA section 319(b)(3)(B)(ii) requires that a clear causal relationship must exist between the measured exceedances of a NAAQS and the exceptional event to demonstrate that the exceptional event caused a specific air pollution concentration at a particular air quality monitoring location. In addition to these defining elements, the 2007 Exceptional Events Rule at 40 CFR 50.14(c)(3)(iv) requires that the demonstration provide evidence that "the event is associated with a

measured concentration in excess of normal historical fluctuations, including background" and evidence that "there would have been no exceedance or violation but for the event."

Both the statutory and regulatory definitions of an exceptional event include the provision that the event affected air quality. Many types of events affect air quality by causing emissions or increasing otherwise occurring emissions. Stratospheric ozone intrusions, one type of event, differ from most other event types in that they transport ozone already formed in the stratosphere to a surface monitor. High temperatures, air stagnations and meteorological inversions can increase the level of air pollution formed from a given amount of emissions. However, both the statutory and regulatory definitions of an exceptional event specifically exclude stagnation of air masses, meteorological inversions and meteorological events involving high temperatures or lack of precipitation, as well as air pollution relating to source noncompliance.

While the CAA definition of an exceptional event excludes "a meteorological event involving high temperatures or lack of precipitation," high temperatures and drought conditions can contribute to exceedances and violations caused by other exceptional events such as high wind dust events. If an air agency submits evidence showing that a severe drought that resulted in arid conditions (e.g., lower than typical soil moisture content, decreased vegetation) was combined with an event, such as a high wind event, that falls within the CAA definition of an exceptional event and has affected air quality data, these data could be considered eligible for exclusion under the provisions of the Exceptional Events Rule. Under this scenario, the EPA would consider the high wind event as the critical exceptional event. The high wind event would need to meet the provisions of the Exceptional Events Rule, including assessing whether the event is a natural event or an event due to human activity unlikely to recur at a particular location. As another example, if a wildfire exacerbated by drought conditions causes ozone exceedances, then the EPA can consider the ozone exceedances for exclusion under the Exceptional Events Rule because wildfires, unlike lack of precipitation itself, are not excluded from the CAA definition of an exceptional event. However, high temperatures alone that result in elevated ozone concentrations would not be eligible for exclusion under the

<sup>11</sup> A public comment opportunity is important prior to submission to the EPA because under the Exceptional Events Rule the EPA is not required to provide a public comment opportunity prior to concurring with an air agency's request to exclude data. The EPA generally provides a public comment opportunity before we use air quality data, with or without such exclusions, in a final regulatory action. States typically provide an opportunity for public comment by posting draft demonstrations on a Web site. Federal agencies could do the same.

Exceptional Events Rule. Elevated temperatures and inversions can affect ambient air quality apart from any interactions with emissions, but such conditions alone are not exceptional events by the very clear provisions of the CAA. The EPA believes that Congress intended air agencies to compensate for the effects of high temperature and inversions on concentrations formed from anthropogenic emissions through the development of SIPs.

To summarize, the 2007 Exceptional Events Rule specifies six elements that air agencies must address when requesting that the EPA exclude event-related concentrations from regulatory determinations:

- The event affected air quality.
- The event was not reasonably controllable or preventable.
- The event was a human activity that is unlikely to recur at a particular location, or was a natural event.
- There exists a clear causal relationship between the specific event and the monitored exceedance.
- The event is associated with a measured concentration in excess of normal historical fluctuations including background.
- There would have been no exceedance or violation but for the event.

Section 50.14(b)(3) clearly makes the first three of these elements preconditions for the EPA to approve an air agency's request to exclude data. However, the last three of these elements are listed only in § 50.14(c)(iv), which provides that the state "shall provide evidence" that they are true. Since promulgation of the 2007 Exceptional Events Rule, the EPA has treated all six elements as conditions that air agencies must address in a demonstration prior to the EPA's concurring with an air agency's request to exclude data. In the Interim Exceptional Events Implementation Guidance, the EPA stated that for the fifth of these elements (*e.g.*, the "historical fluctuations" element), there is no bright line that defines when a concentration is "in excess of historical fluctuations." With respect to the sixth element, referred to as the "but for" criterion, although the EPA has, in some cases, expected demonstrations to contain a quantitative estimate of the concentration increment caused by the event, more frequently the EPA has considered the "but for" criterion to be satisfied by a more qualitative showing that the measured concentration was much greater than the non-exceedance concentration that would have normally been expected on the day in question.

In addition to considering whether or not an event is "exceptional" under the Exceptional Events Rule, an air agency and the EPA must also decide whether an "event" has occurred. An event, or anomaly, is a deviation from normal or expected conditions that contributes to air pollution. In some cases, air agencies or other observers can clearly see this "deviation," for example unusually high wind speeds transporting dust, fires generating PM or ozone precursors or volcanoes venting plumes of SO<sub>2</sub>, PM and PM precursors.<sup>12</sup> In other cases, such as with stratospheric ozone intrusions, the physical effects of the event may not be visible and the occurrence of an event can only be inferred from seeing the effect on monitored air quality of emissions associated with the event. As described in section V.E.3, comparing the ambient pollutant concentrations in question to the historical distribution of concentrations of the same pollutant can help an air agency determine whether a deviation from normal concentrations occurred. However, such comparisons must consider that multiple factors often contribute to high pollutant concentrations. Some events, such as stratospheric ozone intrusions and high wind dust events, may last only a few hours at any one location. Still other events, such as volcanic activity, may occur and affect pollutant concentrations for a sustained period of time (*e.g.*, multiple days). Some events may create pollutant-increasing conditions that persist after the original event process has ceased, for example high winds or volcanic eruptions that leave deposits of dust on roadways.

## 2. Proposed Changes

The EPA is proposing the following generally applicable changes to the 2007 Exceptional Events Rule with respect to clarifying what constitutes an exceptional event:

- Revising the definition of exceptional event by including the concept of considering the combined effects of an event and the resulting emissions.
- Removing the "but for" element.
- Moving the "clear causal relationship" element into the list of criteria that explicitly must be met for data to be excluded.

<sup>12</sup> The EPA considers on-going emissions from volcanic activity to be "events" even if they occur every day over a long period. The EPA considers this approach to be consistent with Congressional intent, but that extending the same treatment to air pollution due to every day biological processes or lightning would not be consistent with that intent.

- Subsuming the "affects air quality" element into the "clear causal relationship" element.

- Removing the term "historical fluctuations" and replacing it with text referring to a comparison to historical concentrations, identifying the types of analyses that are necessary in a demonstration to address the comparison of the event-affected concentration to historical concentrations and clarifying that an air agency does not need to prove a specific "in excess of" fact.

Making these changes would result in returning to the following three core statutory elements of CAA section 319(b) that air agencies must meet when requesting that the EPA exclude event-related concentrations from regulatory determinations:

- The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation.
- The event was not reasonably controllable or preventable.
- The event was a human activity that is unlikely to recur at a particular location or was a natural event.

The implicit intent of CAA section 319(b) is that when the above conditions are met, the data should be excluded from regulatory decisions so as not to drive SIPs to include unreasonable or additional measures to address the effects of certain events.

### a. Definition of an Event

While an event may have a physical component that is purely natural in origin, for example high wind speeds, human activity either prior to or simultaneous with the event may influence air quality during the event. In implementing the 2007 Exceptional Events Rule, the EPA's approach in determining whether an exceptional event that affected a monitored concentration was natural or due to human activity (an important distinction, as discussed in section V.D) has been to consider both whether the initiating physical event was natural or the result of human activity and whether human activity had any role in strengthening the emissions generation process. In contrast, some parties have argued that only the naturalness of the initiating physical event should be considered. To clarify that an event is not a "natural event" merely because natural processes initiated the emissions generation process, the EPA proposes to revise the regulatory definition of exceptional event to say that both the naturally occurring physical event and its associated resulting emissions are to

be considered when applying the definitions and criteria for exclusion provided in the Exceptional Events Rule. For example, an exceptional event might consist of a high wind and the subsequently entrained PM that is transported to a monitoring site or a wildfire that generates ozone or ozone precursors, which are transported to a monitoring site. The EPA would not consider the physical event (e.g., in the previous example, the high wind or the wildfire) to be an exceptional event unless the resulting emissions (e.g., the PM or ozone) reached and elevated the concentration at a monitoring location or locations.

#### b. “But For” Element

The EPA proposes to rely more directly upon the statutory requirement at CAA section 319(b)(3)(B)(ii) by removing the regulatory requirement at 40 CFR 50.14(c)(3)(iv)(D) that “there would have been no exceedance or violation but for the event” (i.e., the “but for” criterion). In promulgating the 2007 Exceptional Events Rule, the EPA derived the “but for” criterion from the language at section 319(b)(3)(B)(ii), which requires “a clear causal relationship. . . between the measured exceedances. . . and the exceptional event to demonstrate that the exceptional event caused a specific air pollution concentration at a particular air quality monitoring location.”<sup>13</sup> The EPA combined this language with the requirement that there be “criteria and procedures for the Governor of a State to petition the Administrator to exclude . . . data that is *directly due* to the exceptional events.”<sup>14</sup> Under the EPA’s interpretation of CAA section 319(b) at the time, these words suggested that a “but for” causation standard for exceptional events was appropriate.

Air agencies have expressed concern that the EPA has, in many cases, historically interpreted the “but for” criterion as implying the need for a strict quantitative analysis to show a single value, or at least an explicitly bounded plausible range,<sup>15</sup> of the estimated air quality impact from the event. While a single event can in some cases clearly be shown to be a “but for”

cause of a NAAQS exceedance or violation in the sense that without the event, the exceedance or violation would not have occurred, it is more often the case that the impact of emissions from events and other sources cannot be separately quantified and distinguished, and the “but for” role of a single source or event is difficult to determine with certainty. Even when the effects of events are quantifiable with a sufficient degree of confidence, air agencies have reported expending significant resources to quantify them. The EPA was aware of these concerns in 2007 as a result of public comment on the proposed rule and attempted to alleviate them by stating in the preamble to the 2007 Exceptional Events Rule that an air agency’s “but for” analysis does not necessarily need to be precise and that the EPA would use a holistic “weight of evidence” approach in analyzing submitted demonstration packages.<sup>16</sup> Without clear examples of what the EPA would accept as satisfying a weight of evidence approach, some air agencies began using burdensome approaches to provide quantitative “but for” analyses in their exceptional events demonstrations. The reviewing EPA Regional offices use similarly resource-intensive approaches to validate these quantitative analyses as they review demonstrations. In some cases, the detailed quantitative approaches have not produced results any better than what could have been achieved with less burdensome measures. Therefore, the EPA is proposing to remove the “but for” regulatory language and focus on the “clear causal relationship” statutory criterion applied to the specific case, using a weight of evidence approach.<sup>17</sup>

In so doing, we propose that in their submittals, air agencies demonstrate by the weight of evidence in the record that the event caused the specific air pollution concentration at issue.<sup>18</sup> Depending on the event characteristics and the case-by-case nature of the evaluation, an air agency may or may not need to provide quantitative analyses or estimates to support the

weight of evidence approach. The EPA will discuss with an air agency the appropriate approach for a given event demonstration during conversations preceding the submittal of a demonstration. For example, when a concentration during an event is higher than any concentration previously observed in the same area and time of year, the air agency will generally not need to quantify the event impact to reach the conclusion that the event “caused” the concentration at issue. However, in cases where the concentrations on non-event days during the same season come close to or exceed the applicable NAAQS, thus providing evidence that non-event pollution sources may produce exceedances of the NAAQS, the EPA would expect an air agency’s clear causal relationship showing to include a quantitative estimate (or range of estimates) of the specific event’s impact on air pollution concentrations, even if uncertain, as a part of a weight of evidence showing alongside other qualitative evidence. Section V.E.3 of this proposal clarifies the EPA’s expectations regarding analyses associated with the “clear causal” criterion.

#### c. Clear Causal Relationship Element

The EPA is proposing to modify the regulatory language in section 50.14(c)(iv) to more clearly indicate, consistent with the CAA directive, the requirement to “demonstrate” versus to merely “provide evidence” that a clear causal relationship must exist between the specific event and the monitored exceedance. The EPA will evaluate this criterion on a weight of evidence basis.

#### d. Affects Air Quality Element

As explained above, the EPA has treated the “affects air quality” element as a distinct criterion that air agencies must meet for data to be excluded, and has expected exceptional events demonstrations to conclude that the “affects air quality” condition has been satisfied. However, after carefully considering Congress’ intent and air agencies’ and the EPA’s experience in implementing the 2007 Exceptional Events Rule, we propose to integrate the phrase “affected air quality” into the clear causal relationship criterion. We believe that separately requiring an air agency to provide evidence to support a conclusion that an event “affects air quality” is unnecessary if we finalize this proposal to require a mandatory clear causal relationship showing. If an air agency demonstrates that an event has a clear causal relationship to an exceedance or violation of a NAAQS,

<sup>13</sup> The EPA believes that the terminology “specific air pollution concentration” refers to the identified exceedance or violation rather than a specific increment in the measured concentration, which implies quantitative source attribution and a supporting quantitative analysis.

<sup>14</sup> CAA section 319(b)(3)(B)(iv) (emphasis added).

<sup>15</sup> The EPA stated in the preamble to the 2007 Exceptional Events Rule that a “weight of evidence demonstration can present a range of possible concentrations, which is not as technically demanding as justifying a specific adjustment to a measured value.” 72 FR 13570 (March 22, 2007).

<sup>16</sup> 72 FR 13570 (March 22, 2007).

<sup>17</sup> The term “weight of evidence” means that the EPA will consider all relevant evidence and qualitatively “weigh” this evidence based on its relevance to the Exceptional Events Rule criterion being addressed, the degree of certainty, its persuasiveness, and other considerations appropriate to the individual pollutant and the nature and type of event.

<sup>18</sup> This approach is consistent with language in the preamble to the 2007 Exceptional Events Rule that states, “The final rule permits a case-by-case evaluation, without prescribed threshold criteria, to demonstrate that an event affected air quality.” 72 FR 13569 (March 22, 2007).

then the event has certainly affected air quality. This proposed approach will reduce the time required to prepare demonstrations, reduce their length, result in more understandable demonstrations for the public during the notice-and-comment process, and simplify and expedite the EPA's review process.

#### e. Historical Fluctuations Element

As we indicated in the Interim Exceptional Events Implementation Guidance, we believe that a comparison of the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times is extremely useful evidence in an exceptional events demonstration. The EPA considers these comparisons as part of the evidence available for determining whether an air agency has satisfied the statutory and regulatory "clear causal relationship" criterion. Because preparing this type of comparison is within the ability and resources of every air agency, the EPA proposes to continue to require this type of comparison in every demonstration. However, the EPA is proposing to reword the requirement to prevent misinterpretation that this comparison must show that the concentration in question was "in excess of normal historical fluctuations, including background." This phrase is not clear and has caused confusion and regulatory uncertainty. For example, "fluctuations in concentrations" can convey either day-to-day or hour-to-hour differences in monitored concentrations. These concentration differentials cannot usefully be compared to an absolute concentration (*i.e.*, monitored concentration at a given point in time) because many absolute concentrations will be larger than the differences between concentrations. The phrase "in excess" might be interpreted to mean that the concentration at issue must be higher than all historical concentrations, but the EPA maintains that Congress did not intend this, nor would such an interpretation be reasonable. Concentrations that are exceedances of a standard but are not higher than all concentrations recorded at a particular monitor may be causally connected to an event of the type that Congress clearly identified for treatment as an exceptional event. Finally, the language "including background" is confusing. In many cases, the monitor or monitors intended to represent "background" concentrations are separated from the event-influenced monitoring site by some distance such that the event-influenced monitor and the "background" monitor reflect a

different mixture of emissions sources, which could lead to misinterpretation. Regardless, the EPA sees no clear reason why such "background" concentrations are relevant for analyses associated with provisions in the Exceptional Events Rule.

The change that the EPA is proposing to the text of the 2007 Exceptional Events Rule would require demonstrations to include a comparative analysis of the concentration data alleged to have been affected by an event and data at other times, and would specify certain aspects of the analysis. The change would also make clear that there is no specific "in excess of" relationship between the event-affected data and other data that must be proven, for example that the event-affected data be above a certain percentile point in the annual distribution of data. Section V.E.3 of this proposal contains additional detail regarding the minimum set of statistical analyses that the EPA expects to see in demonstrations.

#### C. What types of ambient concentration data and data uses may be affected by the Exceptional Events Rule?

The CAA language at section 319(b)(3)(B)(iv) requires the Administrator to promulgate regulations that provide that there are criteria and procedures for the governor of a state to petition the Administrator to exclude air quality monitoring data that is directly due to exceptional events from use in *determinations by the Administrator with respect to exceedances or violations of the national ambient air quality standards*. The implementing language in the 2007 Exceptional Events Rule states at 40 CFR 50.14(a)(1) that air agencies may request that the EPA exclude data showing exceedances or violations of the NAAQS that are directly due to an exceptional event from use in determinations without naming those determinations in that paragraph. The rule at 40 CFR 50.14(b)(1) states that the EPA shall exclude data from use in determinations of exceedances and NAAQS violations where an air agency demonstrates to the EPA's satisfaction that an exceptional event caused a specific air pollution concentration in excess of one or more NAAQS. Thus, both the statutory language and the 2007 Exceptional Events Rule use the phrase "in determinations of exceedances and NAAQS violations" with no further explanation.

In this section, we consider the specific types of determinations by the Administrator that should be governed by CAA section 319(b). This issue was

not specifically addressed in the rulemaking that promulgated the 2007 Exceptional Events Rule and consequently has caused some confusion and regulatory uncertainty.

#### 1. Current Situation

The EPA believes that Congress clearly intended the CAA language in section 319(b) to apply to exclusions of ambient data from determinations of whether a NAAQS exceedance or violation occurred at an ambient monitoring site at a particular time in the past. We characterize these exceedances or violations as occurring in the "past" because the process of determining whether an actual exceedance or violation occurred involves reviewing the ambient air monitoring data collected at monitoring sites over some historical timeframe. For example, on December 14, 2012, the EPA promulgated a revised primary annual PM<sub>2.5</sub> NAAQS of 12.0 µg/m<sup>3</sup>, which is attained when the 3-year average of the annual arithmetic means does not exceed 12.0 µg/m<sup>3</sup>.<sup>19</sup> The EPA Administrator made initial area designation decisions for the revised NAAQS in December 2014 based on air quality monitoring data for the most recent period 3-year period, which was 2011 through 2013.<sup>20</sup> Historical, or "past," data were reviewed and assessed to determine whether an exceedance or violation had occurred that would influence a current or future regulatory determination. Determinations of "past" exceedances or violations are key to the EPA's actions to designate or redesignate an area, to initially classify an area for a NAAQS (where classifications apply), to determine if a nonattainment area has attained the NAAQS for which it has previously been designated nonattainment, to determine whether a nonattainment area is eligible for an attainment date extension (where applicable) and, in some cases, to find that a SIP is inadequate and to issue a SIP call. No affected stakeholders with whom the EPA has interacted since 2007 have disputed this interpretation or approach.

It is not as clear whether CAA section 319(b) also means that data should be excluded from determinations of whether a NAAQS exceedance or violation will or is likely to occur in the future. Predictions of future NAAQS violation(s) generally involve reviewing the historical ambient concentration data that are the evident focus of CAA section 319(b), estimating expected

<sup>19</sup> 78 FR 3086 (January 15, 2013).

<sup>20</sup> 80 FR 2206 (January 15, 2015).

future emissions, and then using both of these data sets as inputs to an air quality modeling tool or other analytical approach that extrapolates these data to predict a future outcome. While science supports and the EPA relies on predictions of future NAAQS violations in several parts of the clean air program, such as in the EPA's approval of attainment demonstrations in SIPs, in prevention of significant deterioration (PSD) air permitting programs and in actions to reclassify a moderate PM<sub>10</sub> or PM<sub>2.5</sub> nonattainment area to serious,<sup>21</sup> the fact that these predicted future values rely only in part on historical monitoring data implies that a different standard for data exclusion may be appropriate.

Another interpretation question is whether and under what conditions event-affected data should be excluded from determinations that are based wholly or in part on monitoring data but formally are not determinations of exceedances or violations of the NAAQS. For example, under 40 CFR part 51, subpart H, Prevention of Air Pollution Emergency Episodes, the required content of a state's emergency plan depends on whether the state has experienced air pollution that exceeds a specified threshold level that is well above any NAAQS. Also, under the EPA's guidance, the eligibility of an area for a simplified maintenance plan for PM<sub>10</sub> depends on the difference between the better-than-the-NAAQS air quality in an area and the NAAQS.

To date, the EPA has not issued guidance that explicitly and comprehensively identifies the types of data exclusion that are authorized and required by CAA section 319(b) or that may be otherwise appropriate and permissible. In the 2013 Interim Q&A document, the EPA provided only limited clarification regarding the meaning of "exclude data."<sup>22</sup> Question 14a of the Interim Q&A document notes that when the EPA concurs based on the weight of evidence that an air agency has successfully made the demonstrations referred to in 40 CFR 50.14(a)(2) and (b)(1), then the EPA generally excludes the affected data from the following types of calculations and activities:

- The EPA's AQS does not count these days as exceedances when generating user reports, and does not

include them in design values estimates,<sup>23</sup> unless the AQS user specifically indicates that they should be included, which may be appropriate for non-regulatory applications of interest to the user.<sup>24</sup>

- The EPA accepts the exclusion of these data for the purposes of selecting appropriate background concentrations for PSD air quality analyses<sup>25</sup> and for transportation conformity hot spot analyses.<sup>26</sup>

- The EPA accepts the exclusion of these data for the purposes of selecting appropriate ambient data for projecting future year concentrations as part of a modeled attainment demonstration.

- The data continue to be publicly available, but the EPA's publications and public information statements on the status of air quality in the affected area generally do not reflect these data in any summary statistic of potential regulatory application, unless such inclusion is specifically noted.<sup>27</sup>

Thus, the EPA has maintained that once data are excluded under the Exceptional Events Rule, these same data should be excluded from the above-identified calculations and activities. The EPA has not clearly addressed whether approval for exclusion under the Exceptional Events Rule means that the data may or must be excluded for the purpose of other types of actions that use monitoring data but are not included in the list above. The EPA has also not clearly addressed whether data

that have *not* been approved for exclusion under the Exceptional Events Rule can nevertheless under some other principle or interpretation be excluded from any of the various types of calculations and activities.

The current situation is further complicated by the fact that the conditions for data exclusion in CAA section 319(b) and the Exceptional Events Rule, while logical when applied to determinations of NAAQS exceedances or violations occurring in the past, may not be logical when applied to predictions of future exceedances or violations. The EPA recognizes, and acknowledged in Question 13 of the Interim Q&A document, that an event may have made a past air concentration significantly higher than it would have been in the absence of the event contribution, and thus elevated an exceedance for a NAAQS pollutant to an even greater degree of exceedance. This same event-influenced concentration may not be eligible for exclusion under the 2007 Exceptional Events Rule because the "but for" criterion is not satisfied because either (1) there would have been a 3-year violation with or without the event or (2) there would not have been a violation either with or without the event. The 2007 Exceptional Events Rule does not explicitly authorize the exclusion of data associated with such an event because the event fails to meet the clear causal relationship criterion and "but for" criterion. Retaining the event-influenced data could, however, have regulatory implications that seem contrary to the purpose of CAA section 319(b). For example, retaining such data in the calculation of the historical design value for a nonattainment area can make it seem that the area needs more emissions reduction to attain the NAAQS than is actually the case, and could lead to the EPA's disapproval of an attainment demonstration that is in fact adequate, and thus require the state to adopt additional emission controls.<sup>28</sup>

As another example, events can make past air concentrations higher without causing an actual NAAQS exceedance or violation. However, retaining such data in the calculation of background concentrations used in air quality analysis for a PSD permit may suggest that there will be a NAAQS violation after construction of a new source and

<sup>23</sup> The EPA uses design values in many regulatory decisions, including, but not limited to, when designating areas as attainment, nonattainment or unclassifiable for a NAAQS and when determining whether a nonattainment area has attained or is still violating a NAAQS. A design value is a statistic that describes the air quality status of a given location relative to the level of a particular NAAQS. Design values are computed according to the procedures defined in 40 CFR part 50 and published annually by EPA's Office of Air Quality Planning and Standards. Design values are available at <http://www.epa.gov/airtrends/values.html>.

<sup>24</sup> In some cases where the EPA has revised a NAAQS by strengthening it, the default AQS query will exclude data for the more recent, revised NAAQS, but may include concurred data for the historical NAAQS.

<sup>25</sup> If the EPA is the permitting authority, the EPA will propose permits on this basis. If the EPA is commenting on another permitting authority's proposed action, the EPA's comments will be consistent with the determinations in this guidance document and any applicable New Source Review (NSR) permitting and/or modeling guidance.

<sup>26</sup> Transportation conformity hot spot analysis is applicable only to PM<sub>10</sub> and PM<sub>2.5</sub>. "Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas," EPA-420-B-10-040, U.S. EPA Office of Transportation and Air Quality, December 2010, page 98.

<sup>27</sup> These data may be included in statistics intended to describe current status and trends in actual air quality in the area for public information purposes including reporting of the Air Quality Index.

<sup>28</sup> The attainment demonstration would be adequate in the sense that if a similar event does not occur during the period on which actual attainment will be based, there would be no monitored NAAQS violation, and if a similar event were to occur during that period the event-affected data could be excluded and thus there would be no "official" violation.

<sup>21</sup> Projection of future NAAQS exceedances or violations do not necessarily play a role in reclassification of an ozone nonattainment area to a higher classification level.

<sup>22</sup> *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eeer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eeer_qa_doc_5-10-13_r3.pdf).

thus could prevent the permitting authority from issuing the permit.<sup>29</sup>

## 2. Proposed Changes

To remove the ambiguities described in the preceding section and to provide greater regulatory certainty, the EPA proposes in regulatory language to interpret the CAA section 319(b) phrase “determinations by the Administrator with respect to exceedances or violations of national ambient air quality standards” to encompass determinations of current<sup>30</sup> or historical NAAQS exceedances/violations or non-exceedances/non-violations and determinations of the air quality “design value” at particular receptor sites when made as part of the basis for any of the following five types of regulatory actions:

- An action to designate or redesignate an area as attainment, unclassifiable/attainment, nonattainment or unclassifiable for a particular NAAQS. Such designations rely on a violation at a monitoring site in or near the area being designated.
- The assignment or re-assignment of a classification category (marginal, moderate, serious, etc.) to a nonattainment area to the extent this is based on a comparison of its “design value” to the established framework for such classifications.
- A determination regarding whether a nonattainment area has actually attained a NAAQS by its CAA deadline.
- A determination that an area has had only one exceedance in the year prior to its deadline and thus qualifies for a 1-year attainment date extension, if applicable.
- A finding of SIP inadequacy leading to a SIP call to the extent the finding hinges on a determination that the area is violating a NAAQS.

For these types of actions, the EPA proposes to interpret the CAA to require that data be excluded only if the requirements of section 319(b) and the Exceptional Events Rule are satisfied. In addition, we propose that when one of these determinations is based on a combination of monitoring data and air quality modeling, the criterion requiring that there be a clear causal relationship between the event and a NAAQS exceedance or violation will apply to the combined estimate of air pollution levels rather than directly to the

monitored background air quality data. That is, the event would not be required to have caused an actual exceedance or violation at the background ambient monitoring site, but rather to have made the critical difference in the combined estimate of air pollution levels (background plus source impact) resulting in a NAAQS exceedance or violation, because the event increased the background levels that are added to the air quality modeling output.

When the EPA designates or redesignates areas as attainment or nonattainment for the NAAQS; initially classifies ozone nonattainment areas as marginal, moderate, serious, severe or extreme; grants a request for a 1-year NAAQS attainment date extension where applicable; or determines whether areas designated nonattainment for the NAAQS have attained the respective NAAQS by the applicable attainment date, it does so based on monitoring data (where available) or modeling of actual air quality, or a combination thereof, as the evidence of the occurrence or non-occurrence of a NAAQS exceedance or violation and, in the case of classification actions, the degree of violation.<sup>31</sup> In the case of reclassifying an ozone nonattainment area to a higher classification, the new classification is based on the design value either at the time of the determination of attainment by the attainment deadline under CAA section 181(b)(2), or at the time of the EPA’s grant of a voluntary request for reclassification from a state under CAA section 181(b)(3).<sup>32</sup> This proposal, if finalized, would in effect apply the exceptional events process in the same way across these related types of determinations and across the NAAQS, which we believe is an appropriate interpretation of the CAA 319(b) phrase “determinations by the Administrator with respect to exceedances or violations of national ambient air quality standards.” For these types of determinations, the EPA proposes to exclude event-affected data only if an air agency satisfies the procedural (*e.g.*, event identification, opportunity for public comment, demonstration submission) and substantive (*i.e.*, clear causal relationship, not reasonably controllable or preventable, and human

activity not likely to recur or natural event) requirements of the exceptional events process. As indicated previously, the EPA has maintained to this point that once data are excluded under the Exceptional Events Rule, these same data also should be excluded from (i) design value estimates and AQS user reports (unless the AQS user specifically indicates that they should be included), (ii) selecting appropriate background concentrations for PSD air quality analyses and transportation conformity hot spot analyses, and (iii) selecting appropriate ambient data for projecting future year concentrations as part of a modeled attainment demonstration. As described below, we intend that EPA approval for exclusion of data under the Exceptional Events Rule continue to mean that the same data may be excluded for the three applications listed in the previous sentence, but that there should be other pathways for exclusion for the second and third of these applications (and others) as well.

This action proposes to require that data exclusion associated with the five actions in the above bulleted list (*i.e.*, initial area designations, classifications, attainment determinations, determinations regarding requests for attainment date extensions and findings of SIP inadequacy leading to a SIP call) must follow the provisions in the Exceptional Events Rule. It does not, however, mean that the EPA would never exclude or agree to exclude event-affected data from other types of regulatory determinations. For example, while the EPA would exclude concurred-upon event-affected data from the five types of regulatory actions discussed in V.C.1, the EPA would *not* exclude these same data when setting priority classifications for emergency plans under 40 CFR 51.150 as the EPA believes that implementing the CAA principle at section 319(b)(3)(A) that “protection of public health is the highest priority” may necessitate that an air agency address in its emergency plan the appropriate planned response for any elevated concentration known to be possible because it has already been observed, although the appropriate type of response may depend on the cause(s) of the elevated concentration. The concept that the EPA does not consider CAA section 319(b) and the revised Exceptional Events Rule to be the necessary or sole governing authorities for *all* data exclusions will be discussed further in upcoming, new draft guidance on excluding (or in some cases not excluding) data, independent of the Exceptional Events Rule, from several

<sup>29</sup> If a similar event were to occur after completion of construction, the event-affected data could be excluded and thus there would be no “official” violation.

<sup>30</sup> The term “current” denotes the determination at issue in the current analysis. In actual practice, such determinations are based on historical data and thus reflect a past actual condition.

<sup>31</sup> The EPA’s initial area designations process also makes use of other information relevant to the CAA criteria for designations, such as pollution contributions between nearby areas.

<sup>32</sup> Reclassification of PM<sub>10</sub> and PM<sub>2.5</sub> nonattainment areas, by contrast, do not exclusively rely on area design values (and thus, past monitored violations) but can also result from the Administrator’s determination that an area cannot practically attain a standard by the attainment date. See CAA section 188(b)(1).



types of determinations and regulatory actions. The EPA is currently developing a supplementary guidance document, *Draft Guidance for Excluding Some Ambient Pollutant Concentration Data from Certain Calculations and Analyses for Purposes Other than Retrospective Determinations of Attainment of the NAAQS*, which will describe the appropriate additional pathways that we intend to make available for data exclusion for some monitoring data applications (e.g., predicting future attainment that is the basis for approval of an attainment demonstration in the SIP for a nonattainment area, preparing required air quality analyses in an application for a PSD permit or preparing required air quality analysis for the purposes of transportation conformity). The EPA intends to post the draft guidance on the exceptional events Web site at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events> and expects to finalize the document when we finalize these rule revisions. We intend that this guidance will recommend exclusion of data for PSD, transportation conformity and certain other applications in any situation in which exclusion has already been approved under the Exceptional Events Rule, as well as in applications in which the facts would support exclusion under the criteria of the Exceptional Events Rule even if an EPA determination has not yet been made under the Exceptional Events Rule and in some other situations that we will describe in the guidance.

#### D. What is a natural event?

##### 1. Current Situation

The CAA definition at section 319(b)(1)(iii) specifies that an exceptional event “is an event caused by human activity that is unlikely to recur at a particular location or a natural event.” Thus, the statute limits the expected occurrence frequency of an event caused by human activity as “unlikely to recur” but does not limit the occurrence frequency of a natural event. Natural events may recur, even frequently.<sup>33</sup> Air agencies can request, and the EPA can agree, to exclude data affected by a natural event if an air agency’s demonstration meets the other requirements of the Exceptional Events Rule. Thus, considering whether an

event was a natural event or was caused by human activity is important to the content within and to the approval of a demonstration.

As previously discussed, to be considered an exceptional event, an event, whether natural or anthropogenic in origin, must affect air quality at the affected monitor. 40 CFR 50.1(k) defines a natural event as one in which human activity plays little or no direct causal role in the generation of emissions. In some cases, such as stratospheric ozone intrusions or volcanic eruptions, the EPA recognizes that human activity plays no role in the magnitude of emissions or level of air pollution that occurs. In other cases, past or current human activity does influence the magnitude of emissions and hence the level of air pollution. For example, in high wind dust events, the pollution from the event may originate from a mixture of natural lands (e.g., undisturbed soil), soil that has been disturbed by human activity and has been made more prone to wind-generated dust emissions (e.g., recent construction activity), and materials accumulated and stored by human activity (e.g., sand and gravel facilities).

The EPA generally considers human activity to have played little or no *direct* role in causing emissions if anthropogenic emission sources that contribute to the event emissions are reasonably controlled at the time of the event, regardless of the magnitude of emissions generated by these reasonably controlled anthropogenic sources and regardless of the relative contribution of these emissions and emissions arising from natural sources in which human activity has no role.<sup>34 35</sup> Thus, the event could be considered a natural event. In

<sup>34</sup> For example, if an area affected by a high wind dust event has adequate rules or ordinances for sources of windblown dust (e.g., rules that establish restrictions for operating vehicles on unpaved property, rules that control windblown dust emissions associated with lands disturbed by construction, earthwork and land development) and the air agency can provide evidence of implementation and enforcement, then the EPA would generally consider human activity to have played little or no direct causal role in causing the event-related emissions.

<sup>35</sup> The EPA considers wildfires to be natural events even though some wildfires are initiated by human actions and to some degree the frequency and scale of wildfires may be influenced by prior land management practices. The EPA believes this interpretation best implements the Congressional intent and is a more appropriate approach than expecting air agencies to determine the initial cause of each wildfire of interest and classifying it as natural or anthropogenic based on that cause. In addition, land owners and managers and government public safety agencies are strongly motivated to reduce the frequency and severity of human-caused wildfires and the EPA believes they can be presumed to make reasonable efforts to avoid them.

such cases, the EPA applies the reasonable interpretation that the anthropogenic source had “little” direct causal role. If anthropogenic emission sources that contribute to the event emissions can be reasonably controllable but reasonable controls were not implemented at the time of the event, then the event would *not* be considered a natural event. The EPA explained this concept in the preamble to the 2007 Exceptional Events Rule.<sup>36</sup> However, the rule text did not reflect the identified concept. This has resulted in some regulatory uncertainty as to whether the EPA’s interpretation of the CAA and the 2007 Exceptional Events Rule as described here is appropriate.

##### 2. Proposed Changes

Based on the discussion above, the EPA proposes to revise the definition of natural event to clarify that anthropogenic emission sources that contribute to the event emissions that are reasonably controlled do not play a “direct role” in causing emissions. Thus, an event with a mix of natural emissions and reasonably controlled human-affected emission sources may be considered a natural event. However, an event resulting from *only* reasonably controlled human affected emissions may not be considered a natural event. This proposal is consistent with statements made in the preamble to the 2007 Exceptional Events Rule, and including it in the rule text provides more regulatory certainty to all parties.

When addressing the not reasonably controllable or preventable criterion for this same event type consisting of a mix of natural emissions and human-affected emission sources (e.g., a high wind event affecting both open desert areas and urbanized lands), air agencies must assess reasonable controls for both the contributing natural and anthropogenic sources. While air agencies must “assess” reasonable controls for most types of contributing natural sources because this statutory factor applies to all events, they do not necessarily need to implement controls for these same sources. Additionally, because the rule revisions propose a categorical presumption of not reasonably controllable for wildfires and large-scale, high-energy and/or sudden high wind dust events, “assessing” these events would involve referencing the appropriate regulatory citation. As we explain in more detail in section V.E.2, for natural sources, we do not think that air agencies need to have implemented any controls for windblown dust from never-disturbed,

<sup>33</sup> See as examples, Hawaii’s exceptional events demonstration for volcanic activity affecting PM<sub>2.5</sub> concentrations in 2011–2012 and California Air Resources Board’s demonstration for wildfire events affecting PM<sub>2.5</sub> concentrations in 2008, both available at <http://www2.epa.gov/air-quality-analysis/exceptional-events-submissions-table>.

<sup>36</sup> 72 FR 13565–13566 (March 22, 2007).

large-scale natural landscapes. Therefore, lack of controls on natural sources that contribute to event-related emissions would not disqualify the event from being considered as an exceptional event. When assessing the contribution from anthropogenic sources, similar to the analyses involved in determining whether these same sources play a “direct role” in causing event-related emissions, the air agency should identify the contributing anthropogenic sources, explain why the controls specified in rules or ordinances are reasonable, and provide evidence of implementation and enforcement. Also as explained in section V.E.2, in our view an event is “not reasonably controllable” if an exceedance or violation occurs even when reasonable controls were actually in place and any further control would have been beyond what was reasonable. The EPA intends to consider these aspects when applying the concept of “reasonable controls” on anthropogenic sources to determine whether the event can be considered a natural event and to evaluate the not reasonably controllable or preventable criterion.

With respect to determining whether anthropogenic emission sources that contribute to the event emissions were reasonably controlled at the time of the event, the EPA also proposes to revise the definition of a natural event to indicate that the reasonableness of available controls should be assessed as of the date of the event. The EPA does not believe that information related to the cost and effectiveness of control measures, or related to the frequency of events, that became available to the air agency after the date of the event should affect the assessment of whether anthropogenic sources were reasonably controlled and thus the identification of an event as natural or caused by human activity.

When addressing this criterion as part of an exceptional events demonstration, the EPA recommends that the submitting air agency clearly identify whether the event is natural or was a human activity that is unlikely to recur at a particular location. If purely natural (e.g., lightning-ignited wildfire, volcanic or seismic activity, stratospheric ozone intrusion), the EPA recommends that the submitting air agency identify the purely natural status in the “human activity/natural event” section of its demonstration; provide the type/source of event, the resulting emissions, and the documented frequency of the event; and affirmatively state that in characterizing the event, the submitting air agency has satisfied the human activity/natural event criterion.

#### *E. Technical Criteria for the Exclusion of Data Affected by Events*

As described in section V.B, the EPA proposes to return to the core statutory elements and implicit concepts of CAA section 319(b): That the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation, the event was not reasonably controllable or preventable, and the event was caused by human activity that is unlikely to recur at a particular location or was a natural event. All exceptional events demonstrations, regardless of event type or relevant NAAQS, must address each of these technical criteria. This section describes the EPA’s proposals for rule revisions and guidance regarding each of these technical criteria. Section V.G discusses additional process-related components of exceptional events demonstration packages.

##### 1. Human Activity Unlikely To Recur at a Particular Location or a Natural Event

The concept of recurrence applies to human activity; the statements in this section are not relevant for natural events. Section V.D includes a detailed discussion of a “natural event.”

##### a. Current Situation

According to both the regulatory and statutory definitions, an exceptional event must be “an event caused by human activity that is unlikely to recur at a particular location or a natural event” (emphasis added). For clarity, in this section, the EPA focuses on the language “unlikely to recur at a particular location.”

The “unlikely to recur at a particular location” requirement of CAA section 319(b) does not define “unlikely to recur.” Thus, this language requires interpretation on a case-by-case or event type-by-event type basis. The term “unlikely” implies consideration of the expected future frequency of events similar to the event that has already happened, but does not convey any particular benchmark for what frequency should be low enough to be considered “unlikely.” Also, the term “at a particular location” requires interpretation, as it could refer to the exact area or only to the general area of the event, to the location of the ambient monitoring station or stations that were affected by the event or to the combination of both.

The EPA’s 1986 *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events* stated that events can be considered exceptional if they are not expected to

“recur routinely at a given location.”<sup>37</sup> This document did not further define or give specific examples of “routinely.”

The preamble to the 2007 Exceptional Events Rule did not provide specific guidance on the unlikely to recur criterion, except to say that recurrence is event-specific and should be assessed on a case-by-case basis and that in the particular case of prescribed fires a comparison to the natural fire return interval is a relevant consideration for this criterion.

The CAA section 319(b) and the 2007 Exceptional Events Rule do not specifically address temporary, but multi-day or multi-year activities, such as construction projects. However, Question 16 in the Interim Q&A document noted that the 2007 Exceptional Events Rule does not explicitly place a limit on the duration of a single event and that a submitting agency could make a showing that a prolonged activity (e.g., a multi-year road construction project) is a single event that is not likely to recur at the location in question. The Interim High Winds Guidance document addressed recurrence for high wind events, as summarized in section V.F.4 of this document. Other than this, the Interim Exceptional Events Implementation Guidance did not provide any specific guidance on the unlikely to recur criterion.

##### b. Proposed Changes

While we believe that it is appropriate to consider recurrence to be event-specific and for the unlikely to recur criterion to be assessed on a case-by-case basis, we also believe that this proposed action presents an opportunity to clarify certain points. This section provides general clarifications with respect to the meaning of “unlikely to recur.” Section V.F.2 addresses this criterion for wildland fires (specifically prescribed fires on wildland) and section V.F.4 specifically addresses this criterion for high wind dust events. Also, under CAA section 319(b) and the 2007 Exceptional Events Rule, air pollution related to source noncompliance is not an exceptional event regardless of its frequency.

The EPA proposes, as guidance, to recommend the following boundaries on the interpretation of the unlikely to recur criterion. If an event type has not previously occurred within a given air

<sup>37</sup> *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events* (the Exceptional Events Policy), U.S. EPA, OAQPS, EPA-450/4-86-007, July 1986.

quality control region (AQCR)<sup>38</sup> in the 3 years preceding the submittal of an exceptional events demonstration, the EPA will consider this to be a “first” event and will generally consider it to be unlikely to recur in the same location. Similarly, a “second” event within the 3 years preceding the submittal of an exceptional events demonstration would also generally be considered unlikely to recur in the same location. If there have been two prior events of a similar type within a 3-year period in an AQCR, that would generally indicate the third event, for which the demonstration is being prepared (or would be prepared), does not satisfy the “human activity that is unlikely to recur at a particular location” criterion and, thus, would not qualify as an exceptional event. The terms “first” and “second” events refer to events that affect the same AQCR, even if they have not affected the same monitor.<sup>39</sup> This proposed guidance is consistent with the approach taken to recurrence in our Interim High Winds Guidance document in which we identified non-recurring events as being less than one event per year in a given area.<sup>40</sup> In the Interim High Winds Guidance, we did not define area other than to differentiate areas by attainment status or jurisdiction (*i.e.*, intrastate versus interstate or international).

The EPA solicits comment on this proposed guidance regarding recurrence at a particular location, specifically the use of an AQCR to define the bounds for an area subject to event recurrence given that some AQCRs may be quite large. The EPA also solicits comments on whether this benchmark of three events in 3 years should be incorporated into the rule text, rather than being provided only as guidance.

The EPA proposes, as guidance, that to satisfy the documentation requirements for the “human activity that is unlikely to recur at a particular location” criterion, the submitting air agency should document and discuss, in a distinct “human activity/natural

event” section of the demonstration, the type/source of event (*e.g.*, a particular type of chemical spill or other industrial accident or a fire in a particular type of structure), the resulting emissions and the documented frequency of the event in the prior 3 years. The demonstration should affirmatively state that in characterizing the event, the submitting air agency has satisfied the “human activity unlikely to recur at a particular location or a natural event” criterion.

## 2. Not Reasonably Controllable or Preventable

The CAA section 319(b) does not restrict the not reasonably controllable or preventable criterion to apply only to events caused by human activity. It also applies to natural events. Accordingly, the Exceptional Events Rule applies this criterion to all types of events. This section discusses the criterion in general terms. We discuss the criterion’s applicability to fire events on wildland in section V.F.2 and to high wind dust events in section V.F.4.

### a. Current Situation

As noted in section V.B of this document, the definition of an exceptional event at 40 CFR 50.1(j) repeats the CAA definition and includes the requirement at section 319(b)(1)(A)(ii) that an exceptional event, whether natural or caused by human activity, is one that “is not reasonably controllable or preventable.” Neither the rule text of the 2007 Exceptional Events Rule nor the preamble to the final rule provided additional clarification regarding this statutory element. Rather, the preamble to the final rule stated, “[w]e are not finalizing more detailed requirements for determining when an event is ‘not reasonably controllable or preventable’ because we believe that such determinations will necessarily be dependent on specific facts and circumstances that cannot be prescribed by rule.”<sup>41</sup> While we maintain that determining whether or not an event is not reasonably controllable or preventable is event-specific and necessarily requires judgment by the air agency and the EPA, we also believe that some concepts regarding this criterion are broadly applicable.

To begin, the statutory requirement that an exceptional event is one that “is not reasonably controllable or preventable” contains two factors: Prevention and control. Within the context of the Exceptional Events Rule, we intend that “prevent” means to stop or avert the event, and “control” means

to reduce the magnitude and impact of event-related emissions. We interpret CAA section 319(b) to mean that to qualify as an exceptional event, the event cannot be reasonably preventable and cannot be reasonably controllable, rather than that only one of the two elements must be satisfied. It would be contrary to the emphasis of section 319(b) on protection of public health if there were no requirement for reasonable control for an event merely because the event could not be reasonably prevented from happening. It is possible for an event to not be reasonably preventable, but to be reasonably controllable.<sup>42</sup> In this case, if emissions were reasonably controlled, then the event could be considered for concurrence as an exceptional event. It is also possible that an event be neither preventable nor its air quality impacts to be controllable to any degree, such as potential increases in SO<sub>2</sub> concentrations associated with volcanic eruptions.

The EPA considers the statutory requirement that an exceptional event be “not reasonably preventable” to mean that if a set of prevention measures *should reasonably have been in place* for anthropogenically-influenced emission sources that contribute to the event emissions, then those measures *must* have been in place for the event to qualify as an exceptional event under the Exceptional Events Rule. Similarly, we consider the statutory requirement that an exceptional event be “not reasonably controllable” to mean that if a set of control measures *should reasonably have been in place* for emission sources that contribute to the event emissions, then those controls *must* have been in place for the event to qualify as an exceptional event under the Exceptional Events Rule. Satisfying the not reasonably controllable element necessitates a showing of reasonable controls. Whether a set of controls constitutes “reasonable controls” is event-, time-, and place-dependent, and involves judgment by the air agency when preparing the demonstration and by the EPA when reviewing the demonstration.<sup>43</sup> We stated in the

<sup>38</sup> Air Quality Control Regions are defined in 40 CFR part 81, subpart B, Designation of Air Quality Control Regions.

<sup>39</sup> The EPA will consider previously flagged exceedances within AQS with their associated descriptions to be “events” regardless of whether the EPA has received or acted on event demonstrations. The EPA also notes that a single event could influence concentrations on multiple days.

<sup>40</sup> See footnote 27 in table 2 of *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*, U.S. EPA, May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf).

<sup>41</sup> 72 FR 13564 (March 22, 2007).

<sup>42</sup> For example, in section V.F.2, we propose that under certain circumstances a prescribed fire may not be reasonably preventable because of the safety or ecosystem benefits that would be foregone, but emissions and air quality impacts from the fire may be reasonably controllable through the application of basic smoke management practices.

<sup>43</sup> The EPA has many resources to help states identify appropriate control technologies and includes links to some of these sources on the Control Strategies Web site available at [http://www3.epa.gov/airquality/aqmportal/management/control\\_strategies.htm](http://www3.epa.gov/airquality/aqmportal/management/control_strategies.htm).

Interim Exceptional Events Implementation Guidance, and we reiterate in this action, that it may not be reasonable to apply any prevention or control efforts for some events.

In the course of implementing the 2007 Exceptional Events Rule, both the EPA and air agencies have expressed concern regarding the determination of “reasonable” prevention or control efforts for particular events. When an air agency prepares a demonstration, it attempts to show that whatever efforts were made were all that were reasonable to make. When the EPA reviews a demonstration, we are responsible for determining if the demonstration is credible and convincing. The EPA has been unable to make this determination regarding reasonableness for some demonstrations because the content regarding the use and implementation of control measures is insufficient. Given the elasticity of the concept of “reasonable,” it is not surprising that disagreements have arisen. We have in the past few years, particularly since issuing the Interim Exceptional Events Implementation Guidance, worked with states to reach mutual understandings of what efforts are reasonable and to have those efforts in place before events happen. However, situations will likely occur in the future, as they have in the past, in which an assessment of reasonableness must be made retrospectively, when it is too late for the air agency to have applied greater efforts. The EPA recognizes that our action on the air agency’s demonstration may have important regulatory consequences for the area in question.

The EPA has stated that for all types of events, we consider reasonableness in light of the technical information available to the air agency at the time the event occurred. An air agency “caught by surprise” by an event of a given type (or by an unexpected number of such events in a period over which NAAQS compliance is evaluated, typically 3 years) should not be expected to have implemented the same controls prior to an event as an air agency that has been aware that events of a certain type occur with regularity and cause NAAQS exceedances or violations. The EPA anticipates that nonattainment (or maintenance) areas have technical information needed to understand those measures that constitute reasonable control of anthropogenic sources in their jurisdiction for recurring events of the type(s) that cause or contribute to nonattainment (or that did previously). In contrast, the EPA generally does not expect areas identified as attainment, unclassifiable/attainment or

unclassifiable for a NAAQS to have the same understanding or to have adopted the same level of event-relevant controls as areas that are nonattainment (or maintenance) for the same NAAQS. Also, if an area has been recently designated to nonattainment but is still developing its SIP and has not yet reached a deadline to implement controls, the EPA expects the level of controls that is appropriate for that planning stage.<sup>44</sup> Regardless of attainment status or natural/anthropogenic source contribution, each demonstration package should address the question of reasonable controls within the not reasonably controllable or preventable portion of the demonstration.

The not reasonably controllable or preventable criterion is a source of particular complexity when an event occurs outside the jurisdiction of the state that is requesting that data be excluded. The area outside a state’s jurisdiction may be in an area of Indian country, in another state, or in a foreign country. For these cases, the air agency requesting data exclusion, and other government authorities in the state, generally do not have regulatory authority over those who might have been able to prevent or control the event. Therefore, the EPA believes that event-related emissions that originate outside of the boundaries of the state within which the concentration at issue was monitored are generally “not reasonably controllable or preventable” even if no party has made any effort to control or prevent them. To date, we have advised air agencies that an exceptional events demonstration for such a case must nevertheless explicitly address the question of reasonable efforts towards prevention and control. For these situations, we have suggested template language to the effect that satisfying the not reasonably controllable or preventable element could consist of an air agency stating that because the event occurred outside of its jurisdiction, the not reasonably controllable or preventable criterion is satisfied.

Because the reasonableness of controls for event-related emissions is case-specific, the EPA has not issued guidance that particular controls are

<sup>44</sup> The CAA provides different timeframes for developing and implementing SIPs depending on the NAAQS and the nonattainment area’s classification (e.g., severity of the nonattainment problem). The EPA recognizes that within the SIP development and implementation process, some measures may be implemented relatively quickly (e.g., transportation conformity, new source review) whereas other programs, such as development or rules for particular source types, can take time and involve state legislative processes.

reasonable or are not reasonable. The Interim High Winds Guidance document indicates sources of information that identify measures that an air agency and the EPA should consider. In that guidance, we said that if the EPA has approved a SIP revision to windblown dust controls within the past 3 years of the event, then an air agency can rely on the SIP-approved controls to satisfy a portion of a “prospective controls analysis.”<sup>45</sup> By this, we meant that we would agree with the air agency that for any high wind dust events in the next 3 years, implementation of the controls in the SIP would be sufficient to establish that those events are not reasonably controllable. In our discussions during the development of these proposed revisions of the Exceptional Events Rule, air agencies have urged us to give more deference to relevant controls in the EPA-approved SIPs. Some air agencies have recommended that we always accept that the controls in the approved SIP are all that should have reasonably been in place at the time of the event (and/or that we accept no controls if there are no controls in the approved SIP). We understand at least some of those recommending this approach to mean it to apply both to nonattainment and maintenance areas that have approved attainment or maintenance plans and to areas whose SIPs have been approved only with respect to less specific infrastructure SIP requirements.

#### b. Proposed Changes

The EPA generally plans to continue its past interpretations with respect to the “not reasonably controllable or preventable” criterion. We propose to codify in regulatory language key aspects of these past interpretations to reduce uncertainty for air agencies and other parties. Specifically, we are proposing changes to the text of the Exceptional Events Rule to indicate that:

- The not reasonably controllable or preventable criterion has two prongs, prevention and control. An air agency must demonstrate that an event was both not reasonably preventable and not reasonably controllable.
- An event is not reasonably preventable if reasonable measures to prevent the event were applied at the time of the event.

<sup>45</sup> *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*, U.S. EPA, May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf).

- An event is not reasonably controllable if reasonable measures to control the impact of the event on air quality were applied at the time of the event.

- The reasonableness of measures is case-specific and is to be evaluated in light of information available at the time of the event.

- No case-specific justification is needed to support the “not reasonably controllable or preventable” criterion for emissions-generating activity that occurs outside of the boundaries of the state (or tribal lands) within which the concentration at issue was monitored.<sup>46</sup>

With regard to the last of these proposed rule text changes, the EPA maintains that it is not reasonable to expect the downwind air agency (*i.e.*, the state or tribe submitting the demonstration) to have required or persuaded the upwind foreign country, state or tribe to have implemented controls on sources sufficient to limit event-related air concentrations in the downwind state or tribal lands, nor does the EPA believe that Congress intended to deny the downwind state or tribe relief in the form of data exclusion within the context of the Exceptional Events Rule. Submitting (downwind) air agencies will, however, need to assess potential contribution from local and state-wide sources and submit evidence and statements supporting the other exceptional events criteria (*i.e.*, clear causal relationship and human activity unlikely to recur or a natural event).

In addition to proposing to codify the five current interpretations listed above, with regard to this criterion, we are proposing and requesting comments on changes from our current interpretations and changes in the rule text that are explained below in more detail.

**Natural Events and Natural Sources.** The not reasonably controllable or preventable criterion applies to natural events, including natural sources and any contributing anthropogenic sources and activities.<sup>47</sup> The EPA proposes, as guidance, that to satisfy the not reasonably controllable or preventable

criterion for natural events, air agencies should identify in their demonstration the origin and evolution of the natural event, describe any local efforts to prevent the event and explain how any efforts to limit the duration, intensity or extent (and thus the emissions) from the event were reasonable.

Large-scale natural landscapes, such as deserts, are one type of natural source from which emissions can originate and contribute to event-related emissions. We propose, as guidance for these types of natural sources, that air agencies would not need to have implemented any controls for windblown dust from never-disturbed, large-scale natural landscapes. If such a landscape is the only source of wind-blown dust, the EPA would consider the event in this scenario to be not reasonably controllable or preventable regardless of the past frequency of similar events. Other such cases include volcanic releases of SO<sub>2</sub> and stratospheric ozone intrusions. In these cases, the air agency should affirmatively state that the not reasonably controllable or preventable criterion is satisfied by the fact that the natural event was of a character that could not have been prevented or controlled and that there were no contributions of event-related emissions from anthropogenic sources.

We also propose, as guidance, for events other than high wind dust events and wildfire on wildland (for which the proposed rule revisions take an equivalent approach), to consider the direct effects of remote, large-scale, high-energy and/or sudden natural events to generally be not reasonable to prevent or control.<sup>48</sup> This concept, as it relates specifically to proposed rule changes addressing high wind dust events, is discussed in more detail in section V.F.4. Section V.F.2.c discusses how the same concept relates to proposed rule changes addressing the “not reasonably controllable or preventable” criterion for wildfire on wildland.

There may, however, be natural events or activities associated with the

clean-up following a natural event where some type of control effort would be reasonable. For example, while an initial volcanic dust event may not be controllable or preventable, it may be reasonable to implement a street cleaning program to control the subsequent re-entrainment of dust deposited on roadways after the eruption. Also, air quality impacts during the active period of a weather disaster event generally cannot be prevented or controlled and it would be reasonable for no effort to have been made to do so. However, air agencies should apply reasonable controls, as applicable, in the recovery period after the event (*e.g.*, during the removal or incineration<sup>49</sup> of debris following a hurricane or tornado). There may also be smaller scale natural sources and events for which some control actions would be reasonable. We request comment on additional general and event-specific recommendations that would be consistent with the CAA and the revised Exceptional Events Rule regarding natural events and sources that the EPA could include in guidance to provide more certainty and allow air agencies to efficiently prepare demonstrations.

**The Role of Past Occurrences.** When assessing the controls that *should reasonably have been in place* in light of information available at the time of the event, both the air agency and the EPA should consider the then-known frequency and severity of recurring events of the same type as both characteristics should affect decisions regarding those measures that constitute reasonable controls. A measure may not be reasonable when the event type and severity was known to occur infrequently, but such measures may be reasonable if that event type and severity occurs frequently, because there are greater (more frequent) benefits to balance against the cost of implementation. If the event was the area's first experienced event of this type, then the submitting air agency would note that fact. The air agency could then rely on measures in the SIP and other controls in place at the time of the event, if any, to satisfy the not reasonably controllable or preventable criterion because, at the time of the event, the air agency did not have a basis for understanding the possible need for better controls for this type of event. If, however, the area has

<sup>46</sup> Under the CAA, the EPA generally considers a state (not including areas of Indian country) to be a single responsible actor. Accordingly, neither the EPA nor the 2007 Exceptional Events Rule provides special considerations for *intrastate* scenarios when an event in one county affects air quality in another county in the same state, assuming that the event occurs on land subject to state authority (versus tribal government authority). The EPA expects controls appropriate for the designation status of the county (or portion of the county) in which the emissions originate.

<sup>47</sup> An event with a significant contribution from anthropogenically-influenced emissions sources that have not themselves been reasonably controlled cannot be considered a natural event subject to this provision.

<sup>48</sup> By “remote” events, we mean events that occur in locations where the application of control measures is either cost-prohibitive or presents unreasonable risks to worker safety because of the distance of the source from logistical staging areas, or absence of roads and/or location on rough or steep terrain. By “large-scale” we mean a regional event that involves a significant expanse of land and/or affects all/most monitors in an area. “High-energy” means an event involving levels of kinetic energy that feasible human efforts cannot absorb or redirect. Example large-scale and/or high-energy events might include seismic events, hurricanes, tornadoes and “haboobs” in the southwest where sustained wind speeds can exceed 40 mph and generate walls of dust several miles wide and more than a mile high.

<sup>49</sup> When addressing reasonable controls for the incineration of debris associated with the recovery period following a natural disaster, air agencies may want to consider, as appropriate, the basic smoke management practices discussed in more detail in section V.F.2.d of this proposal.

previously experienced events of the type that are the focus of the demonstration, then the air agency has a basis for understanding the possible need for better controls.<sup>50</sup>

We note that this consideration of past recurrence when determining what controls would have been sufficient to satisfy the not reasonably controllable or preventable criterion is not the same as the consideration of the likelihood of future recurrence for the purposes of the unlikely to recur criterion. Past experiences are a general guide to future likelihood but the EPA recognizes that future recurrence may follow a different pattern and may necessitate new measures to prevent events of a given type.

*The Role of the EPA-approved SIP as the Benchmark for Reasonable Measures—In General.* As already mentioned, some air agencies have urged us to defer to relevant controls in EPA-approved SIPs as always sufficient to satisfy the not reasonably controllable or preventable criterion. The EPA could conceivably give “deference” to several different types of SIPs. CAA section 110(a)(1) and 110(a)(2) requires every state to develop and submit to the EPA an “infrastructure SIP” for each NAAQS within 3 years of the promulgation of a new or revised NAAQS. Infrastructure SIPs address a number of CAA requirements, including the requirement to contain emission limits to ensure attainment and maintenance of a NAAQS. However, under the EPA’s interpretation of these CAA sections, infrastructure SIPs are not required to include attainment or maintenance demonstrations and are not required to demonstrate that the controls on particular sources are “reasonable.” Thus, in general, EPA-approved infrastructure SIPs do not necessarily constitute a robust assessment of those controls that are reasonable to have in place to address air quality impacts from particular types of events that may become the focus of exceptional events demonstrations.

In contrast, states with areas designated as nonattainment for a NAAQS must prepare attainment plan SIPs, which must include an attainment demonstration and reasonably available control measures (RACM), among other

requirements.<sup>51</sup> Attainment plans for serious PM<sub>10</sub> or PM<sub>2.5</sub> areas must also contain best available control measures (BACM). When a nonattainment area reaches attainment, it may be redesignated to maintenance area status if it has implemented all applicable nonattainment area requirements and obtains the EPA’s approval for a maintenance plan for a 10-year period. Thus, in both maintenance and nonattainment areas with approved attainment plan SIPs, the air agency and the EPA will have considered what controls are necessary and reasonable to provide for attainment, based on information available at the time of plan development and approval.

Taken to its furthest limit, the deference recommended by some air agencies would mean that the EPA would always approve a state air agency assertion that the control measures in a SIP that has received full approval by the EPA as meeting currently applicable requirements related to the event-relevant NAAQS constituted the reasonable set of controls for the event in question and thus the event was not reasonably controllable or preventable. We believe that this degree of deference could, in some cases, result in the approval for data exclusion contrary to CAA requirements. Deference to the measures in an EPA-approved SIP is not always appropriate because EPA approval at some time in the past does not necessarily mean that (1) the control measures in a current SIP address all event-relevant sources of current importance, (2) the control measures that were considered by the air agency and the EPA at the time the EPA last approved the SIP are the same measures that were known and available at the time of a more recent event, or (3) that conditions in the area have not changed in a way that would affect the approvability of the same SIP if it newly needed the EPA’s approval. However, we believe that it may be consistent with the CAA to revise the Exceptional Events Rule to identify the conditions under which the EPA and air agencies can rely upon measures in an EPA-approved SIP to satisfy the not reasonably controllable or preventable criterion. To clarify these scenarios, the EPA is proposing, and discusses below, various combinations of rule provisions and guidance for areas of different designation status.

The best time for air agency and federal officials to exchange both technical information and views on the

balance between costs and benefits related to the sufficiency of reasonable controls is before an event happens. To avoid the EPA’s retrospective second guessing of an air agency’s consideration of information available to it before an event occurs, we have identified and described below several proposals, which would apply when an affected air agency and the EPA have *not* reached a mutual understanding regarding reasonable controls prior to an event.

*The Role of the EPA-approved SIP in Nonattainment and Maintenance Areas.* To satisfy the not reasonably controllable or preventable criterion for nonattainment or maintenance areas, the EPA proposes to establish by rule a non-rebuttable presumption that, during a 5-year window (or, alternatively another appropriate timeframe) following approval of an attainment plan or maintenance plan SIP during which no subsequent new obligation for the air agency to revise the SIP has arisen, the control measures included in the SIP that are specific to the relevant pollutant, sources and event type are sufficient for purposes of the not reasonably controllable or preventable criterion.<sup>52</sup> The EPA believes that 5 years is an appropriate timeframe upon which to rely for SIP deference for several reasons. As noted earlier, deference to the measures in an EPA-approved SIP is not always appropriate because EPA approval at some time in the past does not necessarily mean that (1) the control measures in a current SIP address all event-relevant sources of current importance, (2) the control measures that were considered by the air agency and the EPA at the time the EPA last approved the SIP are the same measures that were known and available at the time of a more recent event, or (3) that conditions in the area have not changed in a way that would affect the approvability of the same SIP if it newly needed the EPA’s approval. A 5-year window provides a reasonable timeframe under which to evaluate the above-identified potential changes. Additionally, as we discuss in section V.E.3 of this proposal, we encourage the use of 5 years of data when developing analyses to support the clear causal relationship criterion because we believe that 5 years of ambient air data represent the range of “normal” air quality.

The EPA would evaluate the not reasonably controllable or preventable

<sup>50</sup> Because a state is considered a single responsible entity for purposes of SIP development and implementation, there may be state governmental authorities whose knowledge of the need for an availability of controls at the time of the event is also relevant, particularly for in-state sources outside the geographic area covered by the air agency’s regulatory authority.

<sup>51</sup> Marginal ozone nonattainment areas are exceptions because they are not required to submit attainment demonstrations.

<sup>52</sup> A request for data exclusion must also show that the event was not a result of noncompliance with any existing state or local laws or rules that have not been incorporated into the SIP.



criterion on a case-by-case basis for those demonstrations involving an event affecting a nonattainment or maintenance area with a SIP last approved more than 5 years prior to the submittal of the subject demonstration. Because the issue of deference to a SIP is most often applicable for high wind events, section V.F.4 further illustrates this proposal.

*The Role of the EPA-approved SIP in Attainment, Unclassifiable/Attainment or Unclassifiable Areas.* Attainment, unclassifiable/attainment and unclassifiable areas should have EPA-approved infrastructure SIPs in place that the EPA approved within a few years following the promulgation of a new or revised NAAQS. Infrastructure SIPs for the 1987 PM<sub>10</sub> NAAQS are likely to be many years old, while infrastructure SIPs for ozone, PM<sub>2.5</sub>, 1-hour SO<sub>2</sub> and 1-hour NO<sub>2</sub> have been approved more recently.<sup>53</sup> In addition to the EPA-approved infrastructure SIPs, these areas may have in place other relevant state or local laws and rules, a natural events action plan, an SMP and/or other programs based on voluntary participation.

Because the development and the EPA's review of infrastructure SIPs typically do not involve a robust assessment of needed measures to prevent or control the effects of particular types of events and because even in the absence of a pending SIP call the SIP may not reasonably address events of importance, the EPA does not propose to establish in rule text or in guidance any form of general deference to the SIP in attainment, unclassifiable/attainment or unclassifiable areas. The EPA will review exceptional events demonstrations on a case-by-case basis, applying the Exceptional Events Rule and the EPA's guidance. A case-by-case review may conclude that the measures that were in place under the SIP, a natural events action plan, an SMP or other state or local programs were sufficient or insufficient to satisfy the not reasonably controllable or preventable criterion.

If the air agency has historically documented recurring events, then the EPA would expect the submitting air agency to identify any anthropogenic emission sources that contribute to the event emissions and specifically document the controls that were in place for these sources at the time of the event. It is possible that the air agency may not be able to make a sufficient showing for the not reasonably controllable or preventable criterion if it

has not implemented reasonable controls for anthropogenic sources that contribute to recurring events. In this case, the EPA Regional office may not be able to concur with an air agency's request for data exclusion. If the air agency has no such control plans and has no history of recurring events, then the air agency would note this in the not reasonably controllable or preventable portion of its demonstration and would rely on the fact that at the time of the event, the air agency did not have a basis for understanding the possible need for better reasonable controls.

Note that in section V.G.7 of this proposed action, "Timing of the EPA's Review of Submitted Demonstrations," the EPA proposes to work with air agencies to prioritize exceptional events determinations that affect near-term regulatory decisions. In an attainment, unclassifiable/attainment or unclassifiable areas, the only likely non-discretionary regulatory action would be an initial designation under a new or revised NAAQS. Possible discretionary actions include a redesignation under a long-standing NAAQS or a SIP call. Under its planned prioritization approach, the EPA would not expect to act on demonstrations for events in an attainment, unclassifiable/attainment or unclassifiable areas unless the area could become nonattainment under a new or revised NAAQS, the area is the subject of a planned EPA discretionary redesignation for a long-standing NAAQS where the approval of a demonstration affects the basis for the redesignation, or the area becomes the subject of another EPA discretionary action (e.g., a SIP call at the initiative of the EPA or in response to a petition) that hinges on the approval of a demonstration.

*The Role of Prior Communications with the EPA in Case-Specific Assessments for Not Reasonably Controllable or Preventable.* As already stated, the EPA believes that an air agency must include in its exceptional events demonstration a retrospective assessment of whether an event was not reasonably controllable or preventable. The air agency should base this assessment on information available to relevant authorities (e.g., the air agency submitting the demonstration and potentially other government authorities in the state, for example an upwind air quality control district where the event occurred) that could have implemented measures to prevent or control the event and its effects prior to and during the event. We are proposing to adopt the following approach as guidance to air agencies submitting demonstrations that will be subject to a case-specific

assessment (i.e., in situations other than when deferring to a nonattainment or maintenance plan SIP).

To satisfy the not reasonably controllable or preventable criterion in a case-specific assessment, the EPA proposes to consider communications between the EPA and the air agency when assessing "reasonableness" as part of assessing the technical information available to the air agency at the time the event occurred and what *should reasonably have been in place* at the time of the event for anthropogenic emission sources that contribute to the event emissions. It is not the EPA's intent to retroactively apply its current judgments about the reasonableness of controls for past events. However, it would also be inappropriate for an air agency to fail to respond to the EPA's recommendations prior to an event and then claim later in an event demonstration that it was unaware of a reasonable control issue.

The EPA recognizes that regulations and an area's planning status are often evolving and changing. The EPA may have recently promulgated new or revised federal rules requiring controls on particular sources or promulgated a new or revised nationally applicable standard that will ultimately result in an air agency's adoption of new control measures. The planning process to implement these new standards (e.g., the SIP or maintenance plan approval process) can be lengthy, sometimes spanning several years and involving multiple rounds of formal and informal communications between the affected air agency and the EPA regarding the appropriateness and completeness of planning elements. In some cases, discussion of issues regarding appropriate controls, including what controls would constitute "reasonable" controls for exceptional events purposes, are part of this iterative communications process. The EPA solicits comment on what form of communication (short of a SIP call) would be most effective in conveying the EPA's views to the affected air agency and whether this approach would be most appropriately addressed through guidance or regulatory text.

*Prospective Agreement on Assessments of Not Reasonably Controllable or Preventable.* In the Interim High Winds Guidance, the EPA suggested that an air agency could develop an assessment showing that the controls in place for a particular type of event, or a planned enhancement of those controls, were sufficient to meet the not reasonably controllable or preventable criterion, and then obtain the EPA's review and concurrence with

<sup>53</sup> The NAAQS not mentioned here have rarely presented exceptional events issues.

the assessment prior to more events of that type occurring. This prospective approach would reduce disagreements that might otherwise occur over later retrospective assessments. To date, most air agencies that face recurring event issues have not pursued this option, but the EPA will work with any air agency expressing an interest in pursuing this approach.

*Summary of Requests for Comments Regarding Not Reasonably Controllable or Preventable.* The EPA solicits comment on the following clarifications to the “not reasonably controllable or preventable” criterion:

- The EPA solicits comment on recommending as guidance that when addressing the “not reasonably controllable or preventable” criterion within an exceptional events demonstration, air agencies should: (1) Identify the natural and anthropogenic sources of emissions causing and contributing to the event emissions, including the contribution from local sources, (2) identify the relevant SIP or other enforceable control measures in place for these sources and the implementation status of these controls, and (3) provide evidence of effective implementation and enforcement of reasonable controls, if applicable.<sup>54</sup> In identifying natural and anthropogenic sources, the air agency should assess both potentially contributing local/in-state and upwind sources. We also request comment on whether we should revise the rule text to require these elements in a demonstration.

- The EPA proposes to codify rule language to specify that no case-specific justification is needed to support the “not reasonably controllable or preventable” criterion for emissions-generating activity that occurs outside of the boundaries of the state (or tribal lands) within which the concentration at issue was monitored.

- The EPA solicits comment on specific guidance or rule requirements regarding what constitutes reasonable control of particular natural events and sources.

- The EPA proposes to codify in rule language that, provided the air agency is

not under an obligation to revise the SIP, the EPA would consider (*i.e.*, give deference to) enforceable control measures implemented in accordance with a state implementation plan, approved by the EPA within 5 years of the date of a demonstration submittal, that address the event-related pollutant and all sources necessary to fulfill the requirements of the CAA for the SIP to be reasonable controls with respect to all anthropogenic sources that have or may have contributed to event-related emissions.

- The EPA proposes to codify in rule language the time period for such deference to be 5 years from the date of the SIP approval measured to the date of an event at issue, but is taking comment on whether and what other timeframes might be appropriate. To the extent an alternative timeframe might be appropriate, comments should explain how it would address the criteria provided above in support of the 5-year timeframe.

- The EPA proposes to consider communications and planning status when assessing the status of reasonable controls and proposes to do this through guidance. The EPA solicits comment on methods to definitively identify the status of communications and planning efforts (*e.g.*, formal correspondence or other documentation, timelines for responding) and whether this approach would be more appropriately addressed through rule language.

### 3. Clear Causal Relationship Supported by a Comparison to Historical Concentration Data

#### a. Current Situation

The CAA at section 319(b)(3)(B)(ii) requires that “a clear causal relationship must exist between the measured exceedances of a national ambient air quality standard and the exceptional event to demonstrate that the exceptional event caused a specific air pollution concentration at a particular air quality monitoring location.” The clear causal relationship criterion establishes causality between the event and a measured exceedance or violation of a NAAQS. As stated in the preamble to the 2007 Exceptional Events Rule, given the directive in CAA section 319(b)(3)(B)(ii), it would be unreasonable to exclude data affected by an exceptional event simply because of a trivial contribution of an event to air quality.<sup>55</sup> The EPA does, however, recognize that distinguishing trivial contributions from more significant contributions to an exceedance may be

difficult. As with the other exceptional events criteria, the EPA has used a weight of evidence approach when reviewing analyses to support a causal relationship between an event and a monitored exceedance.

Showing that an event and elevated pollutant concentrations occurred simultaneously may not establish causality. The clear causal relationship section of an exceptional events demonstration should include analyses showing that the event occurred and that emissions of the pollutant of interest resulting from the event were transported to the monitor(s) recording the elevated concentration measurement(s). The example analyses to support the clear causal relationship criterion, shown in Table 1 and first summarized in the EPA’s Interim Exceptional Events Implementation Guidance, are generally appropriate analyses for most event types.<sup>56</sup> The EPA does not expect air agencies to include all of the evidence and analyses identified in the table below, but rather to use available information to build a weight of evidence showing. The EPA may accept limited analyses (*e.g.*, a comparison to historical concentrations in combination with one or two additional analyses from Table 1) for areas whose monitored ambient air concentrations are generally well below the NAAQS on non-event days. Additional analyses are beneficial if they establish a different facet of the event and/or if they are used in combination with other analyses with limited data. For example, the EPA expects that areas prone to frequent elevated ozone (or other pollutant) concentrations, such as nonattainment areas, to have more sophisticated air quality prediction tools. We would expect these areas could use these tools when supporting an exceptional events demonstration and developing analyses to support a clear causal relationship. Additionally, photochemical or

<sup>54</sup> The EPA generally expects evidence that the controls determined to be reasonable, if any, were effectively implemented and appropriately enforced. This assessment of local sources should include a review and description of any known nearby facility upsets or malfunctions that could have resulted in emissions of the relevant pollutant(s) that influenced the monitored measurements on the day(s) of the claimed events. In the case of a high wind dust event, for example, for the identified potentially contributing local and upwind sources, the analysis should explain how significant dust emissions occurred despite having reasonable controls in place (*e.g.*, that controls were overwhelmed by high wind), if appropriate.

<sup>55</sup> 72 FR 13569 (March 22, 2007).

<sup>56</sup> For purposes of summarizing example clear causal relationship analyses in one place, the EPA has included an entry for the comparison to historical concentrations showing in Table 1. The EPA notes that although the Interim High Winds Guidance and the Interim Q&A document discussed the comparison to historical concentrations showing, neither of these guidance documents presented this showing as part of the clear causal relationship. See specifically *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf) and *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eeer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eeer_qa_doc_5-10-13_r3.pdf).

regression modeling analyses may be beneficial in situations where the causality between the event and a measured exceedance of a NAAQS is not clearly established with evidence and analyses identified in Table 1. For example, if a fire occurs during the normal high ozone season and the ozone

level associated with the fire is in the range of otherwise-occurring ozone levels and/or only slightly above the ozone NAAQS, the causal relationship between the fire and the exceedance or violation may not be clear. In such a situation, modeling may produce a specific estimate of the ozone

contribution from the fire. Air agencies should discuss with their EPA Regional office those types of analyses that may be adequate to satisfy the weight of evidence requirement in individual exceptional events demonstrations.

TABLE 1—EXAMPLE CLEAR CAUSAL RELATIONSHIP EVIDENCE AND ANALYSES

Example of clear causal relationship evidence	Types of analyses/information to support the evidence
Comparison to Historical Concentrations .....	Analyses and statistics showing how the observed event concentration compares to the distribution or time series of historical concentrations of the same pollutant.
Occurrence and geographic extent of the event .....	Special weather statements, advisories, news reports, nearby visibility readings, measurements from regulatory and non-regulatory (e.g., special purpose, emergency) monitoring stations throughout the affected area, satellite imagery.
Transport of emissions related to the event in the direction of the monitor(s) where the measurements were recorded.	Wind direction data showing that emissions from sources identified as part of the “not reasonably controllable or preventable” demonstration were upwind of the monitor(s) in question, satellite imagery, monitoring data showing elevated concentrations of other pollutants expected to be in the event plume.
Spatial relationship between the event, sources, transport of emissions and recorded concentrations.	Map showing likely source area, wind speed/direction and pollutant concentrations for affected area during the time of the event, trajectory analyses.
Temporal relationship between the event and elevated pollutant concentrations at the monitor in question.	Hourly time series showing pollutant concentrations at the monitor in question in combination with wind speed/direction data in the area where the pollutant originated/was entrained or transported.
Chemical composition and/or size distribution (for PM <sub>2.5</sub> to PM <sub>10</sub> ) of measured pollution that links the pollution at the monitor(s) with particular sources or phenomenon.	Chemical speciation data from the monitored exceedance(s) and sources, size distribution data.
Comparison of event-affected day(s) to specific non-event days .....	Comparison of concentration and meteorology to days preceding and following the event, comparison to high concentration days in the same season (if any) without events, comparison to other event days without elevated concentrations (if any), comparison of chemical speciation data.

As explained in additional detail in the EPA’s Interim Exceptional Events Implementation Guidance, what has previously been called the “historical fluctuations” showing (*i.e.*, now referred to as the comparison to historical concentrations) consists of analyses and statistics showing how the observed event-affected concentration compares to the distribution or time series of historical concentrations of the same pollutant.

A demonstration may be less compelling if some evidence is inconsistent with the description of how the event caused the exceedance. For example, if an air agency describes an event as a *regional* dust storm or wildfire, then the EPA anticipates that most or all monitors within the same *regional scale* to be similarly affected by the event. That is, the EPA expects that the demonstration elements and factors (*e.g.*, clear causal relationship, reasonable controls, meteorology, wind speeds) would also support the case for a *regional* event. Comparison of concentrations and conditions at other monitors could thus be very important for the demonstration of a clear causal

relationship. Alternatively, eliminating plausible non-event causes may also support a causal relationship between the event and the elevated concentration.

The EPA has been recommending that the clear causal relationship section of the demonstration should conclude with this type of statement: “On [day/time] an [event type] occurred which generated pollutant X or its precursors resulting in elevated concentrations at [monitoring location(s)]. The monitored [pollutant] concentrations of [ZZ] were [describe the comparison to historical concentrations including the percentile rank over an annual (seasonal) basis]. Meteorological conditions were not consistent with historically high concentrations, etc.” and “Analyses X, Y and Z support Agency A’s position that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation and thus satisfies the clear causal relationship criterion.”

#### b. Proposed Changes

As previously noted, the EPA is proposing to revise the 2007 Exceptional Events Rule text as follows:

- To move the “clear causal relationship” element into the list of criteria that explicitly must be met for data to be excluded
- To subsume the “affects air quality” element into the “clear causal relationship” element
- To remove the term “historical fluctuations” and replace it with text referring to a comparison to historical concentrations
- To clarify that the comparison to historical concentrations is not a fact that must be proven
- To clearly identify the types of analyses that are necessary and sufficient in a demonstration to address the comparison to historical concentrations
- To remove the “but for” element (as discussed in section V.B.2)

Additionally, the EPA proposes to reiterate in guidance the example analyses to support the clear causal relationship criterion, shown in Table 1 above, and first summarized in the

EPA's Interim Exceptional Events Implementation Guidance. As noted previously, the EPA does not expect air agencies to include all of the evidence and analyses identified in Table 2 below, but rather to use available information to build a weight of evidence showing.

The EPA's rationale for proposing the previously identified changes to the clear causal relationship criterion is presented in section V.B. The remainder of this section focuses on the types of analyses that an air agency must provide in its demonstration to make the comparison to historical concentrations. As noted in the Current Situation section, the EPA has included an entry in Table 1 for the comparison to historical concentrations showing.

The comparison to historical concentrations, referred to as the "historical fluctuations" showing in the 2007 Exceptional Events Rule and the Interim Exceptional Events Implementation Guidance, is a requirement in the 2007 Exceptional Events Rule but it is not a statutory

requirement. The EPA's intent with this regulatory element was to require air agencies to present event-influenced concentration data along with historical data and to quantify the difference, if any, between the event and the non-event concentrations. Comparing event-influenced concentrations to historical concentrations bolsters the weight of evidence within the clear causal relationship determination. The EPA proposes to re-phrase and incorporate the current regulatory requirement at 40 CFR 50.14(c)(3)(iv)(C), which requires that a demonstration to justify data exclusion provide evidence that "[t]he event is associated with a measured concentration in excess of normal historical fluctuations, including background," within the "clear causal relationship" criterion. In using this approach, we propose to remove from the regulatory text the "in excess of normal historical fluctuations, including background" phrase and to subsume the concept of historical comparisons into what will effectively be a "completeness" requirement within the

"clear causal relationship" criterion. As noted above, we specifically propose to remove the phrase "in excess of normal historical fluctuations, including background" as we believe this language is vague and provides no additional value to historical concentration comparisons.

To aid the EPA's review, reduce our need to request additional information from air agencies and facilitate our understanding of the air agency's position, we are proposing rule text changes to indicate that an air agency submitting a demonstration must provide the following types of statistics, graphics and explanatory text regarding comparisons to past data. The rule change would also indicate that this information is sufficient to satisfy the rule's requirement regarding the comparison to historical concentration data. Table 2 below identifies appropriate analyses and examples for comparing event-related concentrations to historical concentrations within the clear causal relationship criterion.

TABLE 2—EVIDENCE AND ANALYSES FOR THE COMPARISON TO HISTORICAL CONCENTRATIONS

Historical concentration evidence	Types of analyses/supporting information	Required or optional?
1. Comparison of concentrations on the claimed event day with past historical data.	<p><i>Seasonal</i> (appropriate if exceedances occur primarily in one season, but not in others).</p> <ul style="list-style-type: none"> <li>• Use all available seasonal data over the previous 5 years (or more, if available).</li> <li>• Discuss the seasonal nature of pollution for the location being evaluated.</li> <li>• Present monthly maximums of the NAAQS relevant metric (<i>e.g.</i>, maximum daily 8-hour average ozone or 1-hr SO<sub>2</sub>) vs monthly or other averaged daily data as this masks high values.</li> </ul> <p><i>Annual</i> (appropriate if exceedances are likely throughout the year).</p> <ul style="list-style-type: none"> <li>• Use all available data over the previous 5 years (or more, if available).</li> </ul> <p><i>Seasonal and Annual Analyses</i></p> <ul style="list-style-type: none"> <li>• Provide the data in the form relevant to the standard being considered for data exclusion.</li> <li>• Label "high" data points as being associated with concurred exceptional events, suspected exceptional events, other unusual occurrences, or high pollution days due to normal emissions.</li> <li>• Describe how emission control strategies have decreased pollutant concentrations over the 5-year window, if applicable.</li> <li>• Include comparisons omitting known or suspected exceptional events points, if applicable.</li> <li>• See examples at <a href="http://www.epa.gov/ttn/analysis/docs/IdeasforShowingEEEvidence.ppt">http://www.epa.gov/ttn/analysis/docs/IdeasforShowingEEEvidence.ppt</a> and Question 3 in the Interim Q&amp;A document provides additional detail. <sup>a</sup></li> </ul>	<i>Required</i> seasonal and/or annual analysis (depending on which is more appropriate).
2. Comparison of concentrations on the claimed event day with a narrower set of similar days.	<ul style="list-style-type: none"> <li>• Include neighboring days at the same location (<i>e.g.</i>, a time series of two to three weeks) and/or other days with similar meteorological conditions (possibly from other years) at the same or nearby locations with similar historical air quality along with a discussion of the meteorological conditions during the same timeframe. <sup>b</sup></li> <li>• Use this comparison to demonstrate that the event caused higher concentrations than would be expected for given meteorological and/or local emissions conditions.</li> </ul>	<i>Optional</i> analysis.
3. Percentile rank of concentration when compared to annual data. <sup>c</sup>	<ul style="list-style-type: none"> <li>• Provide the percentile rank of the event-day concentration relative to all measurement days over the previous 5 years to ensure statistical robustness and capture non-event variability over the appropriate seasons or number of years. <sup>d</sup></li> </ul>	<i>Required</i> analysis when comparison is made on an annual basis (see item #1).

TABLE 2—EVIDENCE AND ANALYSES FOR THE COMPARISON TO HISTORICAL CONCENTRATIONS—Continued

Historical concentration evidence	Types of analyses/supporting information	Required or optional?
4. Percentile rank of concentration relative to seasonal data. <sup>c</sup>	<ul style="list-style-type: none"> <li>• Use the daily statistic (e.g., 24-hour average, maximum daily 8-hour average, or maximum 1-hour) appropriate for the form of the standard being considered for data exclusion.</li> <li>• Provide the percentile rank of the event-day concentration relative to all measurement days for the season (or appropriate alternative 3-month period) of the event over the previous 5 years.</li> <li>• Use the same time horizon as used for the percentile rank calculated relative to annual data, if appropriate.</li> </ul>	<i>Required</i> analysis when comparison is made on a seasonal basis (see item #1).

<sup>a</sup> *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eeer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eeer_qa_doc_5-10-13_r3.pdf).

<sup>b</sup> If an air agency compares the concentration on the claimed event day with days with similar meteorological conditions from other years, the agency should also verify and provide evidence that the area has not experienced significant changes in wind patterns, and that no significant sources in the area have had significant changes in their emissions of the pollutant of concern.

<sup>c</sup> The EPA does not intend to identify a particular historical percentile rank point in the seasonal or annual historical data that plays a critical role in the analysis or conclusion regarding the clear causal relationship.

<sup>d</sup> Section 8.4.2.e of appendix W (proposed revisions at 80 FR 45374, July 29, 2015) recommends using 5 years of adequately representative meteorology data from the National Weather Service to ensure that worst-case meteorological conditions are represented. Similarly, for exceptional events purposes, the EPA believes that 5 years of ambient air data, whether seasonal or annual, better represent the range of “normal” air quality than do shorter periods.

As with other evidence in an exceptional events demonstration submittal, the EPA will use a holistic weight of evidence approach in reviewing submitted demonstration packages and will consider the “clear causal relationship” information, including the comparison to historical concentrations showing, along with evidence supporting the other Exceptional Events Rule criteria.

#### F. Treatment of Certain Events Under the Exceptional Events Rule

As we stated in the preamble to the 2007 Exceptional Events Rule, we maintain that air quality data affected by the following event types are among those that could meet the definition of an exceptional event and qualify for data exclusion provided all requirements of the rule are met: (1) Chemical spills and industrial accidents,<sup>57</sup> (2) structural fires, (3) terrorist attacks, (4) volcanic and seismic activities, (5) natural disasters and associated cleanup and (6) fireworks.<sup>58</sup> We are not proposing any changes to the definition or discussion of these event types. The AQS database contains a more detailed list of other similar events that may be identified for special consideration. The EPA will

consider other types of events on a case-by-case basis.

Based on our implementation experience, the following other potential exceptional events categories warrant additional discussion: Exceedances due to transported pollution, wildland fires including wildfires and prescribed fires, stratospheric ozone intrusions and high wind dust events. We discuss each of these event categories in the following sections.

#### 1. Exceedances Due to Transported Pollution

##### a. Current Situation

The 2007 Exceptional Events Rule implements one important CAA provision related to transported pollution. Certain events, national or international in origin and from natural or anthropogenic sources, may cause exceedances that are eligible for exclusion under the 2007 Exceptional Events Rule if an air agency satisfies the rule criteria. We discuss in this section our position regarding exceedances due to event-related transported pollution. We also clarify in part c of this section how the Exceptional Events Rule provisions currently relate to other CAA mechanisms that address or involve transported pollution. We are not proposing any changes to these relationships.

The EPA believes that the Exceptional Events Rule will often be the most appropriate mechanism to use when addressing transported emissions from out-of-state natural events and/or events due to human activity that is unlikely to recur at a particular location, because the Exceptional Events Rule may be used during the initial area designations

process and may make a difference between an attainment versus a nonattainment designation. It is important to note, however, that the transported natural emissions must be event-related (e.g., wildfires or stratospheric ozone intrusion) versus ongoing on a daily basis.

##### b. Proposed Changes

If an air agency determines that the Exceptional Events Rule is the most suitable approach to address contributions from transported emissions, then the air agency must consider the point of origin and the sources contributing to the exceedance or violation to determine how to address individual Exceptional Events Rule criteria, specifically the not reasonably controllable or preventable criterion and the human activity unlikely to recur or a natural event criterion. The analyses to satisfy the clear causal relationship criterion (which would subsume the CAA’s affects air quality criterion, if promulgated as proposed and discussed in section V.B) are largely independent of whether the point of origin and contributing sources are within the air agency’s jurisdiction. The EPA first addressed these concepts in its Interim Q&A document and now proposes to clarify these intrastate and interstate scenarios.

Under the CAA, the EPA generally considers a state (not including areas of Indian country) to be a single responsible actor. Accordingly, neither the EPA nor the 2007 Exceptional Events Rule provides special considerations for intrastate scenarios when an event in one part of a state, such as a county or air district, affects air quality in another part of the same

<sup>57</sup> A malfunction at an industrial facility could be considered to be an exceptional event if it has not resulted in source noncompliance, which is statutorily excluded from consideration as an exceptional event, see CAA 319(b)(1)(b)(iii), and if it otherwise meets the requirements of the Exceptional Events Rule.

<sup>58</sup> Of these noted event types, only fireworks are currently identified in the regulatory language at 40 CFR 50.14. We are not proposing any revisions to the exclusion at 40 CFR 50.14(b)(2) for fireworks that are demonstrated to be significantly integral to traditional national, ethnic, or other cultural events.

state, assuming that the event occurs on land subject to state authority (versus tribal government authority). For cases involving intrastate transport, the state or local air agency should evaluate whether contributing event emissions from all parts of the state were not reasonably controllable or preventable. Section V.E.2 discusses the assessment of the not reasonably controllable or preventable criterion. Because there may be special considerations regarding air agencies' authority to regulate activity on federally-owned and managed lands (e.g., national parks within the state), states and tribes should consult with the appropriate FLM or other federal agency and their EPA Regional office early in the development of an exceptional events demonstration package if they believe that sources on federally-owned and managed land contributed event-related emissions to a degree that raises issues of reasonable control.

Interstate and international transport events are different than *intrastate* events. As noted in section V.E.2, the EPA maintains that it is not reasonable to expect the downwind air agency (*i.e.*, the state or tribe submitting the demonstration) to have required or persuaded the upwind foreign country, state or tribe to have implemented controls on sources sufficient to limit event-related air concentrations in the downwind state nor does the EPA believe that Congress intended to deny the downwind state or tribe of relief in the form of data exclusion. As with any demonstration submittal, the submitting (downwind) state should identify all natural and anthropogenic contributing sources of emissions (both local/in-state and out-of-state) to show the causal connection between an event and the affected air concentration values. A submitting state may provide a less detailed characterization of sources in the upwind state or foreign country than of sources within its jurisdiction. After completing the source characterization, the submitting state should assess whether emissions from sources within its state were not reasonably controllable or preventable (*see* section V.E.2 of this proposal). Although the downwind state must still assess potential contribution from in-state sources, we propose that the event-related emissions that were transported in the downwind state are "not reasonably controllable or preventable" for purposes of data exclusion. The EPA does not expect air agencies to submit analyses to satisfy the not reasonably controllable or preventable criterion for those upwind, out-of-state sources that

contribute to the exceedance as part of a submitted demonstration. Rather, with respect to this element for such sources, an air agency would merely point to the relevant provision we propose to add to the Exceptional Events Rule. Submitting states are, however, still required to assess the contribution and potential controls from local/in-state sources and submit evidence/statements supporting the other exceptional events criteria (*i.e.*, clear causal relationship, human activity unlikely to recur or a natural event). If the event-related emissions are international in origin and affect monitors in multiple states or regions, the EPA may assist affected agencies in identifying approaches for evaluating the potential impacts of international transport and determining the most appropriate information and analytical methods for each area's unique situation.

The EPA proposes a similar approach to significant out-of-state anthropogenic sources in the case of a mixed natural/anthropogenic event that the submitting state wishes to have treated as a natural event on the grounds that all significant anthropogenic sources were reasonably controlled. That is, if a mixture of natural and anthropogenic sources in an upwind state contributed to an event, the downwind state is not required to demonstrate that the anthropogenic sources in the upwind state were reasonably controlled for those sources to be considered to not have directly caused the event. The submitting state could consider the event to be a natural event based on the situation within the state requesting the data exclusion (that is, the contributing sources within the jurisdiction of the submitting state were either natural or reasonably controlled anthropogenic sources).

As with all exceptional events demonstrations, the EPA will evaluate the information on a case-by-case basis based on the facts of a particular exceptional event including any information and arguments presented in public comments received by the state in its public comment process or by the EPA in a notice-and-comment regulatory action that depends on the data exclusion.

#### c. Relationship Between Exceptional Events Rule Provisions and Other CAA Transport Mechanisms

Two provisions of the CAA other than section 319(b) also provide regulatory relief for transported pollution, for different circumstances than those addressed by the 2007 Exceptional Events Rule. These provisions are briefly described here as context for

understanding the role of the Exceptional Events Rule itself.

- *CAA section 179B, International Transport*—CAA section 179B allows states to consider in their attainment demonstrations whether a nonattainment area might have met the NAAQS by the attainment date "but for" emissions contributing to the area originating outside the U.S. This provision addresses sources of emissions originating outside of the U.S. and provides qualifying nonattainment areas some regulatory relief from otherwise-applicable additional planning and control requirements should the area fail to reach attainment by its deadline. It does not provide a pathway for regulatory relief from designation as a nonattainment area.

- *CAA section 182(h), Rural Transport Areas*—CAA section 182(h) authorizes the EPA Administrator to determine that an ozone nonattainment area can be treated as a rural transport area, which provides relief from more stringent requirements associated with higher nonattainment area classifications (*i.e.*, classifications above Marginal). Under CAA section 182(h), a nonattainment area may qualify as a Rural Transport Area if it does not contain emissions sources that make a significant contribution to monitored ozone concentrations in the area or in other areas, and if the area does not include and is not adjacent to a Metropolitan Statistical Area. Generally, an area qualifies as a Rural Transport Area because it does not contribute to its own or another area's nonattainment problem; rather, ozone exceedances are due to transported emissions, which could be international, interstate or intrastate in origin. The Rural Transport Area determination can be made during or after the initial area designations and classifications process.

Two additional provisions of the CAA specifically address and appropriately regulate transported pollution that does not qualify for data exclusion under the Exceptional Events Rule or for regulatory relief under CAA section 179B or CAA section 182(h). These provisions are briefly described here as context for understanding the role of the Exceptional Events Rule itself.

- *CAA section 110(a)(2)(D)(i)(I), Interstate Transport*—CAA section 110(a)(2)(D)(i)(I) requires states to develop and implement SIPs to address the interstate transport of emissions. Specifically, this provision requires each state's SIP to prohibit "any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will significantly contribute to



nonattainment” of any NAAQS in another state, or which will “interfere with maintenance” of any NAAQS in another state. When the EPA promulgates or revises a NAAQS, each state is required to submit a SIP addressing this interstate transport provision as to that NAAQS within 3 years. The EPA interprets this interstate transport provision to address anthropogenic sources of emissions from other states; we believe that is not intended to address natural sources of emissions.

• *CAA section 126, Interstate Transport*—CAA section 126 provides states and political subdivisions with a mechanism to petition the Administrator for a finding that “any major source or group of stationary sources emits or would emit any air pollution in violation of the prohibition of CAA 110(a)(2)(D)(i).”<sup>59</sup> Where the EPA grants such a petition, an existing source may operate beyond a 3-month period only if the EPA establishes emissions limitations and compliance schedules to bring about compliance with CAA section 110(a)(2)(D)(i) as expeditiously as practicable, but no later than 3 years after such finding. Similar to our interpretation above for CAA section 110(a)(2)(D)(i), the EPA interprets the reference to “major source or group of stationary sources” in section 126 to refer to anthropogenic sources of emissions from other states. The EPA’s interpretation is that this provision is not intended to address natural sources of emissions. This mechanism is available to all downwind states, and political subdivisions, regardless of area designations, that may be affected by anthropogenic sources of emissions from upwind states in violation of the prohibition in CAA section 110(a)(2)(D)(i).

As noted previously, in most cases, the mechanisms in the Exceptional Events Rule often provide the most regulatory flexibility in that air agencies can use these provisions to seek relief from designation of an area as nonattainment. The CAA section 179B (International Transport) and section 182(h) (Rural Transport Areas) apply following, or concurrent with, the initial area designations process.

## 2. Wildland Fires

Fires on wildland play an important ecological role across the globe,

benefiting those plant and animal species that depend upon natural fires for propagation, habitat restoration and reproduction. Wildland can include forestland,<sup>60</sup> shrubland,<sup>61</sup> grassland<sup>62</sup> and wetlands.<sup>63</sup> Fires on wildland can be of two types: wildfire (unplanned) and prescribed fire (intentionally ignited for management purposes). Since promulgation of the 2007 Exceptional Events Rule, the EPA has received and acted upon exceptional events demonstrations for both wildfires and prescribed fires. The EPA anticipates receiving increasing numbers of fire-related demonstrations in the future due to the natural accumulation of fuels in the absence of fire, due to climate change that is leading to increased incidence of wildfire,<sup>64</sup> which may necessitate land managers employing prescribed fire more frequently to manage fuel loads and achieve other benefits as described below,<sup>65 66</sup> and due to the potential for fire-related demonstrations to affect near-term regulatory decisions such as the initial area designations decisions associated with a revised 8-hour ozone NAAQS. Consequently, the EPA is proposing revisions to the 2007 Exceptional Events Rule and developing additional guidance to make the preparation and review of demonstrations for wildland fire events

more efficient and predictable for all parties.

Wildfire emissions account for a large portion of direct PM<sub>2.5</sub> emissions nationally and can contribute to periodic high PM<sub>2.5</sub> and PM<sub>10</sub> levels. Wildfires also emit volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>), which are precursors to PM<sub>2.5</sub>, PM<sub>10</sub> and ozone. Besides their effect on air quality, wildfires pose a direct threat to public safety. Changes in wildfire risk and occurrence are closely associated with the lack of periodic fire in fire-dependent ecosystems, demographic changes and associated infrastructure investment at the margins of wildland and, as already noted, climate change and climate variability. The threat from wildfires can be mitigated through management of wildland vegetation. Attempts to suppress wildfires have resulted in unintended consequences, especially the buildup of fuel loads, which can create a lingering fire liability that will eventually find resolution, unplanned or planned. Unplanned fires in areas with high fuel loads present high risks to both humans and ecosystems.<sup>67</sup> Planned prescribed fires and letting some wildfires proceed naturally (typically those with lower fire intensity and severity) are tools that land managers can use to reduce fuel load, unnatural understory and tree density, thus helping to reduce the risk of catastrophic wildfires. Allowing some wildfires to continue to burn even though they could be suppressed and the thoughtful use of prescribed fire can influence the occurrence, size and severity of catastrophic wildfires, which may lead to improved public safety, improved protection of property and an overall reduction in fire-induced smoke impacts and subsequent health effects. Thus, appropriate use of prescribed fire may help manage the contribution of wildfires to both background and peak PM and ozone air pollution. However, prescribed fires themselves can affect monitored air quality at some times and places affecting public health, and thus give rise to exceptional events issues. This action proposes a workable approach to addressing these prescribed fire exceptional events issues.

In addition to reducing wildfire risks to humans and ecosystems and wildfire contributions to air pollution, prescribed fires can have benefits to those plant and animal species that

<sup>60</sup> Forestland is land on which the vegetation is dominated by trees or, if trees are lacking, the land shows historic evidence of former forest and has not been converted to other uses. Definition available at <https://globalrangelands.org/rangelandswest/glossary>.

<sup>61</sup> Shrubland is land on which the vegetation is dominated by shrubs. Definition available at <https://globalrangelands.org/rangelandswest/glossary>.

<sup>62</sup> Grassland is land on which the vegetation is dominated by grasses, grass like plants, and/or forbs. Definition available at <https://globalrangelands.org/rangelandswest/glossary>.

<sup>63</sup> Wetlands, as defined in 40 CFR 230.3(t), means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

<sup>64</sup> The Administrator’s finding on the adverse effects of greenhouse gases included the observation that wildfires have increased, and that there are potential serious adverse impacts from further wildfire occurrence. 74 FR 66530 (December 15, 2009).

<sup>65</sup> *Climate Change in the United States: Benefits of Global Action*, U.S. EPA, EPA-430-R-15-001, June 2015. Available at <http://www2.epa.gov/cira>.

<sup>66</sup> The National Strategy: The Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy, Report to Congress developed by the U.S. Department of Agriculture and the U.S. Department of the Interior, April 2014. Available at <http://www.forestsandrangelands.gov/strategy/thestrategy.shtml>.

<sup>67</sup> Indeed, “fire policy that focuses on [wildfire] suppression only, delays the inevitable, promising more dangerous and destructive future . . . fires.” Stephens, SL; Agee, JK; Fule, PZ; North, MP; Romme, WH; Swetnam, TW. (2013). Managing Forests and Fire in Changing Climates. *Science* 342: 41–42.

<sup>59</sup> The text of section 126 codified in the United States Code cross references section 110(a)(2)(D)(ii) instead of section 110(a)(2)(D)(i). The courts have confirmed that this is a scrivener’s error and the correct cross reference is to section 110(a)(2)(D)(i). See *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1040–44 (D.C. Cir. 2001).

depend upon natural fires for propagation, habitat restoration and reproduction, as well as benefits to a myriad of ecosystem functions (e.g., carbon sequestration, maintenance of water supply systems and endangered species habitat maintenance). The EPA understands the importance of prescribed fire, which mimics a natural process necessary to manage and maintain fire-adapted ecosystems and climate change adaptation, while reducing risk to public safety and the risk of uncontrolled emissions and ecosystem damage from catastrophic wildfires. The EPA is committed to working with federal land managers, other federal agencies, tribes, states and private landowners to effectively manage prescribed fire use to reduce the impact of catastrophic wildfire-related emissions on ozone, PM<sub>10</sub> and PM<sub>2.5</sub>.

#### a. Current Situation

When the EPA promulgated the 2007 Exceptional Events Rule, we included definitions for fire-related terms (e.g., wildfire, prescribed fire and wildland) in the preamble and attributed these definitions to the National Wildland Fire Coordinating Group (now the National Wildfire Coordinating Group or NWCG) Glossary of Wildland Fire Terminology, 2003. The EPA did not, however, codify these definitions in regulatory text. Since promulgation of the 2007 Exceptional Events Rule, the NWCG has modified some of its recommended definitions and the EPA used slightly different definitions in its Interim Exceptional Events Implementation Guidance, creating some confusion for air agencies and other entities working with air agencies who have tried to use fire-related definitions and concepts when preparing and submitting exceptional events demonstrations for fires.

The preamble to the 2007 Exceptional Events Rule discussed how the EPA expected to apply the rule to wildfires and prescribed fires. The EPA stated that wildfires would be considered natural events, while prescribed fires would be considered events caused by human activity. As events caused by human activity, prescribed fires are subject to the “not likely to recur” criterion, and the preamble to the rule discussed the considerations that would apply for this criterion. Section V.F.2.d provides a more detailed summary of the current situation and planned changes for this criterion.

Demonstrations for wildfires and those prescribed fires claimed to be exceptional events must also address the “not reasonably controllable or preventable” criterion. Neither the 2007

Exceptional Events Rule nor its preamble addressed this criterion in any depth for wildfires. Since promulgating the rule in 2007, the EPA has concluded that short, general statements in demonstrations for fire events satisfy this criterion. The EPA has been advising air agencies that when documenting the “not reasonably controllable or preventable” criterion in a wildfire exceptional events demonstration submittal, air agencies should identify the origin and evolution of the wildfire, describe local efforts to prevent fires due to unauthorized activity or accidental human-caused actions (if relevant given the origin of the fire) and explain any efforts to limit the duration or extent (and thus the emissions) of the wildfire.<sup>68 69 70</sup> We have also advised air agencies that if the wildfire originated outside of the jurisdiction of the air agency submitting the exceptional events demonstration, then the submitting air agency should identify this fact in its demonstration.<sup>71</sup>

The 2007 Exceptional Events Rule and its preamble gave more extensive treatment to the not reasonably controllable or preventable criterion for prescribed fires. The rule text tied the eligibility of prescribed fires as approved exceptional events to the air agency having a “certified” SMP in place or, in the alternative, to using BSMP for the prescribed fire(s) in question. In the preamble, the EPA did not provide detailed guidance on SMPs or BSMP, but committed to defining and developing these concepts when we updated the guidance contained in the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires*.<sup>72</sup> However, the EPA has not revised this guidance document. Although some states have developed demonstrations that incorporate BSMP employed for a specific prescribed fire and/or have referenced BSMP in their SMPs, the

EPA has not in any other more recent guidance clarified what it means for an air agency or burner to have a certified SMP in place and/or to implement BSMP. Like the inconsistency that has developed since 2007 in fire-related definitions, the absence of further clarifying guidance on SMPs and BSMP has created confusion for air agencies trying to develop these plans and/or apply these practices for purposes of developing and submitting exceptional events demonstrations for prescribed fires.

#### b. Proposed Changes

In this action, the EPA proposes to codify in regulatory language certain fire-related definitions and SMP/BSMP factors necessary for exceptional events demonstration and program implementation purposes. Codifying these definitions in 40 CFR 50.1 will promote understanding and standardize terminology for the purposes of characterizing an event for exceptional events demonstration purposes.

Finalizing these proposed changes will also decouple implementation of the exceptional events process from potential future revisions to the *Interim Policy on Wildland and Prescribed Fires*. Although the EPA solicits comment on the regulatory process associated with developing exceptional events demonstrations for fire-related events, the EPA does not intend to take comment on any aspects of the 1998 *Interim Policy on Wildland and Prescribed Fires* as part of this effort to revise the Exceptional Events Rule.

The proposed new definitions, along with other proposed changes, are described in detail in the separate sections on wildfires (section V.F.2.c) and prescribed fire (section V.F.2.d) that follow immediately below this section.

#### c. Wildfires

**Current Situation.** The preamble to the 2007 Exceptional Events Rule defined a wildfire as “an unplanned, unwanted wildland fire (such as a fire caused by lightning), [to] include unauthorized human-caused fires (such as arson or acts of carelessness by humans), escaped prescribed fire projects (escaped control due to unforeseen circumstances), where the appropriate management response includes the objective to suppress the fire.” The 2007 Exceptional Events Rule preamble also defined a “wildland fire use” as “the application of the appropriate management response to a naturally-ignited (e.g., as the result of lightning) wildland fire to accomplish specific resource management objectives in predefined and designated areas

<sup>68</sup> *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eer_qa_doc_5-10-13_r3.pdf). See question 20b.

<sup>69</sup> Prevention/control efforts could include posting High Fire Danger signs to make people more careful and prevent accidental fires, and/or taking reasonable action to contain a fire once it has started.

<sup>70</sup> Example language to limit the duration and extent of the wildfire might include, “During wildfires, fire management resources were deployed to the fire event giving first priority to protecting life and property.”

<sup>71</sup> *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eer_qa_doc_5-10-13_r3.pdf).

<sup>72</sup> *Interim Air Quality Policy on Wildland and Prescribed Fires*. U.S. EPA. April 23, 1998. Available at <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf>.

where fire is necessary and outlined in fire management or land management plans.” The 2007 Exceptional Events Rule preamble further clarified that the EPA believed that both wildfires and wildland fire use fires fall within the meaning of “natural events” as that term is used in CAA section 319(b).

In the 2013 Interim Q&A Document, after consulting with other federal agencies that manage wildfires and prescribed fires, the EPA defined a wildfire as “[a]ny fire started by an unplanned ignition caused by lightning; volcanoes; unauthorized activity; accidental, human-caused actions; and escaped prescribed fires.”<sup>73</sup>

Building off of the principles in the February 2009 *Guidance for Implementation of Federal Wildland Fire Management Policy*,<sup>74</sup> the NWCG defines “wildland” as “an area in which development is essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.”<sup>75</sup>

**Proposed Changes.** Although the EPA has previously approved exceptional events demonstrations for wildfires,<sup>76</sup> the EPA recognizes air agencies preparing exceptional events demonstrations for future wildfires will benefit from additional clarification and guidance related to wildfire terminology. This section discusses the EPA’s proposed changes.

(i) *Definition of wildland and wildfire.* For purposes of this action, the EPA proposes to codify in regulatory language the definition of “wildland” by using the October 2014 NWCG Glossary definition that a wildland is “an area in which human activity and development is essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.” As previously noted, wildland can include forestland, shrubland, grassland and wetlands. This proposed definition of wildland would include lands that are predominantly wildland, such as

land in the wildland-urban interface.<sup>77 78</sup>

In proposing this definition for wildland, the EPA considered the types of human intervention that could affect whether a land is considered a “wildland.” In our view and the view of other federal agencies with which we have consulted in the development of this proposed action, the presence of fences to limit the movement of grazing animals, or of infrastructure to provide water to grazing animals, does not prevent a land area from being wildland. Cultivated cropland (*i.e.*, a field that is plowed or disked or from which crops are removed on an annual or more frequent basis) is not wildland. Land areas on which nursery stock is grown to marketable size (*e.g.*, Christmas tree farms) are generally not wildland unless they are “wild” in terms of having only limited human entrance and intervention for management or removal purposes thereby resulting in a complex ecosystem. Generally, managed timber lands may be considered wildland if they have a complex ecosystem affected by only limited human entrance and intervention. The EPA invites comment on whether it would be appropriate to incorporate these examples of land use types that can be considered to be (or not to be) wildland into the regulatory definition of wildland or whether or it is adequate to discuss them in the preamble only.

Also for purposes of this action, the EPA proposes to codify in regulatory language the following definition of “wildfire,” which slightly modifies the definition of “wildfire” with respect to prescribed fires that appeared in the Interim Q&A document.

A wildfire is any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions; or a prescribed fire that has been declared to be a wildfire. A wildfire that predominantly occurs on wildland is a natural event.

<sup>77</sup> The wildland-urban interface is the line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. The term describes an area within or adjacent to private and public property where mitigation actions can prevent damage or loss from wildfire. See, Glossary of Wildland Fire Terminology, PMS 205. October 2014. Available at <http://www.nwcg.gov/sites/default/files/products/pms205.pdf>.

<sup>78</sup> We would generally treat a large prescribed fire in a wildland-urban interface area as a prescribed fire on wildland, subject to the prescribed fire provisions described in this proposal. We do not expect a small prescribed fire in an interface area (*e.g.*, a prescribed burn ignited by a single landowner on his/her personal property) to generate emissions that would raise exceptional events issues.

This proposed definition of wildfire does not require that the objective be to put out a fire for the fire to be categorized as a wildfire. When an unplanned fire on wildland does not threaten catastrophic consequences, it may be very appropriate to allow it to continue. The proposed definition therefore encompasses the type of activity previously referred to as a wildland fire use (*i.e.*, a situation in which a fire manager deliberately allows a wildfire to continue to burn over a certain land area rather than immediately extinguish it or block its progress into that area). This inclusion is consistent with the approach taken in 2007 that all types of wildfire were considered to be natural. We note here, as guidance, that the part of the proposed definition referring to a prescribed fire that has been declared to be a wildfire refers to specific instances in which the conditions of a particular prescribed fire have developed in a way that leads the fire manager to decide that the fire should be treated as a wildfire, for example if it has escaped secure containment lines and requires suppression along all or part of its boundary or no longer meets the resource objectives (*e.g.*, smoke impact, flame height). It is not the intention that land managers may categorically re-define some types of prescribed fire to be wildfires.

Because the EPA is proposing in rule text that all wildfires on wildland are always considered natural events, the proposed definition of wildland will in turn determine which fires are considered to be natural events. This is consistent with the approach in the 2007 Exceptional Events Rule. The EPA realizes that some wildfires are initiated by human actions (*e.g.*, careless use of campfires or leaf and brush pile fires). The EPA also realizes that past human activity in the form of decades of suppressing wildfires has influenced the size and emissions of wildfires that do occur. However, wildfire is mostly dominated by natural factors, and the EPA believes that treating all wildfires on wildland as natural events is in keeping with Congressional intent and not contradictory to any plain meaning of CAA section 319(b). Therefore, because a wildfire on wildland is a natural event and because natural events can recur, an air agency would not need to address event recurrence in the “human activity unlikely to recur at a particular location or a natural event” portion of its exceptional events demonstration.

(ii) *Not reasonably controllable or preventable.* Although a wildfire is unplanned, the “not reasonably

<sup>73</sup> *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eeer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eeer_qa_doc_5-10-13_r3.pdf).

<sup>74</sup> *Guidance for Implementation of Federal Wildland Fire Management Policy*, developed cooperatively by the Fire Executive Council, February 13, 2009. Available at <http://wildfiretoday.com/documents/Federal%20Wildland%20Fire%20Management%20Policy%202012-13-2009.pdf>.

<sup>75</sup> National Wildfire Coordinating Group. Glossary of Wildland Fire Terminology, PMS 205. October 2014. Available at <http://www.nwcg.gov/sites/default/files/products/pms205.pdf>.

<sup>76</sup> See submitted exceptional events demonstrations available on the EPA’s Web site at <http://www2.epa.gov/air-quality-analysis/exceptional-events-submissions-table>.

controllable or preventable” criterion still applies. Another function of the definition of wildland is that the EPA is proposing that the treatments of wildfires and prescribed fires on wildland with regard to the not reasonably controllable or preventable criterion have a number of common aspects, as described here and below in the section on prescribed fires, because a wildland situation presents particular considerations applicable to both fire types with respect to what prevention or control measures may be reasonable. The EPA is not proposing any general approach for wildfires or prescribed fires that are not on wildland.<sup>79</sup>

Because wildfires on wildland are unplanned, fire management agencies generally have either no advanced notice or limited and uncertain notice, of wildfire ignition and location. In addition, many areas of wildland are very remote and rugged, and thus not easily reached and traversed. These factors generally limit preparation time and on-site resources to prevent or control the initiation, duration or extent of a wildfire. Also, by their nature, catastrophic wildfires typically present some risk of property damage, ecosystem damage and/or loss of life (of the public or firefighters), which is a strong motivation for appropriate suppression and control efforts. The EPA believes that land managers and other fire management entities have the motivation and the best information for taking action to reasonably prevent and limit the extent of wildfires on wildland, thus also controlling the resulting emissions. Therefore, the EPA believes that it is not useful to require air agencies to include in their individual wildfire exceptional events demonstrations descriptions of prevention and control efforts employed by burn managers to support a position that such efforts were reasonable. To increase the efficiency of the exceptional events process, the EPA proposes a new approach for wildfires on wildland, under which there would be a rebuttable presumption that every wildfire on wildland satisfies the “not reasonably controllable or preventable” criterion, unless evidence in the record demonstrates otherwise. Applying this categorical presumption of not

reasonably controllable for wildfires would involve referencing the appropriate regulatory citation in the demonstration.

As previously stated, there will be situations in which a fire manager could have suppressed or contained a wildfire but has allowed the fire to continue burning through an area with a current, in-place land management plan calling for restoration through natural fire or mimicking the natural role of fire. The EPA recognizes that this scenario could occur when a fire manager has a plan for acquiring personnel and equipment to address the wildfire (either coincidentally or because the wildfire was originally a prescribed fire) but the manager determines that allowing the wildfire to continue burning is safe and will conserve overall fire management resources compared to suppressing or containing the current wildfire and then conducting a separate prescribed burn at a later time. In such a scenario, even though the fire would meet the definition of a wildfire and even though we are proposing that in general wildfires will not need to be reviewed individually against the not reasonably controllable or preventable criterion, we would expect the fire manager to employ appropriate BSMP as described in section V.F.2.d when possible.

(iii) *Coordinated communications.* Regardless of the above considerations for wildfires, the EPA urges land managers and air agencies to coordinate, as appropriate, in developing plans and appropriate public communications regarding public safety and reducing exposure in instances where wildfires are potential exceptional events and contribute to exceedances of the NAAQS. Coordinated efforts can help air agencies satisfy the Exceptional Events Rule obligation at 40 CFR 51.930 that air agencies must provide public notice and public education and must provide for implementation of reasonable measures to protect public health when an event occurs.<sup>80</sup> Also, when wildfire impacts are frequent and significant in a particular area, land managers, land owners, air agencies and communities may be able to lessen the impacts of wildfires by working collaboratively to take steps to minimize fuel loading in areas vulnerable to fire.<sup>81</sup>

Fuel load minimization steps can consist of both prescribed fire and mechanical treatments, such as using mechanical equipment to reduce accumulated understory.

#### d. Prescribed Fires

As noted previously, the EPA recognizes and acknowledges the potential significant impact on air quality posed by catastrophic wildfires. The use of prescribed fire on wildland can influence the occurrence, severity, behavior and effects of catastrophic wildfires, which may help manage the contribution of wildfires to measured ambient pollutant levels (particularly ozone and PM concentrations). Additionally, prescribed fires can benefit the plant and animal species that depend upon natural fires for propagation, habitat restoration and reproduction, as well as a myriad of ecosystem functions (e.g., carbon sequestration, maintenance of water supply systems and endangered species habitat maintenance). The EPA formally recognized in the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* that federal, tribal and state owners and land managers use prescribed fire on wildland to achieve some of these resource benefits, to correct the undesirable conditions created by past wildfire suppression management strategies and to reduce the risk of wildfires to the public. Although the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* focused on the role of federal, tribal and state owners/land managers, it also recognized that prescribed fires on private lands achieve some of the same goals. These concepts, also noted in the preamble to the 2007 Exceptional Events Rule, are summarized in more detail immediately below. In recent regulatory actions,<sup>82</sup> the EPA has continued to express an understanding of the importance of prescribed fire, noting that it can be used to mimic the natural process necessary to manage and maintain existing fire-adapted ecosystems and/or return an area to its historical ecosystem (or another natural ecosystem if the historical ecosystem is no longer attainable) while reducing the risk to public safety and the risk of uncontrolled emissions from catastrophic wildfires.

*Current Situation.* The 2007 Exceptional Events Rule recognized the benefits of prescribed fire as

<sup>79</sup> While we are proposing special provisions only for fires that occur predominantly on wildland, we do not intend to restrict fires on other types of land from receiving similar treatment. In addressing the not reasonably controllable or preventable criterion in a demonstration for a wildfire that is not on wildland, air agencies should state that available resources were reasonably aimed at suppression and avoidance of loss of life and property and that no further efforts to control air emissions from the fire would have been reasonable.

<sup>80</sup> 72 FR 13575 (March 22, 2007).

<sup>81</sup> One example of this collaborative approach is the evolving interagency Wildland Fire Air Quality Response Program, which has developed resources to help address and predict smoke impacts from wildfires to reduce public exposure to wildfire smoke. Additional information is available at [http://www.westar.org/Docs/Business%20Meetings/Spring14/Boise/12.3%20Lahm\\_WFAQRP\\_5\\_28\\_14.pdf](http://www.westar.org/Docs/Business%20Meetings/Spring14/Boise/12.3%20Lahm_WFAQRP_5_28_14.pdf).

<sup>82</sup> See, for example, National Ambient Air Quality Standards for Ozone; Proposed Rule (79 FR 75234, December 17, 2014) and Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements; Final Rule (80 FR 12264, March 6, 2015).

summarized earlier in this section and included provisions for these event types in both the preamble to the final rule and in regulatory language. The preamble to the 2007 Exceptional Events Rule defined a prescribed fire as “a fire ignited by management objectives to meet specific resource management needs.” This was consistent with the definition of prescribed fire in general use by the fire management community at the time.<sup>83</sup> Also in the preamble language, the EPA explained that prescribed fire cannot be classified as natural given the extent of the direct human causal connection. However, the preamble explained that a prescribed fire that causes or contributes to an exceedance or violation of an ambient air quality standard could still be considered an exceptional event if it satisfies all core statutory elements of CAA section 319(b), including the “human activity that is unlikely to recur at a particular location” and the “not reasonably controllable or preventable” criteria.

The 2007 Exceptional Events Rule preamble further explained that air agencies should take into account the natural fire return interval<sup>84</sup> as part of the basis for establishing that the human activity (*i.e.*, the prescribed fire) is “unlikely to recur at a particular location.” The preamble acknowledged that the natural fire return interval can vary widely and range from once every year to less frequently than once every 200 years.

When addressing the “not reasonably controllable or preventable” criterion, the 2007 Exceptional Events Rule preamble instructed agencies to examine whether there are “reasonable alternatives,” such as mechanical or other (*e.g.*, chemical) treatments to the use of prescribed fire. The preamble language recognized that, although case- and area-specific, any number of conditions could exist that would favor the use of prescribed fire rather than alternate treatments. Such scenarios identified in the preamble included: significant build-up of forest fuels in a particular area that if left unaddressed would pose an unacceptable risk of catastrophic wildfire; pest or disease

outbreak; natural species composition dependent on a specific fire return interval; and legal requirements precluding the use of mechanical fuel reduction methods.

The 2007 Exceptional Events Rule also indicated, in both preamble discussion and rule text, that to further satisfy the “not reasonably controllable or preventable” criterion for prescribed fires and to address the principle at section 319(b)(3)(A) of the CAA that the protection of public health is the highest priority, a prescribed fire would be considered to be an exceptional event only if the state has certified to the EPA that it has adopted and is implementing a SMP or the state has ensured that the burner has employed BSMP. While the EPA did not identify in the 2007 Exceptional Events Rule the necessary components of an SMP or what SMP certification entails, the preamble cited the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires*.<sup>85</sup> This policy identified the following basic components of a certifiable SMP:<sup>86</sup>

- Authorization to Burn—including a process for authorizing or granting approval to manage fires for resource benefits within a region, state or on Indian lands and identify a central authority responsible for implementing the program. The authorization process could include burn plans that consider air quality and the ability of the airshed to disperse emissions from all burning activities on the day of the burn.
- Minimizing Air Pollutant Emissions—encourages wildland owners/managers to consider and evaluate alternative treatments to fire, but if fire is the selected approach to follow emission reduction techniques.
- Smoke Management Components of Burn Plans—identifies the following components if the SMP requires burn plans: Actions to minimize fire emissions, evaluate smoke dispersion, public notification and exposure reduction procedures and air quality monitoring.
- Public Education and Awareness—establishes the criteria for issuing health advisories when necessary and

procedures for notifying potentially affected populations.

- Surveillance and Enforcement—includes procedures to ensure that wildland owners/managers comply with the SMP.

- Program Evaluation—provides for periodic review by all stakeholders of the SMP effectiveness and program revision as necessary.

The 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* also noted, regarding the certification process for SMPs, that to receive special consideration for air quality data whose concentrations were influenced by prescribed fires, “[t]he State/tribal air quality manager must certify in a letter to the Administrator of EPA that at least a basic [smoke management] program has been adopted and implemented . . . .” The 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* further identified that federal agencies intending to use prescribed fire should operate under an approved prescribed fire plan and meet the National Environmental Policy Act (NEPA) requirements, where applicable, prior to ignition.<sup>87</sup>

The EPA did not use the preamble to the 2007 Exceptional Events Rule to expand on the concept of using BSMP in lieu of an SMP. Rather, the EPA only noted that burners could use BSMP to minimize emissions and control the impacts of fire. Although the EPA identified several example BSMP in a footnote in the preamble (footnote 12 at 72 FR 13567), we also committed to developing the concept when we updated the guidance in the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires*. The EPA has not revised this guidance and does not currently plan to do so. Although some states have developed demonstrations that incorporate BSMP employed for a specific prescribed fire and/or referenced BSMP in their SMPs, the EPA has not in any other more recent guidance clarified what it means for an

<sup>83</sup> The October 2014 NWCG definition of “prescribed fire” is similar but includes the concept that the fire is not illegal: “[a]ny fire intentionally ignited by management actions in accordance with applicable laws, policies, and regulations to meet specific objectives.”

<sup>84</sup> The natural fire return interval is the typical number of years between two successive naturally-occurring fires in a specified area or ecosystem. The historical rate of return of these fires resulted in plant communities that evolved with recurring fire and therefore became dependent on fire for maintenance.

<sup>85</sup> The discussion of the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* recommendations regarding SMPs appears in the preamble to the 2007 Exceptional Events Rule at 72 FR 13567 (March 22, 2007).

<sup>86</sup> The language associated with the six basic components of a certifiable SMP was taken directly from the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires*. For context, the EPA notes that the identified components of a certifiable SMP apply to managing smoke from prescribed fires managed for resource benefits. The EPA would expect burn managers to consider actions and approaches where applicable or where appropriate rather than in all prescribed fire scenarios.

<sup>87</sup> In specifying the basic components of certifiable SMPs that would include the requirement for agency approval of prescribed fire plans, the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* noted that SMPs can mitigate the nuisance and public safety hazards associated with smoke from prescribed fires intruding into populated areas, prevent deterioration of air quality and NAAQS violations and address visibility impacts in mandatory Class I Federal areas. Since the EPA issued the Interim Policy in 1998, some federal agencies have reported to us their assessment that some states and/or local air agencies have managed their SMP (or other regulatory programs) in such a way as to exclude the use of prescribed fires in areas to such an extent that fuels have continued to accumulate to levels that increase the likelihood of catastrophic wildfires.

air agency or burner to have a certified SMP in place and/or to implement BSMP.

In addition to conditioning the approval of a prescribed fire as an exceptional event on the existence and implementation of a certified SMP or the actual use of BSMP, as described above, the 2007 Exceptional Events Rule also requires that “[i]f an exceptional event occurs using the basic smoke management practices approach, the State must undertake a review of its approach to ensure public health is being protected and must include consideration of development of a SMP.” To date, air agencies have submitted few exceptional events demonstrations for prescribed fires. One recent submission came from Kansas, a state already operating an SMP.<sup>88</sup>

The 2007 Exceptional Events Rule at 40 CFR 50.14(b)(3) allows for the exclusion of data where a state demonstrates to the EPA’s satisfaction that emissions from prescribed fires caused a specific air pollution concentration in excess of one or more NAAQS at a particular air quality monitoring location and otherwise satisfies the requirements in the Exceptional Event Rule. The regulatory language also requires that the subject prescribed fire meets the definition in 40 CFR 50.1(j) and requires that the state has certified to EPA that it has adopted and is implementing a Smoke Management Program or the state has ensured that the burner employed basic smoke management practices. The definition of an exceptional event at 40 CFR 50.1(j) includes the requirement that an event “is not reasonably controllable or preventable.” Thus, the EPA has interpreted that a demonstration for a prescribed fire independently address both the SMP/BSMP element and the not reasonably controllable or preventable criterion. We have not indicated that meeting the SMP/BSMP condition is sufficient to satisfy the not reasonably controllable or preventable criterion.

**Proposed Changes.** As previously noted, the EPA has not to date clarified fire-related definitions or its expectations regarding SMPs or BSMP in rule or preamble form. This uncertainty has created confusion for air and fire management agencies trying to develop fire-related plans and/or apply fire management practices for

prescribed fires. It has also created confusion for air agencies when developing and submitting exceptional events demonstrations for both wildfires and prescribed fires.

To assist air agencies in documenting an exceptional events package for a prescribed fire on wildland, the EPA proposes to clarify its expectations for a satisfactory demonstration, as follows.

(i) *Definition of a prescribed fire.* We are proposing to adopt in rule language the current NWCG-recommended definition of a prescribed fire: “[a]ny fire intentionally ignited by management actions in accordance with applicable laws, policies and regulations to meet specific objectives.” In this definition, “management” refers to the owner or manager of the land area to which prescribed fire is applied, and “specific objectives” refers to specific land or resource management objectives.

(ii) *Events caused by human activity.* We are proposing to say in rule form that prescribed fires are events caused by human activity. Thus, to be considered an exceptional event, every prescribed fire demonstration must address the “human activity unlikely to recur at a particular location” criterion.

(iii) *Unlikely to recur at a particular location.* As discussed in more detail in section V.E.1 of this proposal, this requirement of CAA section 319(b) is not specific and requires interpretation on a case-by-case or event type-by-event type basis. The term “unlikely” implies consideration of the expected future frequency of events similar to the event that has already happened, but does not convey any particular benchmark for what frequency should be low enough to be considered “unlikely.” Also, the term “at a particular location” requires interpretation, as it could refer to the exact area or only to the general area of the event, to the location of the ambient monitoring station or stations that were affected by the event or to the combination of both.

As was our position in 2007, we continue to believe that the natural fire return interval is a useful and appropriate benchmark for a satisfactory demonstration that a prescribed fire is unlikely to recur at a particular location, in the sense that if a planned program of prescribed fire calls for the application of prescribed fire at a similar interval to the natural fire return interval at given locations then each prescribed fire conducted in that program can be considered not likely to recur at its particular location. However, we now believe based on experience and further consideration that the natural fire return interval is not the only appropriate benchmark. It can be

difficult in some cases to determine what fire return interval prevailed under natural conditions, which may not have existed for decades or even hundreds of years in a particular area. Also, in some cases environmental conditions may have changed, for example due to climate change, such that the original natural ecosystem cannot realistically be restored and the well-considered land management goal instead may be the development and maintenance of a sustainable and resilient ecosystem that is different than what historically existed and that will likely reduce the risk of catastrophic wildfire. In such a case, the frequency of prescribed fire needed to establish or restore such an ecosystem during a transitional period and/or the frequency needed to sustain the resilient ecosystem may be different than the natural fire return interval that once prevailed. It is also important to consider issues of fire personnel and public safety and protection of nearby property. Land managers may need to apply prescribed fire at a frequency that maintains the accumulation of fuel loading between prescribed fires at a level that does not create the risk of a dangerous wildfire.

Accordingly, the first proposed change for prescribed fires on wildland is to include in the rule text two benchmarks for the expected future frequency of prescribed fires on wildland to meet the not likely to recur criterion: (1) The natural fire return interval as articulated in the 2007 preamble and (2) the prescribed fire frequency needed to establish, restore and/or maintain a sustainable and resilient wildland ecosystem. If finalized, an air agency could include information provided by the land manager with respect to the appropriate benchmark for a prescribed fire on wildland as the basis for satisfying the human activity unlikely to recur at a particular location criterion in its exceptional events demonstration.<sup>89</sup>

Successfully implementing one of these benchmarks for prescribed fire frequency necessitates that the air agency and the land manager collaborate to establish and document the appropriate fire return interval or frequency in a submitted demonstration. Federal agencies that use prescribed fire to manage lands for which they are responsible generally prepare multi-year plans for the use of prescribed fire in a given national park, national forest, armed forces base or other land area. Many of these plans include an

<sup>88</sup> Treatment of Data Influenced by Exceptional Events: Exceptional Events Submissions Table. U.S. Environmental Protection Agency, Research Triangle Park, NC. See links associated with “April 2011 Fires” in the ozone section of the table available at <http://www2.epa.gov/air-quality-analysis/exceptional-events-submissions-table>.

<sup>89</sup> The benchmarks for the expected frequency of prescribed fires not on wildland would be assessed on a case-by-case basis.



objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and incorporate the best science available to determine what prescribed fire cycle will accomplish this.<sup>90</sup> Some tribes, private landowners (and federal, state and local agencies working with private landowners) and state agencies that manage state-owned lands (e.g., state parks) also prepare multi-year management plans. While plans developed by public agencies (i.e., state and federal agencies) often undergo public comment prior to being finalized, the plans developed by tribes and private landowners may not follow a public comment process. However, public agencies often work with tribes and private owners to develop these plans, which are based on conservation practices and standards that have often undergone public comment as part of the state or federal agency process.

The EPA understands that multi-year plans incorporate factors relevant to identifying and selecting the areas and times under which management will initiate a specific prescribed fire. The EPA also recognizes that evaluating the behavior and results of prior prescribed fires aids in determining the frequency and need for future prescribed fire in a given area. In addition, personnel and equipment must be available on site, which cannot be specifically planned far in advance. Thus, it is typical for multi-year plans to identify somewhat general targets for the frequency of prescribed fire use and for specific burn plans. Even then, unexpected differences between planned and actual fire behavior, landscape or ecosystem characteristics, fuel loading patterns and weather patterns may cause management to deviate from the general plan and/or the specific burn plan. Therefore, when the EPA reviews an exceptional events demonstration for a prescribed fire conducted under a wildland management plan, we intend to compare the actual time pattern of prescribed fires on the land with the pattern described in the applicable multi-year plan in a general way, rather than treating the multi-year plan as containing a specific schedule to which management must adhere. For example, if the wildland management plan identified an approximate 5-year burn interval, the EPA would not disapprove

a demonstration if the burn occurred on a 4-year or a 6-year interval.

Therefore, we are proposing in rule text that we will consider a demonstration's referencing of a multi-year land or resource management plan<sup>91</sup> (and including either a copy or an internet link to the plan) with a stated objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and/or to preserve endangered or threatened species that also identifies the subject area as a candidate for prescribed fire to be dispositive evidence that a particular fire conducted in accordance with such a plan satisfies the "unlikely to recur at a particular location" criterion. We would also consider a demonstration's referencing of a fire management plan for tribal or private lands that has been reviewed and certified by the appropriate fire and/or resource management professionals and agreed to and followed by the land owner/manager to be sufficient evidence satisfying the "unlikely to recur at a particular location" criterion.

(iv) *Not reasonably controllable or preventable.* Consistent with current practice and 2007 preamble/rule language, the EPA considers it appropriate to allow air agencies to rely on an in-place and implemented state-certified SMP to satisfy the controllability prong of the "not reasonably controllable or preventable" criterion. The EPA proposes to incorporate the six elements of SMPs discussed in the 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* and referenced in the preamble to the 2007 Exceptional Events Rule into the preamble of the final rule for this proposal, where it would serve as guidance. That is, at a minimum, a state-certified SMP would include provisions for (i) authorization to burn, (ii) minimizing air pollutant emissions, (iii) smoke management components of burn plans, (iv) public education and awareness, (v) surveillance and enforcement, and (vi) program evaluation. Certification would require that the air agency certify in a letter to the Administrator of the EPA, or a Regional Administrator, that it has adopted and is implementing a SMP.<sup>92</sup> Alternatively, the EPA solicits comment on incorporating these SMP elements

into rule text language. The EPA proposes to accept as sufficient the testimony of the air agency submitting an exceptional events demonstration that the SMP is being implemented, provided that prior to the EPA's acting on a demonstration, the record contains no clear evidence to the contrary.

Consistent with current practice and 2007 preamble and rule language, the EPA also considers it appropriate to allow air agencies to rely on a burn manager's use of BSMP that minimize emissions and control impacts, in lieu of a state-certified SMP, to satisfy the controllability prong of the "not reasonably controllable or preventable" criterion. To provide clarity and reduce uncertainty for air agencies and burn managers, the EPA proposes to identify in the rule text six BSMP practices as being generally applicable for exceptional events purposes for prescribed fires on wildland as well as other prescribed fires. The six BSMP, listed and described in more detail in Table 3, come from guidance on BSMP for prescribed burns provided by the U.S. Department of Agriculture (USDA) Forest Service (USFS) and USDA Natural Resources Conservation Service (NRCS).<sup>93</sup> Land managers of other federal, state and local agencies and private land owners generally endorse and follow this BSMP guidance.<sup>94</sup> While the listed practices are broadly stated, fire managers use site-specific considerations to select the exact actions of each type and apply them to specific burn projects. There may be situations in which one or more of the six BSMP is clearly not applicable for a particular prescribed burn—for example, if a prescribed fire is so remote that there are no neighbors to be notified. The EPA generally does not intend to challenge a burn manager's selection of the intensity or specific measure within the BSMP categories when we review a particular exceptional events demonstration. As part of the on-going assessment of our

<sup>93</sup> USDA Forest Service and Natural Resources Conservation Service, Basic Smoke Management Practices Tech Note, October 2011, [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1046311.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046311.pdf).

<sup>94</sup> The EPA also addressed how federal agencies may use basic smoke management practices to establish a presumption of conformity in the preamble to the EPA's General Conformity Rule at 40 CFR 93.153(g)–(i) (75 FR 17264, April 5, 2010). The six practices identified in Table 3 are not a presumed to conform action for purposes of a federal agency satisfying their General Conformity responsibilities. For basic smoke management practices to provide a presumption of conformity, the identified basic smoke management practices must be publicly and state reviewed as part of a presumed to conform action under 40 CFR 93.153(g) or (f) of the General Conformity Rule.

<sup>90</sup> An example of a federal land management plan that considers the need for the use of prescribed fire is the *Land and Resource Management Plan for the Kaibab National Forest, Coconino, Yavapai, and Mojave Counties, Arizona*, USDA Forest Service Southwestern Region, MB–R3–07–17, February 2014, available at [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb3791580.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb3791580.pdf).

<sup>91</sup> These plans could also include fire management plans, prescribed fire on wildland management plans, landscape management plans or equivalent public planning documents.

<sup>92</sup> The EPA anticipates that any person within an air agency responsible for submitting exceptional events demonstrations or SIP revisions could also be responsible for certifying a Smoke Management Program.

regulatory programs, we intend to generally review those practices commonly employed by federal agencies and other users of prescribed fire.

As another component of the approach for prescribed fires on wildland, the EPA is proposing to accept as evidence of the actual use of BSMP the fire manager's statement that

he or she employed applicable BSMP for a prescribed fire. Documentation of such statement for an exceptional events demonstration could consist of a copy of the routine post-burn report or a letter prepared by the fire manager (*see* example content of a burn report in Table 4). The EPA and other federal agencies will work collaboratively to

provide access to such post-burn reports by air agencies that need them. We encourage land managers and other organizations that employ prescribed fires to work with states and tribes to develop an efficient process to provide air agencies with documentation that BSMP were employed for particular prescribed fires.

**TABLE 3—SUMMARY OF BASIC SMOKE MANAGEMENT PRACTICES, BENEFIT ACHIEVED WITH THE BSMP, AND WHEN IT IS APPLIED**

[before, during or after ignition of the burn]<sup>a</sup>

Basic smoke management practice	Benefit achieved with the BSMP	When the BSMP is applied—before/during/after the burn
Evaluate Smoke Dispersion Conditions .....	Minimize smoke impacts .....	Before, During, After.
Monitor Effects on Air Quality .....	Be aware of where the smoke is going and degree it impacts air quality.	Before, During, After.
Record-Keeping/Maintain a Burn/Smoke Journal.	Retain information about the weather, burn and smoke. If air quality problems occur, documentation helps analyze and address air regulatory issues.	Before, During, After.
Communication—Public Notification .....	Notify neighbors and those potentially impacted by smoke, especially sensitive receptors.	Before, During.
Consider Emission Reduction Techniques .....	Reducing emissions through mechanisms such as reducing fuel loading can reduce downwind impacts.	Before, During, After.
Share the Airshed—Coordination of Area Burning.	Coordinate multiple burns in the area to manage exposure of the public to smoke.	Before, During, After.

<sup>a</sup> The EPA believes that elements of these BSMP could also be practical and beneficial to apply to wildfires for areas likely to experience recurring wildfires.

**TABLE 4—ELEMENTS THAT MAY BE INCLUDED IN BURN PLANS AND POST-BURN REPORTS FOR PRESCRIBED FIRES SUBMITTED AS EXCEPTIONAL EVENTS**

Element	Burn plan	Post-burn report
Fire Name <sup>a</sup> .....	X .....	X.
Permit number (if appropriate) .....	X .....	X.
Latitude/longitude and physical description .....	X .....	X.
Date of burn, ignition time and completion time (duration of burn).	X .....	X.
AQI status on burn day, if available (both in the vicinity of the fire and in the affected upwind area).	Predicted .....	Actual.
Acres burned .....	Planned .....	Actual (blackened).
Description of fuel loading .....	Estimated .....	Actual (tons consumed).
Meteorological data (weather conditions, wind speed and direction, dispersion).	Predicted conditions (including predicted dispersion).	Actual conditions (including actual dispersion).
Smoke Impacts .....	Anticipated smoke impacts .....	Observed or reported smoke impacts (include nature, duration, spatial extent and copies of received complaints).
BSMP actions to reduce impacts .....	Expected BSMP actions .....	Actual BSMP actions.
Recommendations for future burns in similar areas.	.....	X.
Analytics (modeled/actual fire spread, satellite imagery and analysis, webcam/video, PM/ozone concentrations over the course of the fire).	.....	X.

<sup>a</sup> The "Fire Name" should be unique and referenced, to the greatest extent possible, in all exceptional events-related documentation, including the event name in AQS. The fire name could simply consist of the county and state in which the burn occurred (*e.g.*, County X, State Y Prescribed Burn on Date Z) if no other name has been assigned.

States with certified SMPs typically have robust communications between officials concerned with air quality impacts and officials and members of

the public who use prescribed fire. These groups communicate during the development of the SMP, during the day-to-day burn authorization process

and in the periodic review and potential revision of the SMP. States that instead rely on fire managers employing BSMP on a more individual basis may not have

such regularly occurring communications processes, particularly in states in which state legislation gives the leadership of fire management to a forestry or public safety agency rather than to an air agency. We encourage all agencies and managers/owners involved in land, air quality and fire management to develop good communications about both fire use practices in general and plans for specific prescribed fires with use of BSMP. This will, among other benefits, allow them to better coordinate on public air quality notice efforts and, if necessary, public health advisories should smoke enter an inhabited area. Additionally, the EPA encourages the development of “prescribed fire councils,” comprised of federal, state, tribal, private and other stakeholders to coordinate activities involving fire planning issues and, thus, minimize or prevent smoke impacts while using prescribed fire to accomplish land management objectives.<sup>95</sup> However, we are not proposing that notifications between prescribed fire users and specific types of state agencies be a condition for approval of a prescribed fire as an exceptional event.

As previously stated, to date we have considered the existence and implementation of a SMP or the use of BSMP to be a necessary part of the supporting evidence needed to satisfy the not reasonably controllable or preventable criterion, but we have not clearly addressed what conditions are minimally sufficient to satisfy the criterion. The remainder of this section focuses on that issue.

Because prescribed fires are intentionally initiated, clarifying the minimal conditions for the not reasonably preventable prong is particularly relevant. The detailed USFS/NRCS guidance on the fifth listed BSMP, Consider Emission Reduction Techniques, includes the potential to reduce the fuel loading. It does not suggest that it may be reasonable to *not* ignite a particular prescribed fire (*i.e.*, that the fire be prevented), because this guidance is aimed at those fires that are already planned to happen. Similarly, SMPs address coordination of previously planned prescribed fires and typically do not ask SMP participants to consider whether particular prescribed fires are reasonably preventable. Therefore, we do not believe that the existence of an SMP or the use of BSMP is a sufficient basis for concluding that a prescribed fire is not reasonably

preventable. A prescribed fire should be concluded to be not reasonably preventable on the basis of the benefits that would be foregone if it were not conducted, as described below.

For federal agencies, the planning of prescribed fire programs typically happens through the development of multi-year plans that focus on specific land or resource management objectives. This planning process, and the resulting multi-year plan, typically considers the importance of a prescribed fire program to achieving land management goals, which may include an objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem, in light of the availability, cost and effectiveness of other approaches to fuel management. The final multi-year plans thus generally identify the level of prescribed fire use necessary to achieve those goals. As noted previously, some tribes, private landowners (and federal, state and local agencies working with private landowners) and state agencies that manage state-owned lands (*e.g.*, state parks) also prepare multi-year management plans. While plans developed by public agencies (*i.e.*, state and federal agencies) often undergo public comment prior to being finalized,<sup>96</sup> the plans developed by tribes and private landowners may not follow a public comment process. However, public agencies often work with tribes and private owners to develop these plans, which are based on conservation practices and standards that have often undergone public comment as part of the state or federal agency process. Not conducting the prescribed fire programs described in such plans could mean forgoing important ecosystem services and other benefits. Accordingly, the EPA is proposing in rule text form to consider a prescribed fire on wildland conducted in accordance with a multi-year fire management plan that has an objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem to be not reasonably preventable, provided there is no compelling evidence to the contrary in the record when the EPA approves the associated exceptional events demonstration.<sup>97</sup>

<sup>96</sup> Many multi-year plans developed by state and federal agencies are available electronically online or can be requested directly from the preparing agency. Interested parties can also request electronic versions of project level plans, if they are not available online.

<sup>97</sup> On a case-by-case basis, in the absence of a multi-year plan, the EPA would also consider a prescribed fire on wildland conducted on a fire return interval established according to scientific

We also propose in rule text that compliance with either a state-certified SMP or BSMP is sufficient to establish that a prescribed fire was not reasonably controllable, provided there is no compelling evidence to the contrary in the record when the EPA concurs with the associated exceptional events demonstration. This is an appropriate approach to implementing CAA section 319(b), because SMPs and BSMP aim to reasonably control the air quality impacts of prescribed fires.<sup>98</sup>

This two-part categorical approach would reduce the length of exceptional events demonstrations for prescribed fires on wildland and make the demonstration preparation and review process more resource efficient. In summary, to satisfy the not reasonably controllable or preventable criterion for a prescribed fire on wildland, a demonstration would need to identify that the prescribed burn was conducted in accordance with a multi-year plan that has an objective of the establishment, restoration and/or maintenance of a sustainable and resilient wildland ecosystem and was conducted in compliance with either a state-certified SMP or BSMP.

Finally, we are proposing to remove the phrase “and must include consideration of development of a SMP” from the sentence of the existing text of 40 CFR 50.14(b)(3) that reads, “If an exceptional event occurs using the basic smoke management practices approach, the State must undertake a review of its approach to ensure public health is being protected and must include consideration of development of a SMP.” While the EPA supports states considering the development of a SMP in the situation described in this sentence, we believe states have had ample opportunity to develop such a program since 2007. This rule language effectively requires an ongoing consideration to develop an SMP every time a prescribed fire causes a NAAQS exceedance or violation that merits exclusion as an exceptional event. We do not believe Congress intended this ongoing consideration to be a requirement flowing from CAA section 319(b). In addition, we believe that an

literature to satisfy the not reasonably controllable or preventable criterion provided the prescribed fire was also conducted with the objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and conducted in compliance with either a state-certified SMP or BSMP. This case-by-case approach is similar to the approach currently used under the 2007 Exceptional Events Rule.

<sup>98</sup> With respect only to the not reasonably controllable prong, we also believe that the SMP and BSMP approach each is sufficient for prescribed fires that are not on wildland.

<sup>95</sup> See additional information on prescribed fire councils on the Coalition of Prescribed Fire Councils, Inc. Web site at <http://www.prescribedfire.net/membership/state-councils>.

SMP is most appropriate when multiple parties wish to employ prescribed fire at about the same time in the same airshed, which is a more narrow situation than specified in this sentence. We also do not want our rules to be open to an inference that development of a SMP should only be considered following a NAAQS exceedance or violation, because the impacts from fires may affect public health in areas without NAAQS-compliance air monitoring stations. Also, we believe that when air agencies observe NAAQS exceedances or violations attributed to a prescribed fire, air agencies should consider a wide range of alternatives including, but not limited to, the development of a SMP. For example, agencies might also consider the more frequent or intensive use of BSMP to limit the fuel available to burn in each fire.

The EPA solicits comment on all aspects of the identified fire-related approaches.

### 3. Stratospheric Ozone Intrusions

#### a. Current Situation

Stratospheric ozone intrusions are natural events that occur when a parcel of air originating in the stratosphere is re-entrained into the troposphere, and in some cases mixes directly to the surface of the earth. These relatively rare events can create elevated ozone concentrations that affect areas ranging from a single monitoring site to a wider area as the air mass with a high ozone concentration moves across the landscape.

Normally, the tropopause, the temperature inversion layer of air that separates the troposphere from the stratosphere, limits the transport of stratospheric air into the troposphere, the lowest layer of the Earth's atmosphere.<sup>99</sup> In some cases, however, parcels or ribbons of ozone-rich air from the stratosphere can be transported rapidly to the surface during deep mixing events, such as thunderstorms or strong frontal passages, by a process known as tropopause folding. Although this "folding" process can occur throughout the year, it is typically associated with frontal passages and upper level low pressure systems during the spring season.<sup>100 101</sup> The ozone

transported through these "folds," or through other less significant mechanisms, may disperse within and be destroyed in the upper troposphere or it may mix down to the surface.<sup>102</sup> The "intrusion" of stratospheric ozone is identified most frequently at high elevation sites where upper tropospheric air is more likely to reach the surface than at lower elevation sites where more downward movement would be needed for a monitoring site to be affected. At these high elevation sites in particular, stratospheric ozone intrusion has been estimated to contribute about 20 to 25 percent of the total tropospheric ozone budget and can cause relatively short-term (*i.e.*, ranging from several hours to 2–3 days in duration) increases of surface ozone of 10 to 50 ppb above normal background levels.<sup>103</sup> Stratospheric intrusions with short-lived surface ozone concentrations of several hundred ppb have also been observed, although these events are extremely rare.

Because stratospheric intrusion events are relatively infrequent and because identifying and monitoring these events are challenging, there have been few direct measurements showing that a given parcel of surface air contains stratospheric ozone (versus ozone generated by local natural or anthropogenic sources). Interpreting these direct measurements is also challenging. One approach to confirm the presence of stratospheric ozone in surface air is through the use of the beryllium tracers, beryllium isotopes Be-7 and Be-10, which are produced primarily in the stratosphere by cosmic ray collisions with atmospheric gas atoms.<sup>104</sup> Beryllium isotope measurements are, however, rare and expensive, and, consequently not normally available.

More common approaches to identify stratospheric ozone in surface air can

shedding stratospheric air." *Geophys. Res. Lett.*, 41, 7785–7790, doi:10.1002/2014GL061921.

<sup>101</sup> A. O. Langford, K. C. Aikin, C. S. Eubank and E. J. Williams. Stratospheric Contribution to High Surface Ozone in Colorado During Springtime, *Geophysical Research Letters*, Vol. 36, Issue 12, June 2009.

<sup>102</sup> Other mechanisms by which stratospheric ozone is transported into the troposphere include cutoff cyclones, streamers (long filamentary structures that often roll into vortices), and clear air turbulence (*see* [http://www.atmos.umd.edu/~dkuhl/documents/Kuhl\\_Tropopause\\_Folding.ppt](http://www.atmos.umd.edu/~dkuhl/documents/Kuhl_Tropopause_Folding.ppt)).

<sup>103</sup> Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Final Report). U.S. EPA, Washington, DC EPA/600/R-10/076F. Available at: [http://www3.epa.gov/ttn/naaqs/standards/ozone/s\\_o3\\_2008\\_isa.html](http://www3.epa.gov/ttn/naaqs/standards/ozone/s_o3_2008_isa.html).

<sup>104</sup> Cristofanelli, P. A 6-year analysis of stratospheric intrusions and their influence on ozone at Mt. Cimone (2165 m above sea level). *Journal of Geophysical Research*, Vol. 111, D03306, doi:10.1029/2005JD006553, 2006.

include evaluating measurements at the potentially influenced ozone monitoring site for very low concentrations of CO and/or relative humidity. Both can be strong indicators of stratospheric air because, relative to tropospheric air, stratospheric air has very low relative humidity and very low concentrations of other air pollutants such as CO, NO<sub>x</sub> and PM. The concurrent impacts on CO and relative humidity can be subtle, however, when stratospheric air has mixed with tropospheric air as the mixing process dilutes the ozone enhancement and increases CO and water vapor concentrations relative to stratospheric conditions. Typical CO monitors used for ambient air monitoring have operational ranges of 500 to 50,000 ppb (0.5 to 50 ppm) and are not sufficiently sensitive to reliably measure the very low CO levels found in stratospheric air (50 to 150 ppb). Additionally, few rural high altitude monitoring sites have both ozone and CO monitors.<sup>105</sup> The EPA urges air agencies to provide concurrent readings of ozone and CO and/or relative humidity in their exceptional events demonstrations if they have these data. The EPA will evaluate these data as a part of a weight of evidence showing alongside other qualitative evidence in a clear causal relationship showing.

A third measurement-based approach to identifying stratospheric ozone could include measurements of ozone above ground level (*i.e.*, measurements in the troposphere). This approach is also uncommon. Currently, five sites in the U.S. conduct ozone sonde (balloon) launches two or more times per week and an additional few research locations operate ozone lidars to vertically measure ozone profiles.<sup>106 107</sup>

In the absence of direct measurements of stratospheric tracers at ground level,

<sup>105</sup> A recent review of AQS data revealed 216 sites in the United States with collocated ozone and carbon monoxide monitors in operation after January 1, 2014. Most of these sites are located in either urban or suburban locations. In these settings, local emissions would likely hide the stratospheric CO suppression.

<sup>106</sup> Lidar, which stands for Light Detection and Ranging, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses, combined with other data recorded by the airborne system, generate precise, three-dimensional information about the shape of the Earth and its surface characteristics. *See*, NOAA definition at <http://oceanservice.noaa.gov/facts/lidar.html>.

<sup>107</sup> *See* NOAA data available at <ftp://aftp.cmdl.noaa.gov/data/ozwv/Ozonesonde>. On April 30, 2015, NOAA's site identified the following five sites in the U.S. that conduct bi-weekly ozone sonde launches: Hilo, HI; Huntsville, AL; Narragansett, RI; Trinidad Head, CA; and Boulder, CO. Additional launches occur in Pago Pago, American Samoa, and outside of the U.S. in Greenland, Antarctica and Fiji.

<sup>99</sup> The height of the tropopause varies with latitude and season but the average height at mid-latitudes is about 11 kilometers (km) (7 miles or 36,000 feet). The stratosphere, the second layer of the Earth's atmosphere, is located above the tropopause at 13 to 50 km (8–31 miles or 43,000 to 160,000 feet) above the Earth's surface.

<sup>100</sup> Pan, L. L., et al. (2014), "Thunderstorms enhance tropospheric ozone by wrapping and

meteorological models can indicate conditions under which stratospheric air parcels may reach the surface. Meteorological models such as the National Oceanic and Atmospheric Administration (NOAA)/National Weather Service (NWS) North American Mesoscale Forecast System (NAM) or the NOAA Rapid Update Cycle (RUC) models simulate parameters characteristic of stratospheric air such as isentropic potential vorticity (IPV) and potential temperature (PT) that can be used to identify tropopause folding. Visualization tools using the model output can show spatially where stratospheric air is located in proximity to or in contact with the surface. Similarly, atmospheric chemistry models, such as the National Aeronautics and Space Administration (NASA)/NOAA Real-time Air Quality Modeling System (RAQMS)<sup>108</sup> can provide both real time intrusion forecasting and retrospective analysis of ozone from intrusions. Finally, satellite observation of atmospheric ozone and CO can be used to validate predictions based on atmospheric modeling.

Although as of the date of this proposal the EPA has concurred with only one stratospheric ozone intrusion exceptional events demonstration prepared under the provisions of the 2007 Exceptional Events Rule (and disapproved none),<sup>109</sup> the EPA has been communicating that we consider it appropriate to use the previously mentioned stratospheric ozone tools with other event/pollutant exceptional events analyses (e.g., seasonal analysis of ozone data, comparison of event days with non-event days, trajectory analysis, ozone measurement time series and spatial distribution analysis, meteorological analysis to show the presence of weather systems associated with typical intrusions and balloon soundings of the NWS Upper Air Observation Program to detect parcels of dry air aloft) to successfully demonstrate stratospheric ozone exceptional events.

#### b. Proposed Changes

As is true for all exceptional events and pollutant combinations, when submitting a demonstration for stratospheric ozone intrusion events, air agencies must address all of the Exceptional Events Rule criteria. As noted in this action, the EPA proposes

to return to the core statutory elements and implicit concepts of CAA section 319(b): That the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation, the event was not reasonably controllable or preventable and the event was a human activity that is unlikely to recur at a particular location or was a natural event. The EPA suggests the following approach when addressing these technical criteria for an ozone exceedance or violation caused by a stratospheric intrusion.

An air agency should begin by showing the geographic extent of elevated or exceedance-level ozone concentrations associated with the intrusion event in conjunction with an evaluation of the historical measured surface ozone levels for the same season (see section V.E.3 of this proposal for example analyses of how to present the comparison to historical concentrations within the clear causal relationship criterion). If the intrusion happened at a time of year when local or transported photochemical ozone is generally low, evidence that the intrusion affected ground level air quality may be relatively brief and still be sufficient, compared to an intrusion occurring at the height of the historical ozone season.

If intrusion claims coincide with historically high photochemistry seasons, then the air agency may need additional evidence to support the clear causal relationship criterion by showing the relative contribution estimates to the exceedance from local and transported anthropogenic pollutants compared to the intrusion contribution. An air agency can provide additional analyses supporting the clear causal relationship by showing that an intrusion occurred at or near the location of an identified monitor by using atmospheric models such as RAQMS, NAM or RUC, with additional data from satellite observations of total column ozone and CO.

The EPA intends to accept a short statement in a demonstration that because stratospheric ozone intrusions are purely natural events and are large in scale, they are not reasonably controllable or preventable.

#### 4. High Wind Dust Events

##### a. Current Situation

The 2007 Exceptional Events Rule preamble noted that “[t]he EPA’s final rule concerning high wind events states that ambient particulate matter concentrations due to dust being raised

by unusually high winds will be treated as due to uncontrollable natural events where (1) The dust originated from nonanthropogenic sources, or (2) 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.” As noted in section IV.B of this document, although this language still reflects the EPA’s interpretation of what might be appropriate under the Exceptional Events Rule, the D.C. Circuit determined the language to be a legal nullity because the EPA did not specifically address high winds or ambient particulate matter concentrations in the promulgated regulatory language in 40 CFR 50.14.

The preamble to the 2007 Exceptional Events Rule also noted that because “. . . the conditions that cause or contribute to high wind events vary from area to area with soil type, precipitation, and the speed of wind gusts, [air agencies] should provide appropriate documentation which indicates what types of circumstances contributed to the exceedances or violation at the monitoring site in question.” The EPA declined to identify a specific high wind threshold to qualify as being an exceptional event and instead relied on air agencies to submit appropriate documentation supporting their position.

Because of the uncertainty associated with these high wind statements and stakeholder feedback asking the EPA to interpret this language and provide examples of applying the provisions in the 2007 Exceptional Events Rule to high wind dust events, the EPA clarified many concepts related to high wind dust events in its May 2013 Interim Exceptional Events Implementation Guidance, specifically the Interim High Winds Guidance document.<sup>110</sup> In this guidance, the EPA defined a high wind dust event as including the high wind and the dust that the wind entrains and transports to a monitoring site, clarified our expectations regarding “reasonable controls” for high wind events with contribution from both natural and anthropogenic sources and introduced the concept of establishing a value for a high wind threshold, up to which reasonable windblown dust controls are

<sup>108</sup> See <http://raqms-ops.ssec.wisc.edu/>.

<sup>109</sup> Wyoming Department of Environmental Quality, Air Quality Division. Big Piney and Boulder, Wyoming Ozone Standard Exceedance, June 14, 2012. Available at <http://www2.epa.gov/air-quality-analysis/exceptional-events-submissions-table>.

<sup>110</sup> *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*, U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf).

expected to be effective in the absence of site specific data or analyses.

As identified in the Interim High Winds Guidance document, dust phenomena are experienced primarily in the western U.S. where rainfall is seasonal, creating dry and dusty landscapes.<sup>111</sup> In high wind dust events, the meteorological phenomenon (*i.e.*, wind) is purely natural, but the pollution from the event may be a mixture of natural sources (*e.g.*, undisturbed soil) and anthropogenic sources (*e.g.*, soil disturbed by human activity, emissions from sand and gravel facilities, etc.). The EPA generally classifies high wind dust events as “natural events” in cases where windblown dust is entirely from natural sources or where all significant anthropogenic sources of windblown dust have been reasonably controlled.<sup>112</sup> This long-standing policy was first established in the PM<sub>10</sub> Natural Events Policy, which provided that:

Ambient PM-10 concentrations due to dust raised by unusually high winds will be treated as due to uncontrollable natural events under the following conditions: (1) The dust originated from nonanthropogenic sources, or (2) the dust originated from anthropogenic sources controlled with best available control measures (BACM).<sup>113</sup>

Also integral to definition of a high wind dust event is that the wind speed be “high,” or, as indicated in the PM<sub>10</sub> Natural Events Policy, “unusually high.” Only “high wind” dust events are exceptional events and “high” is area-specific.

Typically, undisturbed desert landscapes in the western U.S. have a natural crust that protects the surface

and tends to limit emissions of windblown dust. The wind speed capable of causing emissions from these natural undisturbed areas varies by location, depending on characteristics of the local landscape (*e.g.*, soil type and characteristics, vegetation). Numerous studies have been conducted to determine the minimum wind speed capable of causing emissions from natural undisturbed areas and/or overwhelming reasonable controls on anthropogenic sources.<sup>114</sup> In the Interim High Winds Guidance, the EPA called the minimum threshold wind speed capable of causing emissions from natural undisturbed areas or overwhelming reasonable controls on anthropogenic sources the “high wind threshold.”

In the Interim High Winds Guidance, the EPA articulated its expectations regarding the development and application of high wind thresholds. In this guidance, the EPA encouraged air agencies to identify an appropriate high wind threshold for each area experiencing high wind dust events within their exceptional events submissions for high wind dust events.<sup>115</sup> The guidance recommended that these thresholds should consider local conditions and specify a minimum wind speed capable of causing emissions from those natural undisturbed areas or overwhelming reasonable controls on contributing anthropogenic sources (*see* section V.E.2 for additional discussion regarding reasonable controls). This approach was consistent with the PM<sub>10</sub> Natural Events Policy in which the EPA recommended that air agencies define the conditions in which BACM level controls were overwhelmed. The area-specific high wind threshold should be representative of conditions (*i.e.*, sustained wind speeds<sup>116</sup>) that are capable of

overwhelming reasonable controls (whether RACM, BACM or other) on anthropogenic sources and/or causing emissions from natural undisturbed areas. The threshold was not intended to represent the minimum wind speed at which *any* level of emissions could occur (*e.g.*, aerodynamic entrainment), but rather when significant emissions begin due to reasonable controls or natural undisturbed areas becoming overwhelmed. We have stated that if an agency is unable to develop an area-specific high wind threshold, we generally will accept a threshold of a sustained wind of 25 mph for areas in the western U.S. provided the agencies support this as the level at which they expect stable surfaces (*i.e.*, controlled anthropogenic and undisturbed natural surfaces) to be overwhelmed.<sup>117</sup> We did not indicate what form such support could take. We also have said that if we receive specific information based on relevant studies to choose an alternative high wind threshold for an identified area, we will notify the affected air agency.

Also as noted in the Interim High Winds Guidance document, the EPA has expected air agencies to provide relevant wind data (*e.g.*, wind speed and direction) as part of an exceptional events submission for high wind dust events. Wind speed data consist of analyses and statistics showing how the observed high wind dust event wind speed compares to the distribution of historical wind speeds and the established high wind threshold. The EPA has recommended that air agencies show these historical comparisons on an annual and/or seasonal basis, depending on which is more appropriate, using a format similar to the recommended format of the comparison to historical concentrations showing as part of the clear causal relationship criterion discussed in section V.E.3 of this proposal. The EPA has encouraged air agencies to discuss wind direction in the narrative and to present wind direction information graphically in

<sup>111</sup> We use “Western U.S.” to refer to states in the Great Plains (North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas) and those farther west including Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming.

<sup>112</sup> As identified in section V.D of this proposal, the EPA will generally consider human activity to have played little or no *direct* role in causing emissions of the dust generated by high wind for purposes of the regulatory definition of “natural event” if contributing anthropogenic sources of the dust are reasonably controlled, regardless of the amount of dust coming from these reasonably controlled anthropogenic sources, and thus the event could be considered a natural event. In such cases, the EPA believes that it would generally be a reasonable interpretation to find that the anthropogenic source had “little” direct causal role. If anthropogenic sources of windblown dust that are reasonably controllable but that did not have those reasonable controls applied at the time of the high wind event have contributed significantly to a measured concentration, the event would not be considered a natural event.

<sup>113</sup> *Areas Affected by PM-10 Natural Events* (the PM<sub>10</sub> Natural Events Policy), memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation, to EPA Regional Offices, May 30, 1996.

<sup>114</sup> *See* Appendix A1 of the *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf).

<sup>115</sup> *See* Appendices A2 and A3 in the *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf) for additional information on the development of a high wind threshold.

<sup>116</sup> Section 6.3.2.2 in the *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf).

<sup>130510.pdf</sup> for details on the calculation of sustained wind speed. Generally, the EPA will accept that high winds could be the cause of a high 24-hour average PM<sub>10</sub> or PM<sub>2.5</sub> concentration if there was at least one full hour in which the hourly average wind speed was above the area-specific high wind threshold.

<sup>117</sup> The 25 mph threshold is based on studies conducted on natural surfaces. *See* additional information relevant to establishing this threshold in Appendix A1 in the *Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf).

maps/plots in the clear causal relationship section of the high wind dust exceptional events demonstration.

In considering past high wind dust event demonstrations, the EPA has found that the “not reasonably controllable or preventable” and the “clear causal relationship” (to include the comparison to historical concentrations showing) criteria play significant roles in the supporting exceptional events documentation. The EPA has generally found that for high wind dust events, air agencies can meet the “human activity or natural event” criterion by satisfying the requirements for not reasonably controllable or preventable and clear causal relationship as well as addressing the additional components of exceptional events demonstration packages as discussed in section V.G.

As is the case with all demonstration packages, air agencies with agricultural sources that potentially contribute to high wind event-related emissions should address the question of source contribution and associated reasonable controls on these sources within the not reasonably controllable or preventable portion of the demonstration. The EPA has noted in previous guidance that when considering the anthropogenic sources that contribute to event-related emissions and the appropriate “reasonable controls” on these sources, air agencies should be aware of USDA/NRCS-approved Best Management Practices (BMPs) (also referred to as conservation management practices) that are designed to effectively reduce fugitive dust air emissions and prevent soil loss in agricultural applications.<sup>118</sup> We have stated that these BMPs could be included in the collection of controls determined to constitute reasonable controls for wind-blown dust events in areas in which they have been implemented.

#### b. Proposed Changes

The EPA proposes to include in the preamble to the final rule for this action a modified version of some of the language that first appeared in the Interim High Winds Guidance document and to incorporate into the rule text the revisions proposed in this section. We also intend to revise the Interim High Winds Guidance to be consistent following promulgation of final Exceptional Events Rule revisions.

**Definition of an Event.** Consistent with the EPA’s proposal to revise the

regulatory definition of an exceptional event to include both the event and its associated resulting emissions, the EPA proposes to define a high wind dust event as an event that includes the high-speed wind and the dust that the wind entrains and transports to a monitoring site. Consistent with the nullified language in the 2007 Exceptional Events Rule preamble, the PM<sub>10</sub> Natural Events Policy and the Interim High Winds Guidance, the EPA proposes to define high wind dust events in the rule text as “natural events” in cases where windblown dust is entirely from natural sources or where all significant anthropogenic sources of windblown dust have been reasonably controlled.

**High Wind Threshold.** To facilitate clearer expectations regarding the evidence needed to demonstrate which controls constitute “reasonable controls,” the EPA proposes to codify in rule language the definition of “high wind threshold” as the minimum threshold wind speed capable of causing particulate matter emissions from natural undisturbed lands in the area affected by a high wind dust event. The EPA proposes to accept a threshold of a sustained wind of 25 mph for areas in the western U.S. provided this value is not contradicted by evidence in the record when we review a demonstration. If the EPA receives specific information based on relevant studies that suggest a different high wind threshold for an identified area, the EPA will notify the affected air agency so that the agency may consider basing its demonstration on that threshold value. The EPA would consider such information as part of the weight of evidence analysis for a submitted demonstration. In lieu of using the default 25 mph high wind threshold, air agencies would have the option to identify an area-specific high wind threshold that is more representative of local/regional conditions.

The high wind threshold concept will continue to apply to the review of demonstrations for events in a nonattainment or maintenance area for which the dust controls in a recently approved SIP are generally accepted as sufficient to satisfy the not reasonably controllable criterion. For such a demonstration, the controls specified in the SIP should be considered reasonable, while acknowledging the possibility that the controls are not being complied with and that uncontrolled anthropogenic sources of PM could be the contributing to the exceedance. For events with sustained wind speeds above the high wind threshold, it is very plausible that SIP

controls were being implemented and the high PM concentrations are due to emissions generated from sources in the area despite implementation of the SIP measures. Conversely, for events with sustained wind speeds below the high wind threshold, it becomes more plausible that there may be noncompliance with control measures or that uncontrolled anthropogenic sources are contributing to the exceedance. Therefore, the comparison of sustained wind speeds during an event to the high wind threshold will help the EPA Regional offices determine what evidence is required to be included in a demonstration regarding reasonable controls, the possibility of non-compliance, or non-event sources.

**Large-Scale or High-Energy High Wind Dust Events.** The EPA proposes to codify in rule language to apply a case-specific approach when considering reasonableness of controls for remote, large-scale, high-energy and/or sudden high wind dust events, such as “haboobs” in the southwest where sustained wind speeds can exceed 40 mph and generate walls of dust several miles wide and more than a mile high. The proposed rule text provides that in these situations, the event will be considered not reasonably preventable or controllable. Therefore, a demonstration limited to such event(s) will not need to substantively address this criteria. The EPA solicits comment on this proposed, case-specific approach when considering reasonableness of controls for remote, large-scale, high-energy and/or sudden high wind dust events.

**Other Types of High Wind Dust Events.** Any demonstration for a non-high-energy event would be evaluated on a case-by-case basis. In doing so, the EPA would consider what controls are reasonable in light of an area’s attainment status and associated CAA control requirements, the frequency, and range of non-high energy wind events known (at the time of the particular event that is the subject of the demonstration) to occur in the area.

**The Role of the EPA-approved SIP in Nonattainment and Maintenance Areas.** As stated in section V.E.2, the EPA proposes to establish by rule a non-rebuttable presumption that, during a 5-year window (or, alternatively another appropriate timeframe) following approval of an attainment plan or maintenance plan SIP during which no subsequent new obligation for the air agency to revise the SIP has arisen, the control measures included in the SIP that are specific to the relevant pollutant, sources and event type satisfy the not reasonably controllable or

<sup>118</sup> Reference Guide for Cropping Systems and General Land Management. USDA, NRCS and U.S. EPA. October 2012. Available at [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1049502.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1049502.pdf).



preventable criterion.<sup>119</sup> Otherwise, the air agency and the EPA would evaluate the not reasonably controllable or preventable criterion on a case-by-case basis.

We describe below one potential scenario in which deference to the SIP for purposes of “reasonable controls” (versus a case-by-case analysis) satisfies the not reasonably controllable or preventable criterion. We also provide two other scenarios needing a case-by-case analysis for purposes of satisfying the not reasonably controllable or preventable criterion. We identify these scenarios below and then discuss them in more detail in sequence.

- **Nonattainment Area Scenario 1—** The EPA approved the SIP with the enforceable control measures as meeting attainment or maintenance planning requirements within 5 years of the date of submittal of the event AND the air agency is not under an obligation to revise the SIP for the reason listed in Scenario 2 or any other reason. Additionally, the sustained winds during the event are above the high wind threshold. The SIP includes enforceable control measures that address the event-related pollutant and all sources necessary to fulfill the requirements of the CAA for the SIP that have or may have contributed to event-related emissions. This indicates that in the development and approval of the SIP, both the EPA and the state considered what event-related controls were sufficient to meet the attainment or maintenance plan requirements of the CAA.

- **Nonattainment Area Scenario 2—** The air agency is under an obligation to revise the SIP as a result of a SIP call based on failing to provide for attainment and maintenance of the relevant NAAQS as evidenced by current violations.<sup>120</sup>

- **Maintenance Area Scenario 3—** The EPA approved the SIP more than 5 years prior to the date of submittal of a demonstration.

#### Details for Nonattainment Area Scenario 1

In this scenario, where the sustained winds during the event are above the high wind threshold, the EPA would apply a non-rebuttable presumption that

the controls in the existing SIP represent reasonable measures to prevent or control any event of the given type that occurs in the 5-year window. To satisfy the not reasonably controllable or preventable criterion, the EPA would expect the submitting air agency to identify the emission sources that contribute to the event emissions and exceedance and identify the associated SIP controls plus any other enforceable control measures required by state laws or rules. The air agency would also identify the implementation status of these controls and provide evidence of effective implementation and enforcement.

Example: An air agency submits a demonstration for a high wind dust event in a PM<sub>10</sub> nonattainment area that occurred in October 2015. The air agency has an EPA-approved attainment plan SIP for the affected area that was approved in October 2010 and that SIP includes enforceable controls implemented in accordance with the SIP that address the event-related pollutant (*i.e.*, PM) and all sources necessary to fulfill the requirements of the CAA. The sustained winds during the event were above the high wind threshold. In the not reasonably controllable or preventable portion of its high wind dust demonstration, the air agency would describe the event-related wind characteristics and identify the natural and anthropogenic emission sources that contributed to the event emissions and the associated SIP and other control measures. The air agency would then describe the implementation status of these controls and provide evidence of effective implementation and enforcement. The air agency would conclude the “not reasonable controllable or preventable” portion of the demonstration by affirmatively stating that because the EPA had approved the SIP within 5 years of the event and because the SIP measures and other measures specific to the pollutant and at least some anthropogenic emission sources that contributed to the event emissions were implemented, the agency has satisfied the not reasonably controllable or preventable criterion.

In reviewing the demonstration in this scenario, the EPA would generally concur that the air agency met the not reasonably controllable or preventable criterion during the 5-year period provided the SIP was implemented and the event was not attributable to noncompliance. Thus, assuming the demonstration also satisfied the remaining technical and procedural elements in the Exceptional Events Rule, the EPA would concur with the air

agency’s request to exclude data for purposes of regulatory actions within the scope of the final revised Exceptional Events Rule. If, however, the air agency experienced an exceedance or violation during the 5-year period for reasons other than those attributable to the successful exceptional events demonstration (*e.g.*, industrial source noncompliance or another type of event), the EPA may take one of these actions. In addition, the EPA may issue a SIP call because the SIP is inadequate with regard to a requirement of the CAA that is not tied to the occurrence of NAAQS violations related to exceptional events. If the EPA issues a SIP call during the 5-year window, the situation would switch to Scenario 2.

#### Details for Nonattainment Area Scenario 2

In this scenario (where the SIP is being revised to respond to a SIP call involving the PM<sub>10</sub> or PM<sub>2.5</sub> NAAQS), the existing SIP controls should *not* be presumed to satisfy the not reasonably controllable or preventable criterion regardless of whether the event-related wind speeds are above or below the high wind threshold. The EPA recommends that as the first step in preparing an exceptional events demonstration, the air agency should assess the case-specific effectiveness of the controls that were in place at the time of the event and consider potential controls that are more comprehensive and effective than those in the SIP that the agency could have implemented before or during the event. This case-specific assessment should apply the concept that if a set of control measures *should reasonably have been in place* for emission sources that contribute to the event emissions in light of the information in the record of the EPA action that has created the obligation to revise the SIP, then those controls *must* have been in place for the event to satisfy the not reasonably controllable or preventable criterion.

The submitting air agency preparing a case-specific assessment should first identify the natural and anthropogenic emission sources that significantly contribute to the event emissions and exceedance. The air agency should categorize sources as those that are addressed through SIP or other state or local laws or rules and those sources that are not addressed by SIP measures or other measures. Where the contributing source has SIP or other controls, the air agency would identify the implementation status of these controls and provide evidence of effective implementation and

<sup>119</sup> A request for data exclusion must also show that the event was not a result of noncompliance with any existing state or local laws or rules that have not been incorporated into the SIP.

<sup>120</sup> Other possible reasons for an area to be in a Scenario 2 situation would be if it has been designated nonattainment for a revised NAAQS for the relevant pollutant or is subject to a SIP call for the relevant pollutant following the EPA’s determination that the SIP is inadequate for some other reason.

enforcement. The air agency should also consider whether those SIP controls should have been made more stringent and effective prior to the event. For emission sources that contribute to the event emissions but are not specifically addressed in the SIP or other laws or rules, the air agency should identify and document why it was reasonable to have not implemented controls.

We invite comment on whether there should be a grace or grandfathering period before a SIP call involving a relevant NAAQS has the effect of ending the deference that applied prior to the SIP call, such that for an event occurring during the grace period the SIP would be given the deference described for the first scenario. We believe that such a grace period should not extend beyond the due date for the required SIP revision in response to the SIP call.

Example: An air agency has an EPA-approved attainment plan SIP for a PM<sub>10</sub> nonattainment area that was approved in 1994 and includes controls for some of the anthropogenic emission sources that contribute fugitive dust during high wind events. The nonattainment area did not include fugitive dust controls for gravel operations in its 1994 SIP and has not required any controls of these operations in the years since SIP approval. The area does not have an approved maintenance plan, in part because it has been experiencing unresolved exceedances since 1994. The air agency alerts the reviewing EPA Regional office that it wishes to submit an exceptional events demonstration for a high wind dust event that occurred in 2015 and affected several of the area's monitoring sites. This is the second high wind dust event associated with an exceedance in the past 3 years. After the first event, the EPA issued a SIP call for the air agency to revise its PM<sub>10</sub> SIP, but the air agency has not yet submitted a new SIP. Because the EPA issued a SIP call, the air agency is required to show on a case-specific basis that the not reasonably controllable or preventable criterion has been met. Applying the concept that if a set of control measures *should reasonably have been in place* for emission sources that contribute to the event emissions to the information in the record supporting the SIP call would likely result in a determination that those controls *must* have been in place for the event to satisfy the not reasonably controllable or preventable criterion. Because the gravel operations are not controlled and because the high wind dust event was the second in 3 years, the air agency had a basis for understanding the possible need for better controls. Given the air agency's knowledge of recurring events, the air

agency may not be able to make a sufficient showing for the not reasonably controllable or preventable criterion and the reviewing EPA Regional office may not be able to concur with the air agency's request to exclude data. If, however, the air agency can show that the gravel operations did not contribute to the event-related emissions, the reviewing EPA Regional office might be able to concur with the air agency's request to exclude data.

#### Details for Maintenance Area Scenario 3

In this scenario (where the SIP was approved more than 5 years prior to the date of submittal of a demonstration and the air agency is not under an obligation to revise the SIP), because of the passage of time the SIP controls should not be presumed to satisfy the not reasonably controllable or preventable criterion regardless of whether the event-related wind speeds are above or below the high wind threshold. In this case, the air agency should complete a case-specific assessment of the reasonableness of controls to satisfy the not reasonably controllable or preventable criterion. The assessment should consider controls beyond those required by the existing SIP and other state or local laws and rules. The case-specific assessment should apply the concept that if a set of control measures *should reasonably have been in place* for emission sources that contribute to the event emissions, then those controls *must* have been in place for the event to satisfy the not reasonably controllable or preventable criterion. The submitting air agency should first identify the natural and anthropogenic emission sources that contribute to the event emissions and exceedance. The air agency should categorize sources as those that are addressed through SIP or other state or local laws or rules and those sources that are not addressed by SIP measures or other measures. Where the contributing source has SIP or other controls, the air agency would identify the implementation status of these controls and provide evidence of effective implementation and enforcement. The air agency should also consider whether those SIP controls should have been made more stringent and effective prior to the event. For emission sources that contribute to the event emissions but are not specifically addressed in the SIP or other laws or rules, the air agency should identify and document why it was reasonable to have not implemented controls.

Example: An air agency has an EPA-approved attainment plan SIP for a PM<sub>10</sub> former nonattainment area that was approved in 2008 and includes controls

for anthropogenic emission sources that contribute fugitive dust during high wind events. The area has an approved maintenance plan. Between 2008 and 2014 it has *not* been experiencing exceedances related to high winds. In 2014 there is a single high wind dust event with sustained wind speeds above the high wind threshold that results in two exceedance days, sufficient to constitute a 3-year NAAQS violation. The air agency submits a demonstration covering both exceedances. In the not reasonably controllable or preventable portion of its demonstration, the air agency would identify all sources contributing to the event emissions, including natural sources, sources identified and controlled in the SIP, and any sources not controlled by the SIP. The air agency would then identify the applicable controls, the implementation status of these controls and evidence of enforcement. The air agency should also consider whether those SIP controls should have been made more stringent and effective prior to the event. Given the area's past history of not having events and the fact that the sustained wind speed during the event was above the high wind threshold, it is likely that the air agency could make a sufficient showing for the not reasonably controllable or preventable criterion. In this case, provided the air agency satisfies the other rule criteria, the EPA Regional office would likely concur with an air agency's request for data exclusion.

However, in this maintenance area scenario, another possible outcome of an event that causes an exceedance or violation is that the EPA determines that the not reasonably controllable or preventable criterion is not met and the event-affected data are retained for regulatory actions within the scope of the Exceptional Events Rule. This may lead to the EPA taking an action that places the air agency under an obligation to revise the SIP, in which case the situation would change into the second scenario for any later events of the same type.

*Best Management Practices.* The EPA solicits comment on whether or not, as part of the assessment of local sources and reasonable controls, USDA/NRCS-approved BMPs constitute sufficient reasonable controls in any or in all high wind event-affected areas and whether these measures should therefore be specifically and categorically identified in preamble or rule language as constituting reasonable controls. As discussed in the "Current Situation" section, the EPA has noted in previous guidance that USDA/NRCS-approved BMPs designed to effectively reduce

fugitive dust air emissions and prevent soil loss in agricultural applications could be included in the collection of controls determined to constitute reasonable controls for wind-blown dust events in areas in which they have been implemented.<sup>121</sup> Although the EPA has addressed the sufficiency of BMPs in decisions on individual exceptional events demonstrations when the BMPs were part of a SIP-approved BACM determination, we have not previously addressed whether or not BMPs individually or in some combination with each other constitute sufficient reasonable controls nationally or in any particular types of areas. We recognize that this question may be difficult to answer because BMPs often describe general types of practices (e.g., installing wind breaks) rather than specifying the penetration, scale or intensity of use of these practices by the landowners who adopt them. Therefore we also solicit comment on the evidence for degree of penetration, scale and intensity that would be appropriate in demonstrations to consider BMPs individually or in some combination with each other to be reasonable controls.

#### *G. Other Aspects of Flagging Exceptional Events-Influenced Data and Demonstration Submittal and Review*

##### 1. Who may submit a demonstration and request for data exclusion?

###### a. Current Situation

Before addressing the schedule and mechanics of flagging event-influenced data and preparing demonstrations, the EPA believes it is necessary to first clarify which parties can submit an exceptional events demonstration package to the EPA. The CAA language at section 319(b)(3)(B)(i) states that “the occurrence of an exceptional event must be demonstrated by reliable, accurate data that is promptly produced and provided by Federal, State, or local government agencies.” As noted in section V.A of this proposal, state, local and some tribal agencies administer air quality management programs within their jurisdiction, which includes monitoring and analyzing ambient air quality and submitting monitoring data to the EPA, which are then stored in the

EPA’s AQS database. Also, FLMs and other federal agencies operate air quality monitoring stations on some lands they manage, and some of these monitors meet the technical specifications and quality assurance requirements for their data to be used in regulatory determinations. As operators of regulatory monitors, each of these agencies can flag their own data within AQS for consideration as an exceptional event.

As discussed in section V.F.1 of this proposed action, however, the EPA generally considers a state, exclusive of tribal lands, to be a single responsible actor, and, as the state is the entity primarily responsible for administering air quality planning and management activities, the state has been ultimately responsible for submitting exceptional events demonstrations for exceedances that occur at all regulatory monitoring sites within the boundary of the state, including exceedances occurring at monitoring sites operated by local air quality agencies to whom a state has delegated relevant responsibilities or at regulatory monitoring sites operated by any other entity within the state, such as FLMs of Class I areas, other federal agencies and/or industrial facilities. Although the state is responsible, a local agency, an FLM, another federal agency or another entity operating a regulatory monitor with an event-influenced exceedance can develop a demonstration for submittal by the state. If a state disagrees with the local agency’s, FLM’s, other federal agency’s or other entity’s exceptional events claim, the state can decide not to act on or forward that submittal to the EPA. A state can request that operators of other regulatory monitors experiencing event-influenced exceedances prepare or assist in the preparation of demonstration analyses for ultimate submittal by the state.

Because some tribal air quality agencies also operate regulatory ambient air quality monitoring sites and submit these data to the EPA’s AQS database, as appropriate, these tribal agencies may also submit exceptional events demonstrations for exceedances that occur at their monitoring sites.

###### b. Proposed Changes

As indicated in section V.A of this proposal, because FLMs and other federal agencies may operate regulatory monitors and submit collected data to the EPA’s AQS database and these same monitors could be affected by emissions from exceptional events, the EPA proposes to allow FLMs and other federal agencies to prepare and submit exceptional events demonstrations and

data exclusion requests directly to the EPA. The EPA solicits comment on this proposed addition to the rule text, which appears at the end of this document. Based on comments received, the EPA may retain, modify or not include this provision in the final promulgated rule. This provision would apply only to FLMs and other federal agencies that manage land on which an exceptional event originates or that operate a monitor that has been affected by an event. The provision would allow such FLMs and other federal agencies to provide demonstrations directly to the EPA only after a discussion with the state in which the monitor is operated. This discussion might instead result in an agreement that the federal agency (or another party) will provide a draft demonstration document to the appropriate state air agency for adoption and submission by the state air agency to the EPA, as is currently allowed. Regardless of who ultimately submits the demonstration, the EPA encourages collaboration between the FLMs and other federal agencies and the appropriate state air agency during the event identification and demonstration development process. If the provision for direct submission to the EPA is included in the final action, demonstrations prepared by FLMs or other federal agencies would be required to meet all provisions in the Exceptional Events Rule, including the requirement for a public comment period on a prepared demonstration<sup>122</sup> and the requirements related to schedules and procedures for demonstration package submittal (see sections V.G.4, V.G.5 and V.G.6) that apply to state agencies that operate monitors.

##### 2. Aggregation of Events for NAAQS With Periods Longer Than 24 Hours and Demonstrations With Respect to Multiple NAAQS for the Same Pollutant

###### a. Current Situation

The EPA’s AQS database houses ambient air quality monitoring and related data. The data in AQS are maintained as individual reported measurements, which can range from 5-minute maximum concentrations per hour for SO<sub>2</sub>, to hourly data for ozone,

<sup>121</sup> Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds Under the Exceptional Events Rule. U.S. EPA, May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_highwinds\\_guide\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_highwinds_guide_130510.pdf) and Interim Guidance to Implement Requirements for the Treatment of Air Quality Monitoring Data Influenced by Exceptional Events. U.S. EPA, May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_guidememo\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_guidememo_130510.pdf).

<sup>122</sup> A public comment opportunity is important prior to submission to the EPA because under the Exceptional Events Rule the EPA is not required to provide a public comment opportunity prior to concurring with an air agency’s request to exclude data. The EPA generally provides a public comment opportunity before we use air quality data, with or without such exclusions, in a final regulatory action. States typically provide an opportunity for public comment by posting draft demonstrations on a Web site. Federal agencies could do the same.

CO, NO<sub>2</sub>, SO<sub>2</sub> and some PM measurements to 24-hour measurements for lead and other particulate matter measurements. Air agencies identify and the EPA concurs with exceptional event-related data in AQS that are reported as individual measurements.

Some NAAQS have long averaging periods, such that multiple independent events may affect the period-average concentration of the NAAQS pollutant. In the aggregate, a clear causal relationship may exist between the events and an exceedance or violation, but no single event satisfies the clear causal relationship criterion because each event has too small of an effect on the longer-period metric to do so by itself. CAA section 319(b) and the 2007 Exceptional Events Rule do not clearly allow the aggregation of events for purposes of the clear causal relationship criterion, yet aggregation seems consistent with the intent of section 319(b). The EPA has not to date indicated that actual aggregation of events is permitted. However, Question 30 in the Interim Q&A document provided guidance that can be of some help in this situation. This guidance was that 24-hour concentrations of Pb, NO<sub>2</sub>, or SO<sub>2</sub> can be individually compared to the NAAQS level defined for a longer period, for purposes of meeting “but for” with respect to both the 24-hour NAAQS, if applicable, and for purposes of meeting “but for” with respect to the NAAQS with the longer averaging period. This guidance focused on the intention of a passage in the preamble to the 2007 Exceptional Events Rule addressing the PM<sub>2.5</sub> NAAQS in particular, and extended the approach of the 2007 preamble to other cases of NAAQS for the same pollutant that have different averaging periods. The practical effect of this approach is that several events that individually have effects too small to have a causal connection to a longer-period exceedance or violation might be excluded one-by-one, and the net effect of the exclusions may make a difference to compliance with the longer-period NAAQS. As guidance, however, the Interim Q&A document does not provide full certainty that an air agency may rely on the recommended approach.

As noted in section IV.B of this proposal, the 2007 Exceptional Events Rule requires that for data exclusion, among other requirements, an air agency must demonstrate that there would have been no exceedance or violation of the NAAQS “but for” the event. The “but for” criterion necessarily requires comparing the individual measurements in AQS to the averaging period of the

relevant NAAQS to determine whether an exceedance or violation occurred. When the averaging period for the NAAQS is the same as the measurement duration period, this comparison is relatively straightforward. For example, air agencies and the EPA can directly compare 1-hour ozone, 1-hour CO, 1-hour SO<sub>2</sub>, and 1-hour NO<sub>2</sub> measurements to the respective 1-hour NAAQS. This comparison becomes more complicated, however, when there is a difference between the pollutant measurement duration and the averaging time of the NAAQS, which is the case when comparing a 1-hour measurement to an 8-hour, 24-hour, 3-month or annual NAAQS (or in the case of 1-hour ozone the previously existing NAAQS). In fact, the EPA devoted Questions 29–31 in the Interim Q&A document to explaining how to make these complicated comparisons.<sup>123</sup> The Interim Q&A document also explained that because these comparisons are NAAQS-specific, air agencies should request and support the exclusion of a measured air concentration separately for each NAAQS that applies to the pollutant and the EPA will similarly provide separate concurrences. Under the 2007 Exceptional Events Rule provisions, this means, for example, that an air agency with several 24-hour measurements of event-influenced PM<sub>2.5</sub> data measuring 75 micrograms per cubic meter (µg/m<sup>3</sup>) would need to separately flag the data within AQS on a NAAQS-specific basis, and submit separate requests, analyses and demonstration components to support exclusion of the identified event-influenced data for the 1997 annual secondary PM<sub>2.5</sub> NAAQS of 15 µg/m<sup>3</sup>, the 2012 annual primary PM<sub>2.5</sub> NAAQS of 12 µg/m<sup>3</sup> and the 2006 primary and secondary 24-hour PM<sub>2.5</sub> NAAQS of 35 µg/m<sup>3</sup>. Depending on the outcome of the “but for” criterion with respect to each PM<sub>2.5</sub> NAAQS, it could be that the data would be excluded for purposes of determinations with respect to only some of these NAAQS.

This current situation can result in complicated demonstrations for air agencies seeking data exclusion from determinations with respect to multiple NAAQS for the same pollutant. This complexity may make it more difficult for the public to comment, and requires time for the EPA to review such a demonstration.

<sup>123</sup> *Interim Exceptional Events Rule Frequently Asked Questions*. U.S. EPA. May 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/eer\\_qa\\_doc\\_5-10-13\\_r3.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/eer_qa_doc_5-10-13_r3.pdf).

## b. Proposed Changes

The EPA is taking comment on proposed rule text allowing 24-hour concentrations of any NAAQS pollutant to be compared to a NAAQS level defined for a longer period as part of a weight of evidence showing for the clear causal relationship with respect to the NAAQS with the longer period. This approach would be more amenable to less quantified weight of evidence demonstrations, since only one day would be examined at a time.

The EPA is also proposing that for NAAQS with averaging or cumulative periods longer than 24 hours, events occurring on different days may be aggregated for the purpose of determining whether their collective effect has caused an exceedance or violation, without regard to whether the events are of the same type (e.g., stratospheric ozone intrusion followed by a wildfire). The EPA notes that such aggregation may be very difficult if the effects of the individual events on their individual days are not fully quantified. Proposed rule text for this change is provided for comment.

Finally, to simplify some demonstrations, the EPA is also taking comment on whether a successful demonstration with respect to any NAAQS for a given pollutant would suffice to qualify the data in question for exclusion with respect to all NAAQS for that pollutant. The EPA believes it is useful to invite public comment on this “approved for one NAAQS approved for all NAAQS for the same pollutant” concept.

The EPA will carefully consider the comments it receives on these concepts and may finalize all, some or none of the three proposals described in this section.

## 3. Exclusion of Entire 24-Hour Value Versus Partial Adjustment of the 24-Hour Value for Particulate Matter

### a. Current Situation

As indicated in Question 29 of the Interim Q&A document, we have advised air agencies preparing demonstrations to support requests to exclude PM<sub>2.5</sub> and PM<sub>10</sub> data obtained via monitor instruments that provide 1-hour measurements that they should flag all 24 1-hour values within a given event-affected day, even if the event did not last all these hours. If concurred upon, flagging all 1-hour values will ultimately result in the same available remaining data for regulatory analysis and calculation as would be the case had the 24-hour PM<sub>2.5</sub> or PM<sub>10</sub> measurement data been collected from filter-based (24-hour) monitoring

instruments.<sup>124</sup> Another reason we have taken the position that flagging all 24 1-hour values is appropriate is because flagging only peak or selected hours could result in the remaining 1-hour values still meeting the data completeness requirements because flagged and excluded data do not count against completeness even though they cannot be used in calculating an average concentration for a 24-hour period. Under the rules for data interpretation, exclusion of only the event-affected 1-hour concentrations could result in AQS calculating a seemingly valid 24-hour concentration that is actually highly uncertain because it is based on only a few hours and thus may be biased.<sup>125</sup>

#### b. Proposed Changes

The EPA solicits comment on codifying its current approach in the rule text to eliminate any regulatory uncertainty. If finalized, this modification to the data handling procedures will be made to occur automatically within AQS.

#### 4. Flagging of Data

While neither the preamble to nor the rule text contained within the 2007 Exceptional Events Rule discuss data handling within AQS, explaining certain AQS processes and functions will be useful to an understanding of the data flagging situation that has developed in implementing the requirements in 40 CFR 50.14(c)(2) and why we are proposing changes.

##### a. Current Situation

Within AQS, monitoring agencies can use two types of data validation, or data qualifier, codes related to exceptional events: The *Request Exclusion* flags (*R*) and the *Informational Only* flags (*I*).<sup>126</sup>

<sup>124</sup> Filter based instruments typically record a single value within a 24-hour period while continuous monitors typically collect 24 1-hour measurements. Because AQS can calculate a valid 24-hour average concentration with as few as 18 hours, it may be necessary to exclude hours not actually affected by the event to ensure the same data exclusion outcome as if the measurement had been made with a 24-hour filter.

<sup>125</sup> The form of the 24-hour PM<sub>2.5</sub> NAAQS of 35 µg/m<sup>3</sup> is 98th percentile averaged over 3 years. The form of the primary annual PM<sub>2.5</sub> NAAQS of 12 µg/m<sup>3</sup> is an annual mean averaged over 3 years. The form of the 24-hour PM<sub>10</sub> NAAQS of 150 µg/m<sup>3</sup> is not to be exceeded more than once per year on average over 3 years. Biased concentrations can potentially skew the determination of the 98th percentile and/or the annual mean for PM<sub>2.5</sub> and the averages for PM<sub>2.5</sub> or PM<sub>10</sub> calculated to determine compliance with the relevant NAAQS.

<sup>126</sup> “Flag” is the common terminology for a data qualifier code in the EPA’s AQS. Unless explicitly noted, the process of “flagging” data refers to adding Request Exclusion (*R*) data qualifier codes to selected data in AQS. *R* flags are the only AQS flags that satisfy the 2007 Exceptional Events Rule requirement for initial data flagging. The current

The EPA has advised air agencies to use the *I* series flags when identifying informational data and the *R* series flags to identify data points for which the agency intends to request an exceptional events exclusion and the EPA’s concurrence. As an example, air agencies may currently use an *I* series flag to initially identify values they believe were affected by an event. Once the air agency collects additional supporting data, it may change the flag to an *R* series flag and submit an initial event description. Or, the air agency may find that additional information does not support flagging the data as an exceptional event, and the air agency may, therefore, delete the flag or retain the *I* series flag. Air agencies may also use the *I* series flags simply to note activities or conditions occurring on the data collection day that are unrelated to exceptional events or that do not result in an exceedance or violation of a NAAQS. Air agencies have previously indicated that they generally see little value in the use of *I* series flags.<sup>127</sup>

Flagging of event-influenced data has traditionally also involved associating a one- or two-character code with a monitored value within AQS indicating that the data have potentially been influenced by a particular type of exceptional event (e.g., “RT” is the character code used to request exclusion for data that have been influenced by wildfires in the U.S.). The 2007 Exceptional Events rule added a requirement to include a more detailed initial description of the particular event associated with such a character code. This description consists of text of variable length.

The EPA does not review or concur on the *I* series flags. Rather, an air agency must use an *R* flag to request data exclusion. The language at 40 CFR 50.14(c)(2), *Flagging of Data*, requires that an air agency notify the EPA of its intent to exclude one or more measured exceedances of an applicable NAAQS as being due to an exceptional event by placing a flag and an initial event description in the appropriate fields in AQS for the data record(s) of concern no later than July 1 of the calendar year following the year in which the flagged measurement occurred. Only *R* flags fulfill this requirement. This “general” schedule date of July 1 applies unless the data are associated with the initial area designations process for a new or

design of the AQS software is such that EPA can act/concur only on an *R* flag.

<sup>127</sup> Responses to Significant First-Round Comments on the Draft Guidance Documents on the Implementation of the Exceptional Events Rule, U.S. EPA, June 2012. Available in Docket No. EPA–HQ–OAR–2011–0887.

revised NAAQS in which case the specific schedule in § 50.14(c)(2)(vi) applies.

Air agencies have previously expressed concern that the timelines for event flagging and demonstration submittal are not always appropriate.<sup>128</sup> While the EPA has historically promulgated revised flagging and demonstration submittal schedules in the regulatory actions for new and revised NAAQS for those data years that might be used in the initial area designations process for those NAAQS, the EPA does not promulgate revised schedules for other regulatory actions such as clean data or attainment determinations. Rather, the EPA has relied upon the “general” flagging and demonstration submittal schedules in 40 CFR 50.14(c)(2) and (c)(3)(i). Meeting the requirement at 40 CFR 50.14(c)(2)(iii) to submit *R* flags and an initial description of the event “not later than July 1st of the calendar year following the year in which the flagged measurement occurred” can be difficult in the case of an annual standard where an air agency needs all 12 months of data to calculate an annual average and then needs 3 years of annual averages to identify whether or not the event-influenced data results in a violation of a 3-year design values. An air agency may not know that data influenced by an exceptional event caused the design value to become a NAAQS violation until 3 years after the event occurred.

Some air agencies have used and applied *I* and *R* flags in AQS inconsistently with this intended scheme, by including applying numerous *R* flags in AQS with no real intention to submit an exceptional events demonstration. Also, *R* flags may be set immediately before a demonstration is submitted or even as late as when the EPA needs to indicate in AQS our approval of a request for data exclusion. As a result, neither the presence nor the absence of these flags provide the EPA with an indication of anticipated exceptional events demonstrations.

##### b. Proposed Changes

As part of this action, the EPA proposes to revise the “general” schedule language contained within 40 CFR 50.14(c)(2) by removing the timelines associated with initial event flagging. The EPA also proposes to modify the associated data flagging process within AQS to correspond with

<sup>128</sup> Responses to Significant First-Round Comments on the Draft Guidance Documents on the Implementation of the Exceptional Events Rule, U.S. EPA, June 2012. Available in Docket No. EPA–HQ–OAR–2011–0887.

these proposed regulatory changes. These proposed changes would include eliminating the use of the current exceptional events data validation/data qualifier codes: The *Request Exclusion* flags (*R*) and the *Informational Only* flags (*I*). The one- or two-character event type codes would be retained. The EPA solicits comment on the approach that is discussed below in additional detail.

The EPA is proposing to change the definition and process for flagging exceptional event data. Flagging would in effect become the application of the one- or two-character event type and event description text as described below, along with a concurrent or subsequent request for data exclusion communicated to the EPA through other channels.

Because the flagging of data necessarily begins with the identification of an event, the EPA proposes to retain, with modifications, the AQS free-form text field for an initial event description. As is currently the practice, we request that air agencies use the “initial event description” to identify a unique, real-world event. We propose that this “initial event description” be expanded to contain a unique event name; the type of the event (e.g., high wind dust, volcanic eruption, other); a brief description of the event; and, to the extent known, the scope of the event in terms of geography and time (e.g., likely affected area using latitude and longitude and a radius of influence and beginning day/time and ending day/time).<sup>129</sup> AQS would also be modified to allow the air agency to associate specific AQS sites and potentially affected monitors and specific data points with a given event as so described. This will enable air agencies and the EPA to “flag” or add qualifier codes to selected data in a single step rather than adding this information or the necessary codes on a per entry basis. Historically, when events have influenced the concentrations at multiple monitors for multiple days, the air agency has added initial event descriptions and set flags on each monitored concentration, sometimes resulting in hundreds of identical individual entries. “Associating” monitors with an event defined in time and space will save resources.

Once an air agency has identified an event and created the initial event description within AQS, the agency should begin the process of requesting

exclusion for identified data, which will consist of two discrete operations: (1) Indicating in a separate communication to the EPA that specific ambient air quality measurements are affected by a defined event (see section V.G.5 related to Initial Notification of Potential Exceptional Event), and (2) requesting that these identified ambient air quality measurements be excluded from regulatory actions according to the terms of the revised Exceptional Events Rule and EPA guidance for other applications of air quality data. AQS would retain a field to allow the EPA to concur or not concur with a given request for exclusion for one or more of the data points associated with a described event, once review of the air agency’s request and demonstration is completed.

In addition to the proposed AQS modifications described above, the EPA is proposing to remove the “general” flagging schedule in 40 CFR 50.14(c)(2)(iii). This regulatory language currently requires that air agencies submit [*R*] flags and an initial description of the event by July 1 of the calendar year following the year in which the flagged measurement occurred or by the other deadlines identified with individual NAAQS. As noted earlier in this section, an air agency may not know that data influenced by an exceptional event caused a violation of a NAAQS until after the initial event flagging deadline has passed. The EPA proposes to remove and reserve the current language at 40 CFR 50.14(c)(2)(iii). Additional changes to the regulatory language in 40 CFR 50.14(c)(2) will be discussed in the next section.

The EPA notes that the recent ozone NAAQS action<sup>130</sup> also removed and reserved the subsequent sections at 40 CFR 50.14(c)(2)(iv) and (v), which addressed the submittal of exceptional events demonstrations that could affect regulatory determinations associated with initial area designations for the 2006 24-hour PM<sub>2.5</sub> NAAQS and the 2010 Lead NAAQS and were made obsolete by the passage of time. The EPA will retain these removed and reserved sections as promulgated in the ozone NAAQS and proposes no additional changes to these sections.

## 5. Initial Notification of Potential Exceptional Event

### a. Current Situation

As the EPA acknowledged in the Interim Exceptional Events Implementation Guidance and in

discussions with stakeholders, the EPA understands that the initial identification of data affected by exceptional events and the subsequent preparation, submittal and review of demonstration packages is a resource intensive process both for the preparing air agency and the reviewing EPA Regional office.<sup>131</sup> Delays in processing and making decisions on submitted packages create regulatory uncertainty and potentially increase the workload for both the submitting air agency and the EPA. In addition, the backlog of pending actions makes selection of the best information to support new submittals potentially more uncertain. Further, air agencies and the EPA often face timelines by which they must make regulatory decisions that can be affected by the inclusion or exclusion of event-affected data. In the Interim Exceptional Events Implementation Guidance and through the EPA’s best practices discussions identified in section IV.E, the EPA committed to work with air agencies as they prepare complete demonstration packages and we developed some guidelines to increase the efficiency of the process.

One of the efficiency-increasing measures we suggested in the Interim Exceptional Events Implementation Guidance was the Letter of Intent. The guidance explained that the Letter of Intent was a voluntary process by which the submitting air agency notifies the reviewing EPA Regional office of the air agency’s intent to submit a demonstration for an identified exceptional event. The purpose of the letter was to promote early communication between the submitting air agency and the reviewing EPA Regional office. In the time since issuing the Interim Exceptional Events Implementation Guidance, several air agencies and the EPA Regional offices have successfully used this voluntary process to discuss expectations regarding specific exceptional events demonstrations.

### b. Proposed Changes

As part of the best practices for communications during the exceptional events process and to aid all agencies in resource planning and prioritization, the EPA proposes that air agencies and the EPA engage in regular communications

<sup>129</sup> The EPA is proposing that air agencies select the “type of event” from a pre-set list of event types, which would likely consist of those event types currently identified by existing Informational and Request Exclusion flags within AQS.

<sup>130</sup> 80 FR 65292 (October 26, 2015).

<sup>131</sup> *Interim Guidance to Implement Requirements for the Treatment of Air Quality Monitoring Data Influenced by Exceptional Events*. Memorandum from Stephen D. Page, U.S. EPA Office of Air Quality Planning and Standards, to Regional Air Directors, Regions I–X. May 10, 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_guidememo\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_guidememo_130510.pdf).

to identify those data that have been potentially influenced by an exceptional event, to determine whether the identified data affect a regulatory determination, and to discuss whether an air agency should develop and submit an exceptional events demonstration. In most instances, these discussions will be between individual air agencies and the reviewing EPA Regional office. In other cases, the EPA regional office, or an individual air agency within the purview of the EPA Regional office, may initiate and/or host a general discussion with all air agencies in the region followed by individual discussions, as needed. In still other cases, such as where large events cross state lines and when two or more states are pursuing exclusion for the same event(s), the EPA region or regions may initiate discussions with all potentially affected states/agencies to assist in coordinating states affected by regional events.

For purposes of this proposed action, the EPA is referring to these communications as the “Initial Notification of Potential Exceptional Event” (Initial Notification) process. The EPA has changed the name of this process from the Letter of Intent in recognition of the fact that effective communication may have multiple formats and does not necessarily consist of a formal, written letter to convey important information. As with the voluntary Letter of Intent, the ultimate purpose of the Initial Notification process is to initiate conversations between an air agency and the EPA if not already on-going, or engage in more detailed discussions if a process is currently in place, regarding specific data and whether the identified data are ripe for submittal as exceptional events. As stakeholders have repeatedly expressed and as the EPA acknowledges, the identification of data affected by exceptional events and the subsequent preparation, submittal and review of demonstration packages is a resource intensive process both for the

preparing air agency and the reviewing EPA Regional office.

However, in considering the exceptional events process, it is important to note that if these data do not have regulatory significance, then engaging in the development and review of an exceptional events demonstration is generally not an efficient use of an air agency’s or the EPA’s limited resources. The Initial Notification process will focus efforts on the relevant data and provide the EPA with the opportunity to convey to the affected air agency our initial thoughts regarding the identified event and analyses that may or may not be appropriate for inclusion in a demonstration, and, with respect to regulatory significance, which demonstrations the EPA will consider for review. We believe that this approach will help air agencies make the best use of their available resources.

As noted earlier, the Initial Notification could include any form of communication (e.g., letter, email, in-person meeting with an attendees’ list and discussion summary or phone conversation with follow-up email) that ultimately identifies the potential need to develop an exceptional events demonstration and communicates key information related to the data identified for potential exclusion. Where an air agency independently identifies event-affected data and the need to submit an exceptional events demonstration outside of its regular, on-going communications with the EPA Regional office, the air agency could prepare a letter or email communicating its Initial Notification. Generally, the EPA anticipates that air agencies would develop and provide an Initial Notification as soon as the agency identifies event-influenced data that potentially influence a regulatory decision or when an agency wants the EPA’s input on whether or not to prepare a demonstration.<sup>132</sup> The EPA further proposes that each Initial Notification would include the following components:

- *Unique event name (field in AQS)*—facilitates future communication and understanding between the submitting air agency and the reviewing EPA Regional office, particularly if an air agency has submitted multiple exceptional events demonstration packages.

- *Initial event description (field in AQS)*—provides a brief narrative of the event that could also include maps or graphs similar to what an air agency might include in the proposed conceptual model discussed in section V.G.6 of this proposed action; the event description would include a qualitative description of the event and, at a minimum, briefly describe the agency’s current understanding of interaction of emissions with the event, transport and meteorology (e.g., wind patterns such as strength, convergence, subsidence, recirculation) and pollutant formation in the area.

- *Affected regulatory decision*—provides a description of the regulatory action or actions potentially affected by the claimed event-influenced data and the anticipated timing of this action.

- *Proposed target date for demonstration submittal*—identifies the proposed target date by which the air agency would submit a demonstration package to the reviewing EPA Regional office.

- *Most recent design value including and excluding the event-affected data (optional)*—the air agency’s assessment of the most recent design value both with and without the identified event(s) is helpful when assessing regulatory significance. The EPA cannot calculate this value (and therefore may not be able to determine significance) if the air agency has flagged more data than it intends to include in an exceptional events demonstration.

- *Information specific to each monitored day*—see Table 5, which would be developed by the submitting air agency and generated from the initial event description in AQS (see discussion in section V.G.4).

TABLE 5—INITIAL NOTIFICATION INFORMATION SPECIFIC TO EACH MONITORED DAY

Agency/planning area	State	County	Event name in AQS	Type of event	NAAQS	Monitor AQS ID and site name	Date(s) of event	Monitor exceedance concentration

<sup>132</sup> The EPA recognizes that air agencies can immediately identify those events that result in an exceedance of a NAAQS with a short averaging time

(e.g., 1-hour, 8-hour or 24-hour standards) but may need additional time for an annual average standard. An air agency could also submit an

annual Initial Notification if annual submittal makes sense for resource planning or for recurring seasonal events.



The EPA anticipates promptly acknowledging an air agency's Initial Notification and then formally responding within 90 days of receipt via letter, email or in-person meeting with an attendees' list and discussion summary. We also anticipate having informal phone conversations with the air agency prior to this formal response. As previously discussed, the EPA will generally prioritize exceptional events determinations that affect near-term regulatory decisions.<sup>133</sup> Where the data are to be used in initial area designations, the EPA proposes to rely on the promulgated documentation submission schedule in Table 1 at § 50.14(c)(2)(vi). Where the data will influence another near-term regulatory decision, the EPA proposes to rely on the case-by-case timelines by which the air agency should submit the demonstration. For case-by-case demonstrations, the EPA's recommended date for demonstration submittal would consider the nature of the event, the anticipated timing of the regulatory decision, and would allow time for both an air agency's preparation of the demonstration and the EPA's review. The EPA may not be able to review and act on demonstrations submitted after the recommended submittal date. Additionally, the EPA will request in its response that, if the submitting air agency has not already identified the affected data within AQS, that it undertake this effort according to the process described in section V.G.4. If the data identified in the Initial Notification do not have regulatory significance (and there is no compelling reason for excluding data), then the EPA will indicate this in its correspondence back to the air agency and will discourage the air agency from devoting resources to developing a demonstration because the EPA will likely not review or act upon the submittal.

If after discussing the content of a submitted Initial Notification and/or receiving the EPA's response to the Initial Notification, the EPA acknowledges that identified data have regulatory significance (or some other compelling reason for excluding data), then the air agency should proceed with the development of a technical demonstration package that satisfies the requirements in 40 CFR 50.14 and accounts for any case-specific advice from the EPA and additional information in the EPA's guidance

documents.<sup>134</sup> Although air agencies can submit demonstrations for events that do not affect a regulatory action, the EPA will likely not review or act on such submittals.

For these reasons described in this section and in section V.G.4, the EPA proposes to revise the language in 40 CFR 50.14(c)(2)(i) as follows: "A State shall notify EPA of its intent to request exclusion of one or more measured exceedances of an applicable ambient air quality standard as being due to an exceptional event by creating an initial event description and flagging the associated data that have been submitted to the AQS database and by engaging in the Initial Notification of Potential Exceptional Event process." Specific steps in the Initial Notification process are identified in rule text at the end of this document. The EPA solicits comment on the proposed rule text revision (in 40 CFR 50.14(c)(2)) to require an Initial Notification of Potential Exceptional Event, with a provision that the EPA can waive the Initial Notification requirement on a case-by-case basis. Alternatively, the EPA solicits comment on making the Initial Notification of Potential Exceptional Event a voluntary process.

Additional proposed revisions would continue at (ii): "The data shall not be excluded from determinations with respect to exceedances or violations of the national ambient air quality standards unless and until, following the State's submittal of its demonstration pursuant to paragraph (c)(3) of this section and EPA review, EPA notifies the State of its concurrence by placing a concurrence flag in the appropriate field for the data record in the AQS database."

As noted in section V.G.4, the EPA is proposing to remove the "general" flagging schedule in 40 CFR 50.14(c)(2)(iii). The EPA seeks comments on these proposed changes to the language at 40 CFR 50.14(c)(2), which more clearly identify the process for flagging data in AQS and requesting exclusion of one or more measured exceedances of an applicable ambient air quality standard.

The EPA notes that the recent final rule to revise the ozone NAAQS also removed and reserved the subsequent sections at 40 CFR 50.14(c)(2)(iv) and

(v), which addressed the submittal of exceptional events demonstrations that could affect regulatory determinations associated with initial area designations for the 2006 24-hour PM<sub>2.5</sub> NAAQS and the 2010 Lead NAAQS and were made obsolete by the passage of time. The EPA will retain these removed and reserved sections as promulgated in the ozone NAAQS and proposes no additional changes to these sections.

## 6. Submission of Demonstrations

### a. Current Situation

With the recent ozone NAAQS, the EPA proposed and promulgated changes to the current exceptional events regulatory language at 40 CFR 50.14(c)(2) and (3) to include finalizing exceptional events flagging and demonstration submittal schedules related to implementing the revised ozone standards and future revised NAAQS and removing obsolete regulatory language for expired exceptional events deadlines. Sections V.G.4 and V.G.5 discuss the current situation and additional proposed changes to 40 CFR 50.14(c)(2). This section discusses the current situation and proposed revisions to 40 CFR 50.14(c)(3).

As part of the recent final rule to revise the ozone NAAQS, the regulatory language at 40 CFR 50.14(c)(3)(i) now refers to a revised exceptional events flagging and demonstration submittal schedule for data that could be used in initial area designation decisions following promulgation of any future revised NAAQS. However, the language at 40 CFR 50.14(c)(3)(i) still requires air agencies to ". . . submit a demonstration to justify data exclusion to EPA not later than the lesser of, 3 years following the end of the calendar quarter in which the flagged concentration was recorded or, 12 months prior to the date that a regulatory decision must be made by EPA."

As identified in section V.G.4 of this proposal, air agencies have previously expressed concern that the timelines for event flagging and demonstration submittal are not always appropriate because an air agency may not know that data influenced by an exceptional event caused the design value exceedance until 3 years after the event occurred.<sup>135</sup> The EPA acknowledges that this scenario can occur.

<sup>133</sup> "Regulatory decisions" include findings as to whether the area has met the applicable NAAQS, classification determinations, attainment demonstrations, the development of Limited Maintenance Plans and clean data findings.

<sup>134</sup> *Interim Guidance to Implement Requirements for the Treatment of Air Quality Monitoring Data Influenced by Exceptional Events*. Memorandum from Stephen D. Page, U.S. EPA Office of Air Quality Planning and Standards, to Regional Air Directors, Regions I–X, May 10, 2013. Available at [http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents\\_guidememo\\_130510.pdf](http://www2.epa.gov/sites/production/files/2015-05/documents/exceptevents_guidememo_130510.pdf).

<sup>135</sup> *Responses to Significant First-Round Comments on the Draft Guidance Documents on the Implementation of the Exceptional Events Rule*, U.S. EPA, June 2012. Available in Docket No. EPA–HQ–OAR–2011–0887.

In addition to establishing a general schedule for demonstration submittal, the regulatory language at 40 CFR 50.14(c)(3)(i) requires that “A State must submit the public comments it received along with its demonstration to EPA.” Although this language is included in 40 CFR 50.14(c)(3)(i), it refers to the regulatory language at 40 CFR 50.14(c)(3)(v), which requires the air agency to document, and submit with its demonstration, evidence that it followed the public comment process. Regarding this requirement to “document that the public comment process was followed,” neither the Exceptional Events Rule language in 40 CFR 50.14 nor the preamble to the promulgated 2007 Exceptional Events Rule specifies a minimum timeframe for public comment. Many air agencies have been posting draft demonstrations for public review on their Web sites. The EPA has reviewed several of these postings and identified 30-days as an often cited timeframe for public comment on a draft exceptional events demonstration submittal.

The current rule also provides at 40 CFR 50.14(c)(3)(iv) that the demonstration to justify data exclusion shall provide evidence that the event satisfies the definition of an exceptional event provided at 40 CFR 50.1(j); that there is a clear causal relationship between the monitored exceedance and the event that is claimed to have affected the air quality in the area; that the event is associated with a measured concentration in excess of normal historical fluctuations, including background; and that there would have been no exceedance or violation but for the event. Air agencies have found this section of the 2007 Exceptional Events Rule to be confusing because it contains a mix of statutory requirements and regulatory language without clearly identifying the components that the EPA expects to see in an exceptional events demonstration. As the EPA expressed in the Interim Exceptional Events Implementation Guidance, all parties would benefit from clear expectations regarding demonstration components.

The EPA further believes, and recommended in the Interim High Winds Guidance document, that each demonstration begin with a conceptual model, or narrative, describing the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance at the affected monitor(s). As described in the Interim High Winds Guidance document, the narrative conceptual model could include varying levels of detail depending on the event

complexity, but in all cases would provide a qualitative description of the event, interaction of the event-generated emissions with transport and meteorology (e.g., wind patterns such as strength, convergence, subsidence, recirculation) and pollutant formation in the area with the exceeding monitor. Because, in some cases, monitored data or technical analyses may seem to contradict the event claim, particularly the clear causal relationship, an air agency can use the conceptual model to explain, with a weight of evidence approach, why the majority of the data or analyses are consistent with the event's impact on a measured exceedance or violation (for example, for a wildfire, why most of the meteorology would have indicated a lower ozone day without the fire emissions, even if the temperature were high). A useful conceptual model also includes (1) a description of the regulatory decision impacted by the exceptional event, (2) a summary table of the data requested for exclusion and (3) maps and/or summary tables of event-related information including location; size and extent; point and explanation of origin. A conceptual model can additionally include examples of media coverage of the event.<sup>136</sup> Since releasing the Interim High Winds Guidance document in 2013, the EPA has received several demonstrations that included a conceptual model. The EPA has found it very helpful to understand the event formation and the event's influence on monitored pollutant concentrations before beginning to review the individual technical evidence to support the requested data exclusion.

#### b. Proposed Changes

For the previously mentioned reasons, the EPA is proposing and soliciting comment on the following changes to the regulatory language in 40 CFR 50.14(c)(3) regarding the submission of demonstrations:

- Removing the general schedule provisions in 40 CFR 50.14(c)(3)(i) for submitting demonstrations.
- Moving the language requiring a state to include the comments it received during the public comment period for the subject demonstration from 40 CFR 50.14(c)(3)(i) to 40 CFR 50.14(c)(3)(v).
- Modifying the language at 40 CFR 50.14(c)(3)(iv) to more clearly identify the required elements of an exceptional

events demonstration to include (1) a narrative conceptual model and (2) demonstrations and analysis that address the core statutory technical criteria [the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation (as indicated by the comparison to historical concentrations showing and other analyses), the event was a human activity that is unlikely to recur at a particular location or was a natural event, the event was not reasonably controllable or preventable].

- Modifying the language at 40 CFR 50.14(c)(3)(v) to identify that a demonstration submittal must include (1) documentation that the air agency conducted a public comment process on its draft exceptional events demonstration that was a minimum of 30 days, which could be concurrent with the EPA's review, (2) any public comments received during the public comment period and (3) an explanation of how the air agency addressed the public comments.

To elaborate on removing the general schedule provisions in 40 CFR 50.14(c)(3)(i), the EPA proposes to remove the provision in 40 CFR 50.14(c)(3)(i) that requires air agencies to submit a demonstration “not later than the lesser of 3 years following the end of the calendar quarter in which the flagged concentration was recorded or 12 months prior to the date that a regulatory decision must be made by EPA.” In place of this language, the EPA proposes to rely on the promulgated documentation submission schedule in Table 1 at 50.14(c)(2)(vi) in those cases where the data are to be used in initial area designations. If the data could influence a regulatory determination other than initial area designations, the EPA proposes to rely on the case-by-case timelines established by the reviewing EPA Regional office as part of the Initial Notification of Potential Exceptional Event process.

With respect to the public comment provisions for a developed demonstration, for the reasons stated previously, the EPA proposes to move the language requiring an air agency to include the comments it received during the public comment period for the subject demonstration from 40 CFR 50.14(c)(3)(i) to 40 CFR 50.14(c)(3)(v) to consolidate the required elements of the public comment process for exceptional events demonstrations within a single regulatory provision. The EPA also proposes to specify a minimum 30-day public comment process, which provides sufficient time for exchange between the reviewing public and the

<sup>136</sup> The EPA expects that air agencies could use some of the same information and tables in both the conceptual model and the Initial Notification of Potential Exceptional Event, which is discussed in section V.G.5 of this proposal.

air agency. Shorter comment periods may not provide necessary time for the public to research the identified event and associated supporting data while longer timeframes may not be possible where a near-term regulatory decision relies on an exceptional events decision. The EPA notes that in very limited cases where the air agency is relying on exceptional events claims as part of a near-term regulatory action, such as a demonstration for events in the third year of a 3-year design value that will be used in initial area designations for a new or revised NAAQS under a 2-year designation schedule, the public comment period could be concurrent with the EPA's review provided the submitting air agency sends any public comments and responses to the EPA by a specified date should comments be submitted. If an air agency receives public comment disputing the technical elements of a demonstration during a comment period that runs concurrent with the EPA's review and these comments result in the air agency's need to reanalyze or reassess the validity of a claimed event, a second public comment period may be necessary.

The EPA also proposes to revise the language at 40 CFR 50.14(c)(3)(iv) so that it more clearly identifies the required elements of an exceptional events demonstration. As previously described, the EPA proposes that each demonstration begin with a narrative conceptual model, which summarizes the event in question and provides context for required statutory technical criteria analyses. The EPA further proposes, consistent with other proposed changes in this action, that an air agency include in its demonstration to justify data exclusion evidence that the following statutory technical criteria are satisfied:

- The event was a human activity that is unlikely to recur at a particular location or was a natural event.
- The event was not reasonably controllable or preventable.
- The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation (supported in part by the comparison to historical concentrations and other analyses).

The EPA seeks comments on the identified proposed changes to the language at 40 CFR 50.14(c)(3)(i), (iv) and (v), which more clearly identify the required elements of an exceptional events demonstration.

The EPA notes that the recent final rule to revise the ozone NAAQS also removed and reserved the subsequent

sections at 40 CFR 50.14(c)(3)(ii) and (iii), which addressed the submittal of exceptional events demonstrations that could affect regulatory determinations associated with initial area designations for the 2006 24-hour PM<sub>2.5</sub> NAAQS and the 2010 Lead NAAQS and were made obsolete by the passage of time. The EPA will retain these removed and reserved sections as promulgated in the ozone NAAQS and proposes no additional changes to this language.

## 7. Timing of the EPA's Review of Submitted Demonstrations

### a. Current Situation

Since promulgation of the Exceptional Events Rule in 2007, stakeholders have questioned the process by which the EPA reviews submitted demonstrations.<sup>137</sup> Specifically, stakeholders have expressed concern that the EPA has a backlog of submittals but acts only on EPA-prioritized packages. Stakeholders have stated that because the EPA has not acted on all submissions, the air quality values used for planning and regulatory purposes are higher than they would be if the effects of non-controllable emissions were removed from the data set. Air agencies have also noted that without feedback, they do not know the EPA's expectations regarding future submittals.

The EPA addressed these questions and comments in the Interim Exceptional Events Implementation Guidance. In Question 27 of the Interim Q&A document, the EPA identified the general process and timing for demonstration reviews. In this document, the EPA clarified the process by which it prioritizes submittals and indicated that we may not act on submittals with no regulatory significance. The guidance also presented the voluntary Letter of Intent concept as a mechanism to aid in planning and prioritization. Additionally, we stated that we intend to make a decision regarding concurrence with an air agency's request to exclude data as expeditiously as necessary following submittal of a complete package if required by a near-term regulatory action. We also indicated our intent to communicate with the submitting agency, as needed, during the demonstration review period.

### b. Proposed Changes

In this proposal, the EPA is clarifying some of our previous statements regarding the prioritization and submittal of demonstrations. As noted in several subsections within section V.G of this proposal, we also propose to codify in regulatory language approaches to increase the efficiency of preparing, submitting and reviewing exceptional events demonstrations. Although the EPA is not proposing to codify in regulatory language any changes pertaining to the timing of the EPA review process, the EPA offers the following discussion to clarify expectations and facilitate communications, which are at the center of timing-related issues.

As noted in the Interim Exceptional Events Implementation Guidance and in the EPA's best practices discussions described in section IV.E, the EPA is committed to working with air agencies as they prepare complete demonstration packages. The EPA encourages ongoing discussions between the reviewing EPA Regional office and the submitting air agency from the onset of the Initial Notification of Potential Exceptional Event process through official package submittal. Since renewing our focus on improved communications, the EPA has received positive feedback from engaged agencies that have used this approach. Additionally, these communications have resulted in decreased instances of submissions containing insufficient or unnecessary information.

In reviewing submitted demonstration packages, the EPA will generally give priority to exceptional events determinations that may affect near-term regulatory decisions, such as EPA action on SIP submittals, NAAQS designations and clean data determinations. The EPA intends to make a decision regarding event status expeditiously following submittal of a complete package if required by a near-term regulatory action. If during the review process the EPA identifies the need for additional information to determine whether the exceptional events criteria are met, the EPA will notify the submitting air agency and encourage the agency to provide the supplemental information. If the information needed is minor and a natural outgrowth of what was previously submitted, the EPA will not require the air agency to undergo an additional public notice-and-comment process. However, if the needed information is significant, the EPA may request that the air agency re-notice the demonstration before resubmitting it to the EPA, thus requiring an additional

<sup>137</sup> See comment letters in Docket ID No. EPA-HQ-OAR-2011-0887 for the July 2012 notice of availability for the Draft Exceptional Events Implementation Guidance, which the EPA has incorporated into the record for this action.

EPA review following resubmittal. The EPA will work with air agencies on supplemental timeframes; however, the mandatory timing of the EPA actions may limit the response time the EPA allows. The EPA proposes to include as rule text a requirement for the air agency to submit additional information within 12 months. If additional information is not received in 12 months, then the EPA will consider the submitted demonstration inactive, and will not continue the review or take action. In effect, an air agency's lack of response within a 12-month period will "void" the submittal. In these cases, the EPA does not intend to issue a formal notice of deferral. If the air agency later decides to pursue the exceptional events claim after a 12-month period of inactivity, it may re-initiate the exceptional events process by submitting a new Initial Notification of Potential Exceptional Event followed by a new demonstration, which could simply be revising the original submittal to include the additional information previously requested by the EPA.

At the conclusion of the EPA's review, the EPA will make a determination regarding the status of a submitted exceptional events demonstration. The EPA's decision could result in concurrence, nonconcurrence or deferral.<sup>138</sup> In acting on a submitted demonstration covering multiple event days and/or multiple flags, the EPA could concur with part of a demonstration and nonconcur or defer other flagged values. If the EPA determines that the events addressed in an exceptional events demonstration are not anticipated to affect any future regulatory decision, the EPA could defer review of these events and notify the submitting agency if a subsequent review results in a determination that the events do affect a regulatory decision.<sup>139</sup> Formal mechanisms for deferral could include the EPA's indicating this decision by letter, by email to a responsible official or during a high-level meeting with an attendees' list and discussion summary.

<sup>138</sup> The EPA anticipates a reduced number of deferrals and/or nonconcurrences for demonstrations associated with the Initial Notification of Potential Exceptional Event process as discussed in section V.G.5 because the EPA and the affected air agency would have discussed issues/concerns prior to the EPA's decision on a submitted demonstration.

<sup>139</sup> Routine status calls between the reviewing EPA Regional office and air agencies could include an agenda item to review the status of all submitted demonstrations, including those that the EPA has deferred.

## 8. Dispute Resolution Mechanisms

Since promulgation of the 2007 Exceptional Events Rule and through the development of the Interim Exceptional Events Implementation Guidance, some interested parties have asked the EPA to identify a process by which submitting air agencies can formally dispute the EPA's decision regarding requests for additional information to support submitted demonstration packages and/or decisions regarding concurrence, nonconcurrence or deferral of submitted demonstration packages. While the EPA acknowledges the expressed concerns and desire for a formally identified dispute resolution process, the EPA also believes that several mechanisms currently exist that air agencies can use at various points in the exceptional events process. These mechanisms include engaging in early dialogue with the reviewing EPA Regional office, submitting requests for reconsideration to the official who made the determination if a request identifies a clear error or if the reviewing EPA regional office overlooked information submitted by the affected air agency, and/or elevating the concern within the EPA's chain of command. Additionally, air agencies can raise any unresolved event-related issues during the regulatory process that relies upon the claimed event-influenced data by participating in related public notice-and-comment processes and/or challenging in an appropriate court the regulatory decision subsequently made based in part on the EPA's exceptional events determination. These currently available dispute resolution approaches to address exceptional events decisions are consistent with the mechanisms available for other EPA actions. With exceptional events decisions, however, the air agency has opportunities to elevate concerns during two processes: the exceptional events determination and the subsequent regulatory action that relies on the exceptional events decision.

The EPA believes that the existing mechanisms identified above combined with the EPA's commitment to focus on communication and collaboration with the submitting air agency through the exceptional events demonstration process, and the clarifications that would be in effect with these proposed revisions to the 2007 Exceptional Events Rule and associated guidance, will avoid the need for a formal dispute resolution mechanism for exceptional events. Therefore, the EPA does not intend to address dispute resolution within these proposed rule revisions

and does not intend to respond to comments on this issue.

## VI. Mitigation

### A. Current Situation

Section 319(b)(3)(A) of the CAA identifies five principles for the EPA to follow in developing implementing regulations for exceptional events:

- (i) Protection of public health is the highest priority;
- (ii) Timely information should be provided to the public in any case in which the air quality is unhealthy;
- (iii) All ambient air quality data should be included in a timely manner in an appropriate federal air quality database that is accessible to the public;
- (iv) Each state must take necessary measures to safeguard public health regardless of the source of the air pollution; and
- (v) Air quality data should be carefully screened to ensure that events not likely to recur are represented accurately in all monitoring data and analyses.

The regulatory requirements implementing (iii) and (v) of this part of the statute are found only in 40 CFR 50.14 while the regulatory requirements implementing (i) and (iv) are found only in 40 CFR 51.930, Mitigation of Exceptional Events. Both §§ 50.14(c)(1) and 51.930(a)(1) require states to provide notice of events to the public (the second of the five principles).

The language at 40 CFR 51.930 requires air agencies requesting data exclusion to "take appropriate and reasonable actions to protect public health from exceedances or violations of the NAAQS" and at a minimum do each of the following:

- Provide for prompt public notification whenever air quality concentrations exceed or are expected to exceed the NAAQS.
- Provide for public education concerning actions that individuals may take to reduce exposures to unhealthy levels of air quality during and following an exceptional event.
- Provide for the implementation of appropriate measures to protect public health from exceedances or violations of ambient air quality standards caused by exceptional events.

The EPA promulgated the existing requirements in 2007 after considering and proposing several approaches to implementing CAA section 319(b)(3)(A). Some of the proposed approaches would have established a more formal structure by which air agencies prepared and submitted to the EPA mitigation plans to protect public health during events. These plans would have

been subject to the EPA's approval and/or the approval of the exclusion of event-affected data would have been contingent on the approval of such a plan. Comments on these proposed options varied widely.<sup>140 141</sup>

In the final 2007 Exceptional Events Rule, "mitigation" measures<sup>142</sup> became part of the 2007 Exceptional Events Rule, but they were not incorporated into the criteria and processes by which data are excluded from use in regulatory determinations. There is no requirement to submit such measures to the EPA for either prospective or retrospective review and approval as a condition for approval for exclusion of event-affected data. Neither are air agencies required to notify the EPA of the measures an air agency plans to take or has taken. In the preamble to the 2007 Exceptional Events Rule, we stated that states should take "reasonable and appropriate measures" to protect public health related to the occurrence of an event and that states should determine what measures constitute those that are "reasonable and appropriate."<sup>143</sup> We did not clarify how measures should be determined to be "appropriate" measures.

The mitigation measures that the EPA sees states most commonly practicing are ones related to the requirement that air agencies "provide for prompt public notification whenever air quality concentrations exceed or are expected to exceed the NAAQS." Often, these public notifications include public health alerts for high wind dust events or wildfires. We believe that other aspects of mitigation, including implementing appropriate measures to protect public health beyond notification, are also important in implementing the CAA guiding principle that "each State must take necessary measures to safeguard public health regardless of the source of the air pollution."

### B. Proposed Changes

Given the EPA's and the states' experience implementing the 2007 Exceptional Events Rule as indicated above, we consider it appropriate to

consider possible changes to the mitigation-related rule components with the benefit of additional public input. We are seeking comment on approaches ranging from retaining the existing rule requirements at 40 CFR 51.930 to the various possible new components described in this section. We invite comment on these alternatives and on other concepts. We may make no change; we may adopt all of the described new components; or we may adopt only some features or variations of the described options. Note that we are not considering requiring all states to develop formal mitigation plans. We are seeking comment on the concept of only some states being required to develop mitigation plans for their particular "historically documented" or "known seasonal" exceptional events, defined below in section VI.B.1; on recommended elements for such mitigation plans described below in section VI.B.2; and on options for implementing mitigation plans described in section VI.B.3. Section VI.B.4 summarizes the EPA's potential options for mitigation elements for exceptional events purposes.

#### 1. Defining Historically Documented or Known Seasonal Events

The EPA seeks comment on whether an air agency should develop a mitigation plan for its particular type of "historically documented" or "known seasonal" exceptional events, if any. The EPA would consider "historically documented" or "known seasonal" exceptional events to include events of the same type and pollutant (e.g., high wind dust/PM or wildfire/ozone) that meet any of the following criteria: an event for which an air agency has previously submitted exceptional events demonstrations; an event that an air agency has previously flagged for concurrence in AQS (regardless of whether the air agency submitted a demonstration); or an event that has been the subject of local news articles, public health alerts or published scientific journal articles. The EPA would not require an air agency to develop a mitigation plan for the first event of a given type (e.g., if an area is prone to wildfires but has never experienced a high wind dust event, then it would not be expected to develop a mitigation plan for its first high wind dust event, but it would be expected to develop a mitigation plan for wildfires). A second event of a given type within a 3-year period would subject the area to "having a history" and, therefore, needing a mitigation

plan.<sup>144</sup> This option avoids plan development for a one-of-a-kind occurrence.<sup>145</sup> In defining "first" and "second" events, the EPA could consider events that affect the same AQCR, but not necessarily the same monitor.<sup>146</sup> For example, high wind dust events occur seasonally in the Phoenix, Arizona metropolitan area, which is part of the Maricopa Intrastate Air Quality Control Region (see 40 CFR 81.36). These events have influenced particulate matter concentrations at multiple monitors within the Maricopa Intrastate AQCR. Under this proposal, high wind dust events in Phoenix (*i.e.*, the Maricopa Intrastate AQCR) are known events requiring a mitigation plan. On the other hand, a high wind dust event in Sedona, Arizona, part of the Northern Arizona Intrastate Air Quality Control Region (see 40 CFR 81.270), would be a first event and not subject to the development of a mitigation plan. As a variation of this concept on which we also seek comment, the EPA could consider a first season of events as one of three required seasons of events, so that a mitigation plan would be required only when an event type persists across several years. For example, an area may not have previously experienced wildfires in the past 10 years, but then experiences multiple wildfires and multiple exceedances in a single wildfire season. If these multiple wildfires affect the same general geographic area and monitors in a relatively short period of time (e.g. 2–3 months), then they could be considered a single event for purposes of developing a mitigation plan and would not trigger the requirement for a mitigation plan.

#### 2. Mitigation Plan Components

The EPA solicits comment on the following three plan components that could be recommended or required in order to implement the mitigation principles found in section 319(b)(3)(A) of the CAA: Public notification and education; steps to identify, study and implement mitigating measures and provision for periodic revision of the mitigation plan (to include public

<sup>140</sup> The Treatment of Data Influenced by Exceptional Events; Proposed Rule, 71 FR 12592 (March 10, 2006).

<sup>141</sup> See Comments and Responses related to "Requirements for States To Provide Public Notification, Public Education, and Appropriate and Reasonable Measures To Protect Public Health" in Treatment of Data Influenced by Exceptional Events; Final Rule, 72 FR 13574–13576 (March 22, 2007).

<sup>142</sup> The term "mitigation" does not appear in CAA section 319(b). It appears in the title but not the text of 40 CFR 51.930.

<sup>143</sup> 72 FR 13574 (March 22, 2007).

<sup>144</sup> A 3-year period is determined based on the submittal date of an exceptional events demonstration.

<sup>145</sup> Because the form of the NAAQS varies by pollutant, it is possible that multiple events in a 3-year period may not cause a NAAQS violation. An air agency that identifies multiple events of the same type (e.g., wildfire/ozone) in AQS, but prepares and submits a demonstration for only one of these events, would trigger the proposed requirement to develop a mitigation plan.

<sup>146</sup> Air Quality Control Regions are defined in 40 CFR part 81, subpart B, Designation of Air Quality Control Regions.

review of plan elements). This section discusses these elements in more detail. A mitigation plan should address actions that would be taken within a state's own territory for events that happen within its own territory or that of another jurisdiction.

a. Public notification to and education programs for affected or potentially affected communities. Air agencies could be required or encouraged to include in their mitigation plans steps to activate public notification and education systems whenever air quality concentrations exceed or are expected to exceed an applicable national ambient air quality standard. If possible, air agencies would notify the public of the actual or anticipated event at least 48 hours in advance of the event using methods appropriate to the community being served. Outreach mechanisms could include Web site alerts, National Weather Service alerts, telephone or text bulletins, television or radio campaigns or other messaging campaigns. Public notification and education programs could be encouraged or required to include some or all of the following actions to support the outreach system: adoption of methods for forecasting/detection, consultation with appropriate health department personnel regarding issuing health advisories and suggested actions for exposure minimization for sensitive populations (*e.g.*, remain indoors, avoid vigorous outdoor activity, avoid exposure to tobacco smoke and other respiratory irritants and, in extreme cases, evacuation or public sheltering procedures).

b. Steps to identify, study and implement mitigating measures, including approaches to address each of the following:

(i) Mandatory or voluntary measures to abate or minimize contributing controllable sources of identified pollutants. A state could be required to include or encouraged to consider full-time or contingent controls on event-related sources as well as non-event related sources. For example, these measures might include continuously operating control measures during an extreme event for identified sources that normally operate these same controls on an intermittent basis. It could also involve including work practices (*e.g.*, water spray for dust suppression) or contingent limits during extreme events on emissions from non-event related sources that, under non-event periods, have no or less stringent emissions limits or work practices.

(ii) Methods to minimize public exposure to high concentrations of identified pollutants.

(iii) Processes to collect and maintain data pertinent to the event (*e.g.*, to identify the data to be collected, the party responsible for collecting and maintaining the data and when, how and to whom the data will be reported).

(iv) Mechanisms to consult with other air quality managers in the affected area regarding the appropriate responses to abate and minimize impacts. Consultation could include collaboration between potentially affected local, state, tribal and federal air quality managers and/or emergency response personnel.

c. Provision for periodic review and evaluation of the mitigation plan and its implementation and effectiveness by the air agency and all interested stakeholders (*e.g.*, public and private land owners/managers, air quality, agriculture and forestry agencies, the public). For example, air agencies could be required to use this review process and to revise, if appropriate, and certify the mitigation plan every 3 years or every three events, whichever is longer. The air agency could be required to submit a summary and response to the comments received during the public plan review process to the EPA along with the recertification statement and/or revised mitigation plan. If the historically documented or known seasonal exceptional events continue to result in elevated pollutant concentrations above the relevant NAAQS, thus showing that the combination of the existing SIP and the existing mitigation plan does not effectively safeguard public health, the mitigation plan might need to be strengthened during this review.

If the EPA adopts requirements like those described above, it would not necessarily mean that all affected air agencies would have to prepare new plans. If an air agency has developed and implemented a contingency plan under 40 CFR part 51, subpart H, Prevention of Air Pollution Emergency Episodes, that meets the requirements of 40 CFR 51.152, and that includes provisions for events that could be considered "exceptional events" under the provisions in 40 CFR 50.14, then the subpart H contingency plan would likely satisfy the mitigation requirements described above. If the identified basic elements are included and addressed, including the element for public comment, then other types of existing mitigation or contingency plans may satisfy the possible mitigation plan requirement described above. For example, if an area has developed a natural events action plan or a high wind action plan covering high wind dust events, this plan likely would

satisfy mitigation elements for high wind dust events. Smoke management plans and/or forest management plans might also satisfy the mitigation elements for prescribed fires and wildfires. Most air agencies generally have sufficient, established processes that meet the public notification and education element, which can be easily adapted or modified to meet the mitigation elements proposed in this action. The EPA is requesting comment on how much time air agencies should be allowed to develop a plan.

### 3. Options for Implementing Mitigation Plans

The EPA is seeking comment on two options for tying the proposed mitigation plan components discussed in section VI.B.2 to the EPA review of exceptional events demonstrations. Option 1 includes the EPA's review for completeness but not substantive approval or disapproval, while Option 2 includes the EPA's approval of the substance of the mitigation plan. These options are discussed below in more detail, but neither option would require a mitigation plan to be included in a SIP or to be otherwise federally enforceable.

Under both options, air agencies with historically documented or known seasonal exceptional events could submit the mitigation plan to the EPA in advance of an event, or submit a mitigation plan along with an exceptional events demonstration. The EPA would concur with a demonstration for the relevant event type only if a mitigation plan has passed the type of EPA review described in the option. Given that the air agency would have advance notification of the need to develop a plan, the air agency could develop and submit the mitigation plan in advance of any exceptional events demonstration so that the EPA could pre-review the mitigation plan and take faster action on an exceptional events submittal once one is submitted.

*Option 1:* Under this option, the EPA would review for inclusion of required elements as described above and to ensure that the development of the mitigation plan included a public comment process. We would not formally review the substance of the plan in the sense of approving the details of the specific measures and commitments in the plan.

*Option 2:* Under this option, EPA approval of the substance of the mitigation plan would be a precondition for EPA concurrence on an exceptional events demonstration. Because the EPA would approve the content, completeness and sufficiency of a mitigation plan, the EPA's disapproval

of the plan could result in the EPA's nonconcurrency on a current or future exceptional events demonstration.

## **VII. Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events That May Influence Ozone Concentrations**

### *A. What is this draft guidance about and why is it needed?*

The Exceptional Events Rule contains the regulatory requirements and criteria necessary for the EPA's approval of the exclusion of air quality data from regulatory determinations related to NAAQS exceedances or violations. During the implementation of the 2007 Exceptional Events Rule, the EPA and stakeholders have identified a need for implementation guidance that provides an interpretation of and examples for addressing the regulatory requirements specific to the most common event types. One event type that has been identified by the EPA and stakeholders is wildfire influence on ozone concentrations. In 2013, the EPA finalized the Interim Exceptional Events Implementation Guidance documents (see section IV.D), which included the Interim High Winds Guidance document and an Interim Overview document that also committed to the preparation of a Draft Wildfire Ozone Guidance document. The EPA intends to address this need and commitment via the *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations* ("Draft Wildfire Ozone Guidance document"), which accompanies this proposed rule and is also available for comment.

This Draft Wildfire Ozone Guidance document includes example analyses, conclusion statements and technical tools that air agencies can use to provide evidence that the wildfire event influenced the monitored ozone concentration. The Draft Wildfire Ozone Guidance document also identifies fire and monitor-based characteristics that might allow for a simpler and less resource-consuming demonstration package. The EPA has developed the Draft Wildfire Ozone Guidance document concurrently with the proposed Exceptional Events Rule revisions so that the Draft Wildfire Ozone Guidance reflects the proposed rule changes. Once finalized, this guidance will provide the EPA regional offices and air agencies with guidance on how to prepare and submit evidence to meet the Exceptional Events Rule requirements for monitored ozone exceedances caused by wildfires. The

guidance, when finalized, will not be an EPA rule, and in specific cases the EPA may depart from the guidance for reasons that the EPA will explain at the time of the action.

### *B. What scenarios are addressed in the draft guidance?*

The EPA has prepared the Draft Wildfire Ozone Guidance document to provide assistance and example analyses for wildfire events that may influence ozone concentrations. Though many of the technical analyses included in the draft document may also be applied to prescribed fire events, the draft guidance document available for comment at this time does not provide guidance specific on how prescribed fire events can address all proposed rule requirements. Limiting the scope to wildfire events is intended to make the document easier to use for wildfire events. With this notice, the EPA invites comment on the content of this guidance document and whether it is appropriate to expand the scope of the guidance to include prescribed fire events. If commenters believe it is necessary to expand the scope of the EPA's final new guidance beyond the scope of the Draft Wildfire Ozone Guidance document, the EPA seeks comment on whether wildfire and prescribed fire events should be addressed in a single fire ozone guidance document or in separate guidance documents.

## **VIII. Environmental Justice Considerations**

The Exceptional Events Rule provides the criteria by which state, local and tribal air agencies identify air quality data they believe have been influenced by exceptional events, which by statutory definition are not reasonably controllable or preventable. Because these events are not reasonable to prevent or control, they can affect all downwind populations including minority and low-income populations. For this reason, in adding section 319(b) to the CAA, Congress identified as a guiding principle in developing regulations, "the principle that protection of public health is the highest priority." The 2007 Exceptional Events Rule at 40 CFR 50.14 requires air agencies to seek public comment on prepared exceptional events demonstrations prior to submitting them to the reviewing EPA regional office. The public can also comment on rulemakings that include decisions related to the exclusion of event-influenced data. The mitigation of exceptional events language at 40 CFR 51.930 also requires that air agencies

provide public notification and education programs related to events. To protect all people and communities, notably minority and low-income populations, air agencies should ensure that notifications and education programs are communicated using the language (e.g., English and Spanish) and media (e.g., radio and postings in local community centers) best suited to the target audience(s). Additionally, these proposed revisions are part of a public notice-and-comment rulemaking effort, which will include a public hearing. These opportunities for public input and education ensure that all those residing, working, attending school or otherwise present in areas affected by exceptional events, regardless of minority and economic status, are protected.

## **IX. Statutory and Executive Order Reviews**

### *A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review*

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review because it raises novel policy issues. Any changes made in response to OMB recommendations have been documented in the docket.

### *B. Paperwork Reduction Act*

This action does not impose any new information collection burden under the PRA. The information being requested under these proposed rule revisions is consistent with current requirements related to information needed to verify the authenticity of monitoring data submitted to the EPA's AQS database, and to justify exclusion of data that have been flagged as being affected by exceptional events. OMB has previously approved the information collection activities for ambient air monitoring data and other supporting measurements reporting and recordkeeping activities associated with the 40 CFR part 58 Ambient Air Quality Surveillance rule and has assigned OMB control number 2060-0084.

### *C. Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. Instead, the proposed rule revisions provide the criteria and increase the efficiency of the process by which state, local and tribal air agencies identify air quality data they believe



have been influenced by an exceptional event. The proposed rule revisions also clarify those actions that state, local and tribal air agencies should take to protect public health during and following an exceptional event. Because affected air agencies would have discretion to implement controls on sources that may need to be regulated due to anthropogenic contribution in the area determined to be influenced by an exceptional event, the EPA cannot predict the indirect effect of the rule on sources that may be small entities.

#### *D. Unfunded Mandates Reform Act (UMRA)*

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or tribal governments or the private sector.

#### *E. Executive Order 13132: Federalism*

This action does not have federalism implications. The EPA believes, however, that this action may be of significant interest to states and to local air quality agencies to whom a state has delegated relevant responsibilities for air quality management. Consistent with the EPA's policy to promote communications between the EPA and state and local governments, the EPA consulted with representatives of state and local governments early in the process of developing this action to permit them to have meaningful and timely input into its development. A summary of the concerns raised during that consultation is provided in section IV of this preamble.

#### *F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

This action does not have tribal implications as specified in Executive Order 13175. It would not have a substantial direct effect on one or more Indian tribes. Furthermore, these proposed regulation revisions do not affect the relationship or distribution of power and responsibilities between the federal government and Indian tribes. The CAA and the TAR establish the relationship of the federal government and tribes in characterizing air quality and developing plans to attain the NAAQS, and these revisions to the regulations do nothing to modify that relationship. Thus, Executive Order 13175 does not apply to this action.

Although Executive Order 13175 does not apply to this action, the EPA held public meetings attended by tribal

representatives and separate meetings with tribal representatives to discuss the revisions proposed in this action. The EPA also provided an opportunity for all interested parties to provide oral or written comments on potential concepts for the EPA to address during the rule revision process. Summaries of these meetings are included in the docket for this proposed rule. The EPA specifically solicits additional comment on this proposed action from tribal officials.

#### *G. Executive Order 13045: Protection of Children From Environmental Health & Safety Risks*

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

#### *H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use*

This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. The purpose of this proposed rule is to provide the criteria, and increase the efficiency of the process, by which state, local and tribal air agencies may identify air quality data they believe have been influenced by an exceptional event. The EPA does not expect these activities to affect energy suppliers, distributors or users.

#### *I. National Technology Transfer and Advancement Act*

This rulemaking does not involve technical standards.

#### *J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations*

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations. The results of this evaluation are contained in the section of the preamble titled “Environmental Justice Considerations.” This proposed action provides the criteria and increases the efficiency of the process by which state, local and tribal air

agencies identify air quality data they believe have been influenced by exceptional events, which, by statutory definition, are not reasonably controllable or preventable. These proposed regulatory provisions do, however, provide information concerning actions that state, local or tribal air agencies might take to uniformly protect public health once the EPA has concurred with an air agency's request to exclude data influenced by an exceptional event. The mitigation component of the proposed rule could ultimately provide additional protection for minority, low income and other populations located in areas affected by exceptional events. Therefore, the EPA finds that this proposed action would not adversely affect the health or safety of minority or low-income populations, and that it is designed to protect and enhance the health and safety of these and other populations.

#### **X. Statutory Authority**

The statutory authority for this action is provided by 42 U.S.C. 7401, *et seq.*

#### **List of Subjects in 40 CFR Part 50**

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

Dated: November 10, 2015.

**Gina McCarthy,**  
Administrator.

For the reasons set forth in the preamble, it is proposed that 40 CFR part 50 be amended as follows:

#### **PART 50—NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS**

■ 1. The authority citation for part 50 continues to read as follows:

**Authority:** 42 U.S.C. 7401, *et seq.*

■ 2. Amend § 50.1 by:

- a. Revising paragraphs (j) and (k).
- b. Adding paragraphs (m), (n), (o), (p), (q) and (r).

The revisions and additions read as follows:

#### **§ 50.1 Definitions.**

\* \* \* \* \*

(j) *Exceptional event* means an event and its resulting emissions that affect air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the Administrator in accordance with 40 CFR 50.14 to be an

exceptional event. It does not include stagnation of air masses or meteorological inversions, a meteorological event involving high temperatures or lack of precipitation, or air pollution relating to source noncompliance.

(k) *Natural event* means an event and its resulting emissions, which may recur, in which human activity plays little or no direct causal role. Anthropogenic sources that are reasonably controlled shall be considered to not play a direct role in causing emissions.

\* \* \* \* \*

(m) *Prescribed fire* is any fire intentionally ignited by management actions in accordance with applicable laws, policies, and regulations to meet specific land or resource management objectives.

(n) *Wildfire* is any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions, or a prescribed fire that has been declared to be a wildfire. A wildfire that predominantly occurs on wildland is a natural event.

(o) *Wildland* means an area in which human activity and development is essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.

(p) *High wind dust event* is an event that includes the high-speed wind and the dust that the wind entrains and transports to a monitoring site.

(q) *High wind threshold* is the minimum wind speed capable of causing particulate matter emissions from natural undisturbed lands in the area affected by a high wind dust event.

(r) *Federal land manager* means, consistent with the definition in 40 CFR 51.301, the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission.

■ 3. Amend § 50.14, as amended on October 26, 2015, at 80 FR 65452, effective December 28, 2015, as follows:

- a. Revise paragraphs (a) and (b);
- b. Revise paragraphs (c)(1), (c)(2)(i) through (v), and (c)(3).

The revisions read as follows:

#### § 50.14 Treatment of air quality monitoring data influenced by exceptional events.

(a) *Requirements*—(1) *Scope*. (i) This section applies to the treatment of data showing exceedances or violations of any national ambient air quality standard for purposes of the following

types of regulatory determinations by the Administrator:

(A) An action to designate an area, pursuant to Clean Air Act section 107(d)(1), or redesignate an area, pursuant to Clean Air Act section 107(d)(3), for a particular national ambient air quality standard;

(B) The assignment or re-assignment of a classification category to a nonattainment area where such classification is based on a comparison of pollutant design values, calculated according to the specific data handling procedures in 40 CFR part 50 for each national ambient air quality standard, to the level of the relevant national ambient air quality standard;

(C) A determination regarding whether a nonattainment area has attained the level of the appropriate national ambient air quality standard by its specified deadline;

(D) A determination that an area has had only one exceedance in the year prior to its attainment deadline and thus qualifies for a 1-year attainment date extension, if applicable; and

(E) A determination under Clean Air Act section 110(k)(5), if based on an area violating a national ambient air quality standard, that the state implementation plan is inadequate to the requirements of Clean Air Act section 110.

(ii) A State, federal land manager or other federal agency may request the Administrator to exclude data showing exceedances or violations of any national ambient air quality standard that are directly due to an exceptional event from use in determinations by demonstrating to the Administrator's satisfaction that such event caused a specific air pollution concentration at a particular air quality monitoring location.

(A) For a federal land manager or other federal agency to be eligible to initiate such a request for data exclusion, the federal land manager or other federal agency must:

(1) Either operate a regulatory monitor that has been affected by an exceptional event or manage land on which an exceptional event occurred that influenced a monitored concentration at a regulatory monitor; and

(2) Initiate such a request only after discussing such submittal with the State in which the affected monitor is located; and

(B) When initiating such a request, all provisions in this section that are expressed as requirements applying to a State shall, except as noted, be requirements applying to the federal land manager or other federal agency.

(2) A demonstration to justify data exclusion may include any reliable and

accurate data, but must specifically address the elements in paragraphs (c)(3)(iv) and (v) of this section.

(b) *Determinations by the Administrator*—(1) *Generally*. The Administrator shall exclude data from use in determinations of exceedances and violations where a State demonstrates to the Administrator's satisfaction that an exceptional event caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section.

(2) *Fireworks displays*. The Administrator shall exclude data from use in determinations of exceedances and violations where a State demonstrates to the Administrator's satisfaction that emissions from fireworks displays caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section. Such data will be treated in the same manner as exceptional events under this rule, provided a State demonstrates that such use of fireworks is significantly integral to traditional national, ethnic, or other cultural events including, but not limited to, July Fourth celebrations that satisfy the requirements of this section.

(3) *Prescribed fires*. (i) The Administrator shall exclude data from use in determinations of exceedances and violations, where a State demonstrates to the Administrator's satisfaction that emissions from prescribed fires caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section.

(ii) In addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion:

(A) With respect to the requirement that a prescribed fire be not reasonably controllable, the State must either certify to the Administrator that it has adopted and is implementing a smoke management plan or the State must demonstrate that the burn manager employed the generally applicable basic smoke management practices identified in Table 2 to § 50.14. To make the latter demonstration, the State may rely on a statement or other documentation provided by the burn manager that he or she employed those practices. If an exceptional event occurs using the basic

smoke management practices approach, the State must undertake a review of its approach to ensure public health is being protected.

(B) With respect to the requirement that a prescribed fire be not reasonably preventable, provided the Administrator determines that there is no compelling evidence to the contrary in the record, the State may rely upon and reference a multi-year land or resource management plan for a wildland area with a stated objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and/or

to preserve endangered or threatened species through a program of prescribed fire, but also provided that the use of prescribed fire in the area has not exceeded the frequency indicated in that plan.

(iii) Provided the Administrator determines that there is no compelling evidence to the contrary in the record, in addressing the requirements set forth in paragraph (c)(3)(iv)(E) of this section regarding the human activity unlikely to recur at a particular location criterion for demonstrations involving prescribed fires on wildland, the State must

describe the actual frequency with which a burn was conducted, but may rely upon and reference an assessment of the natural fire return interval or the prescribed fire frequency needed to establish, restore, and/or maintain a sustainable and resilient wildland ecosystem contained in a multi-year land or resource management plan with a stated objective to establish, restore, and/or maintain a sustainable and resilient wildland ecosystem and/or to preserve endangered or threatened species through a program of prescribed fire.

TABLE 2 TO § 50.14—SUMMARY OF BASIC SMOKE MANAGEMENT PRACTICES, BENEFIT ACHIEVED WITH THE BSMP, AND WHEN IT IS APPLIED BEFORE, DURING OR AFTER IGNITION OF THE BURN<sup>a</sup>

Basic smoke management practice	Benefit achieved with the BSMP	When the BSMP is applied—before/during/after the burn
Evaluate Smoke Dispersion Conditions.	Minimize smoke impacts .....	Before, During, After.
Monitor Effects on Air Quality .....	Be aware of where the smoke is going and degree it impacts air quality ...	Before, During, After.
Record-Keeping/Maintain a Burn/Smoke Journal.	Retain information about the weather, burn and smoke. If air quality problems occur, documentation helps analyze and address air regulatory issues.	Before, During, After.
Communication—Public Notification	Notify neighbors and those potentially impacted by smoke, especially sensitive receptors.	Before, During.
Consider Emission Reduction Techniques.	Reducing emissions through mechanisms such as reducing fuel loading can reduce downwind impacts.	Before, During, After.
Share the Airshed—Coordination of Area Burning.	Coordinate multiple burns in the area to manage exposure of the public to smoke.	Before, During, After.

<sup>a</sup> Elements of these BSMP could also be practical and beneficial to apply to wildfires for areas likely to experience recurring wildfires.

(4) *Wildfires*. The Administrator shall exclude data from use in determinations of exceedances and violations where a State demonstrates to the Administrator's satisfaction that emissions from wildfires caused a specific air pollution concentration in excess of one or more national ambient air quality standard at a particular air quality monitoring location and otherwise satisfies the requirements of this section. Provided the Administrator determines that there is no compelling evidence to the contrary in the record, the Administrator will determine every wildfire occurring predominantly on wildland to have met the requirements identified in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion.

(5) *High wind dust events*. (i) The Administrator shall exclude data from use in determinations of exceedances and violations, where a State demonstrates to the Administrator's satisfaction that emissions from a high wind dust event caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section

provided that such emissions are from high wind dust events.

(ii) The Administrator will consider high wind dust events to be natural events in cases where windblown dust is entirely from undisturbed natural lands or where all anthropogenic sources are reasonably controlled as determined in accordance with paragraph (b)(7) of this section.

(iii) The Administrator will accept a high wind threshold of a sustained wind of 25 mph for areas in the States of Arizona, California, Colorado, Kansas, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming provided this value is not contradicted by evidence in the record at the time the State submits a demonstration.

(iv) In addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably preventable criterion, the State shall not be required to provide a case-specific justification for a high wind dust event.

(v) With respect to the not reasonably controllable criterion of paragraph (c)(3)(iv)(D) of this section, dust controls on an anthropogenic source shall be considered reasonable in any case in which the controls render the

anthropogenic source as resistant to high winds as a natural undisturbed land area. The Administrator may determine lesser controls reasonable on a case-by-case basis.

(vi) For remote, large-scale, high-energy and/or sudden high wind dust events, such as "haboobs" in the southwest, the Administrator will generally consider a demonstration documenting the nature and extent of the event to be sufficient with respect to the not reasonable controllable criterion of paragraph (c)(3)(iv)(D) of this section.

(6) *Determinations with respect to event aggregation and multiple national ambient air quality standards for the same pollutant*. (i) Where a State demonstrates to the Administrator's satisfaction that for national ambient air quality standards with averaging or cumulative periods longer than 24-hours the aggregate effect of events occurring on different days has caused an exceedance or violation, the Administrator shall determine such collective data to satisfy the requirements in paragraph (c)(3)(iv)(B) of this section regarding the clear causal relationship criterion and otherwise satisfies the requirements of this section.

(ii) The Administrator shall accept as part of a demonstration for the clear causal relationship in paragraph (c)(3)(iv)(B) of this section, a State's comparison of a 24-hour concentration of any national ambient air quality standard pollutant to the level of a national ambient air quality standard for the same pollutant with a longer averaging period.

(7) *Determinations with respect to the not reasonably controllable or preventable criterion.* (i) The

Administrator shall determine that an event is not reasonably preventable if the State shows that reasonable measures to prevent the event were applied at the time of the event.

(ii) The Administrator shall determine that an event is not reasonably controllable if the State shows that reasonable measures to control the impact of the event on air quality were applied at the time of the event.

(iii) The Administrator shall assess the reasonableness of available controls for anthropogenic sources based on information available as of the date of the event.

(iv) Except where a State is obligated to revise its state implementation plan, the Administrator shall consider enforceable control measures implemented in accordance with a state implementation plan, approved by the EPA within 5 years of the date of a demonstration submittal, that address the event-related pollutant and all sources necessary to fulfill the requirements of the Clean Air Act for the state implementation plan to be reasonable controls with respect to all anthropogenic sources that have or may have contributed to event-related emissions.

(v) The Administrator shall not require a State to provide case-specific justification to support the not reasonably controllable or preventable criterion for emissions-generating activity that occurs outside of the State's jurisdictional boundaries within which the concentration at issue was monitored. In the case of a tribe with treatment as a state status with respect to exceptional events requirements, the tribe's jurisdictional boundaries for purposes of requiring or directly implementing emission controls apply. In the case of a federal land manager or other federal agency submitting a demonstration under the requirements of this section, the jurisdictional boundaries that apply are those of the State or the tribe depending on which has jurisdiction over the area where the event has occurred.

(c) *Schedules and procedures*—(1) Public notification. (i) All States and,

where applicable, their political subdivisions must notify the public promptly whenever an event occurs or is reasonably anticipated to occur which may result in the exceedance of an applicable air quality standard.

(ii) [Reserved]

(2) *Initial notification of potential exceptional event.* (i) A State shall notify the Administrator of its intent to request exclusion of one or more measured exceedances of an applicable national ambient air quality standard as being due to an exceptional event by creating an initial event description and flagging the associated data that have been submitted to the AQS database and by engaging in the Initial Notification of Potential Exceptional Event process as follows:

(A) The State and the appropriate EPA regional office shall engage in regular communications to identify those data that have been potentially influenced by an exceptional event, to determine whether the identified data may affect a regulatory determination and to discuss whether the State should develop and submit an exceptional events demonstration according to the requirements in this section;

(B) For data that may affect an anticipated regulatory determination or where circumstances otherwise compel the Administrator to prioritize the resulting demonstration, the Administrator shall respond to a State's Initial Notification of Potential Exceptional Event with a due date for demonstration submittal that considers the nature of the event and the anticipated timing of the associated regulatory decision;

(C) The Administrator may waive the Initial Notification of Potential Exceptional Event process on a case-by-case basis.

(ii) The data shall not be excluded from determinations with respect to exceedances or violations of the national ambient air quality standards unless and until, following the State's submittal of its demonstration pursuant to paragraph (c)(3) of this section and the Administrator's review, the Administrator notifies the State of its concurrence by placing a concurrence flag in the appropriate field for the data record in the AQS database.

(iii) [Reserved]

(iv) [Reserved]

(v) [Reserved]

\* \* \* \* \*

(3) *Submission of demonstrations.* (i) Except as allowed under paragraph (c)(2)(vi) of this section, a State that has flagged data as being due to an exceptional event and is requesting

exclusion of the affected measurement data shall, after notice and opportunity for public comment, submit a demonstration to justify data exclusion to the Administrator according to the schedule established under paragraph (c)(2)(i)(B).

(ii) [Reserved]

(iii) [Reserved]

(iv) The demonstration to justify data exclusion must include:

(A) A narrative conceptual model that describes the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance or violation at the affected monitor(s);

(B) A demonstration that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation;

(C) Analyses identified in Table 3 to § 50.14 comparing the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times consistent with Table 3 to § 50.14 to support the requirement at paragraph (c)(3)(iv)(B) of this section. The Administrator shall not require a State to prove a specific percentile point in the distribution of data;

(D) A demonstration that the event was both not reasonably controllable and not reasonably preventable; and

(E) A demonstration that the event was a human activity that is unlikely to recur at a particular location or was a natural event.

(v) With the submission of the demonstration containing the elements in paragraph (c)(3)(iv) of this section, the State must:

(A) Document that the public comment process was followed and that the comment period was open for a minimum of 30 days, which could be concurrent with the Administrator's review of the associated demonstration provided the State can meet all requirements in this paragraph;

(B) Submit the public comments it received along with its demonstration to the Administrator; and

(C) Address in the submission to the Administrator those comments disputing or contradicting factual evidence provided in the demonstration.

(vi) Where the State has submitted a demonstration according to the requirements of this section and the Administrator has reviewed such demonstration and requested additional evidence to support one of the elements in paragraph (c)(3)(iv) of this section, the State shall have 12 months from the date of the Administrator's request to submit such evidence. At the

conclusion of this time, if the State has not submitted the requested additional evidence, the Administrator will consider the demonstration to be

inactive and will not pursue additional review of the demonstration. After a 12-month period of inactivity, if a State desires to pursue the inactive

demonstration, it must reinitiate its request to exclude associated data by following the process beginning with paragraph (c)(2)(i) of this section.

TABLE 3 TO § 50.14. EVIDENCE AND ANALYSES FOR THE COMPARISON TO HISTORICAL CONCENTRATIONS

Historical concentration evidence	Types of analyses/supporting information	Required or optional?
1. Comparison of concentrations on the claimed event day with past historical data.	<p><i>Seasonal</i> (appropriate if exceedances occur primarily in one season, but not in others).</p> <ul style="list-style-type: none"> <li>• Use all available seasonal data over the previous 5 years (or more, if available).</li> <li>• Discuss the seasonal nature of pollution for the location being evaluated.</li> <li>• Present monthly maximums of the NAAQS relevant metric (<i>e.g.</i>, maximum daily 8-hour average ozone or 1-hr SO<sub>2</sub>) vs monthly or other averaged daily data as this masks high values.</li> </ul> <p><i>Annual</i> (appropriate if exceedances are likely throughout the year).</p> <ul style="list-style-type: none"> <li>• Use all available data over the previous 5 years (or more, if available).</li> </ul> <p><i>Seasonal and Annual Analyses.</i></p> <ul style="list-style-type: none"> <li>• Provide the data in the form relevant to the standard being considered for data exclusion.</li> <li>• Label “high” data points as being associated with concurred exceptional events, suspected exceptional events, other unusual occurrences, or high pollution days due to normal emissions.</li> <li>• Describe how emission control strategies have decreased pollutant concentrations over the 5-year window, if applicable.</li> <li>• Include comparisons omitting known or suspected exceptional events points, if applicable.</li> </ul>	<i>Required</i> seasonal and/or annual analysis (depending on which is more appropriate).
2. Comparison of concentrations on the claimed event day with a narrower set of similar days.	<ul style="list-style-type: none"> <li>• Include neighboring days at the same location (<i>e.g.</i>, a time series of two to three weeks) and/or other days with similar meteorological conditions (possibly from other years) at the same or nearby locations with similar historical air quality along with a discussion of the meteorological conditions during the same timeframe.<sup>a</sup></li> <li>• Use this comparison to demonstrate that the event caused higher concentrations than would be expected for given meteorological and/or local emissions conditions.</li> </ul>	<i>Optional</i> analysis.
3. Percentile rank of concentration when compared to annual data. <sup>b</sup>	<ul style="list-style-type: none"> <li>• Provide the percentile rank of the event-day concentration relative to all measurement days over the previous 5 years to ensure statistical robustness and capture non-event variability over the appropriate seasons or number of years.<sup>c</sup></li> <li>• Use the daily statistic (<i>e.g.</i>, 24-hour average, maximum daily 8-hour average, or maximum 1-hour) appropriate for the form of the standard being considered for data exclusion.</li> </ul>	<i>Required</i> analysis when comparison is made on an annual basis ( <i>see</i> item #1).
4. Percentile rank of concentration relative to seasonal data. <sup>b</sup>	<ul style="list-style-type: none"> <li>• Provide the percentile rank of the event-day concentration relative to all measurement days for the season (or appropriate alternative 3-month period) of the event over the previous 5 years.</li> <li>• Use the same time horizon as used for the percentile rank calculated relative to annual data, if appropriate.</li> </ul>	<i>Required</i> analysis when comparison is made on a seasonal basis ( <i>see</i> item #1).

<sup>a</sup> If an air agency compares the concentration on the claimed event day with days with similar meteorological conditions from other years, the agency should also verify and provide evidence that the area has not experienced significant changes in wind patterns, and that no significant sources in the area have had significant changes in their emissions of the pollutant of concern.

<sup>b</sup> The EPA does not intend to identify a particular historical percentile rank point in the seasonal or annual historical data that plays a critical role in the analysis or conclusion regarding the clear causal relationship.

<sup>c</sup> Section 8.4.2.e of appendix W (proposed revisions at 80 FR 45374, July 29, 2015) recommends using 5 years of adequately representative meteorology data from the National Weather Service to ensure that worst-case meteorological conditions are represented. Similarly, for exceptional events purposes, the EPA believes that 5 years of ambient air data, whether seasonal or annual, better represent the range of “normal” air quality than do shorter periods.