



# Additional Methods, Determinations, and Analyses to Modify Air Quality Data Beyond Exceptional Events



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Additional Methods, Determinations, and Analyses to Modify Air Quality Data Beyond  
Exceptional Events

U.S. Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Air Quality Policy Division  
Air Quality Assessment Division  
Research Triangle Park, NC

## **Purpose of this Document**

The purpose of this memorandum is to clarify the types of regulatory determinations, actions, and analyses for which the Environmental Protection Agency (EPA) may consider certain modified air quality monitoring data. These include determinations, actions, and analyses for which certain air quality data may be excluded, selected, or adjusted. The clarifying information herein is intended to supplement the 2016 revisions to the Exceptional Events Rule.<sup>1</sup> This memorandum is also consistent with direction contained in the President’s April 2018 Memorandum on Promoting Domestic Manufacturing and Job Creation—Policies and Procedures Relating to Implementation of Air Quality Standards.<sup>2</sup>

Specifically, this document first clarifies for which regulatory determinations a request to exclude monitoring data may be made under the Exceptional Events Rule (provided the request satisfies the requirements of that rule). Then the document identifies other determinations, actions, and analyses that are not covered by the scope of the Exceptional Events Rule, but for which the exclusion, selection, or adjustment of monitoring data may be appropriate and allowable under other sections of the Clean Air Act (CAA) and EPA rules or guidance. This document does not create any new regulatory authority and does not supplant or revise any aspects of the Exceptional Events Rule or other existing CAA authorities identified herein.

The additional determinations, actions, and analyses covered in this memo, and the exclusion of data via a concurred exceptional events demonstration, are not necessarily mutually exclusive processes. However, an important distinction between the Exceptional Events Rule mechanism and the other mechanisms covered in this memo is that, when air quality data is excluded under the Exceptional Events Rule, design values for the relevant National Ambient Air Quality Standard (NAAQS) are recalculated in EPA’s Air Quality System (AQS). Data exclusion, selection, or adjustment in accordance with the other mechanisms covered in this memo would not result in a change to the design value in AQS.

## **Determinations and actions covered by the Exceptional Events Rule**

In September 2016, EPA finalized revisions to the Exceptional Events Rule in accordance with CAA section 319(b)(2), which requires the Administrator to promulgate regulations “governing the review and handling of air quality monitoring data influenced by an exceptional event.” Pursuant to CAA section 319(b)(3)(B)(iv), the Exceptional Events Rule provides “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 [(NAAQS)].”

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<sup>1</sup> 81 FR 68216 (October 3, 2016). This document is intended to fulfill EPA’s commitment, as stated in the 2016 Exceptional Events Rule, to develop a supplementary guidance document “to describe the appropriate additional pathways for data exclusion for some “predicted future” monitoring data applications.”

<sup>2</sup> 83 FR 16761 (April 16, 2018).

The 2016 Exceptional Events Rule specified that it applies to the treatment of monitoring data showing exceedances or violations of any NAAQS for the purpose of the following types of regulatory determinations by the Administrator:

- An action to designate an area, pursuant to CAA section 107(d)(1), or redesignate an area, pursuant to CAA section 107(d)(3), for a particular NAAQS;
- 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 NAAQS, to the level of the relevant NAAQS;
- A determination regarding whether a nonattainment area has attained the level of the appropriate NAAQS by its specified deadline;
- A determination that an area has data for the specific NAAQS, which qualify the area for an attainment date extension under the CAA provisions for the applicable pollutant;
- A determination under CAA section 110(k)(5), if based on an area violating a national ambient air quality standard, that the state implementation plan (SIP) is inadequate under the requirements of CAA section 110; and
- Other actions on a case-by-case basis as determined by the Administrator.

*See* 40 CFR §50.14(a)(1)(i). For the actions identified above, air agencies and EPA must satisfy the requirements in CAA section 319(b) and the Exceptional Events Rule in order to exclude monitoring data. *See*, also, 40 CFR §50.14(b). EPA included “other actions on a case-by-case basis” in the list of actions above to provide a degree of flexibility for addressing other possible regulatory determinations. However, in accordance with the scope of CAA section 319(b) and the Exceptional Events Rule, the case-by-case provision is not intended to serve as a data-exclusion mechanism for determinations by the Administrator not influenced by exceedances or violations of the NAAQS, nor for non-regulatory purposes.

### **Independent determinations and analyses covered by other regulatory programs (*not* exceptional events)**

EPA recognizes there are determinations and analyses not covered by the Exceptional Events Rule (*i.e.*, not included in the list of covered regulatory actions above) that also rely on ambient air quality monitoring data that may have been influenced by atypical, extreme, or unrepresentative events. The data associated with these independent determinations would only be eligible for exclusion under the Exceptional Events Rule if the relevant data also influenced one or more of the regulatory determinations explicitly covered by the Exceptional Events Rule (see list above).

This memo identifies the most common determinations and analyses not covered by the Exceptional Events Rule, and clarifies for each of them whether there is a separate existing mechanism (apart from the Exceptional Events Rule) under which the exclusion, selection, or adjustment of air quality monitoring data may be appropriate. Specifically, monitoring data

exclusion, selection, or adjustment may be considered for the following types of determinations and analyses:<sup>3</sup>

1. Certain Modeling Analyses under EPA’s *Guideline on Air Quality Models* (“*Guideline*”; see 40 CFR Part 51, Appendix W)<sup>4</sup>
  - a. Preparing required air quality analyses for demonstrating compliance under Prevention of Significant Deterioration (PSD) permitting program.
  - b. Estimating base and future year design values for ozone and PM<sub>2.5</sub> SIP attainment demonstrations.
  - c. Determining whether a SIP satisfies CAA section 110(a)(2)(D)(i)(I) regarding interstate transport.
  - d. Preparing any required particulate matter (PM) “hot-spot” analysis for a transportation conformity determination for certain projects under 40 CFR Part 93 and relevant guidance.<sup>5</sup>
2. Selecting data for tracking visibility on the 20 percent clearest and 20 percent most (anthropogenically) impaired days, as required by EPA’s Regional Haze Rule.<sup>6</sup> In particular, this pertains to calculations of baseline, current, and natural visibility conditions; progress to date; the uniform rate of progress; and determination of reasonable progress goals (RPGs).
3. Conducting analyses in support of a NAAQS Limited Maintenance Plan (LMP) SIP submission and implementation.

Table 1 below includes the situations listed above and, where appropriate, identifies mechanisms for possible monitoring data exclusion, selection, or adjustment. In general, these procedures are less resource-intensive than those required by the Exceptional Events Rule. Air agencies that are preparing a determination for which Table 1 indicates monitoring data exclusion, selection, or adjustment may be possible are encouraged to contact their EPA Regional office to consult regarding the air agency’s specific situation.

The exclusion, selection, or adjustment of data associated with a situation identified in Table 1 does not preclude an air agency from also pursuing exclusion under the provisions of the Exceptional Events Rule, if the data also affect one of the types of regulatory actions specified by the 2016 Exceptional Events Rule. For example, an air agency may seek to exclude specific data influenced by an atypical, extreme, or unrepresentative event in preparing required air quality analyses in a PSD permit application and then, after completing this exercise, the air agency might identify that the same data excluded for PSD purposes also affect one of the determinations specifically addressed in the Exceptional Events Rule. Provided the data have regulatory significance under the Exceptional Events Rule, the affected air agency could supplement its prior analyses with the additional analyses and/or processes required for a demonstration under the

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<sup>3</sup> The treatment of ambient monitoring data influenced by certain types of international emissions may be handled under section 179B of the CAA, and EPA intends to release separate technical guidance on such demonstrations.

<sup>4</sup> 40 CFR Part 51, Appendix W is available online at [https://www3.epa.gov/ttn/scram/guidance/guide/appw\\_17.pdf](https://www3.epa.gov/ttn/scram/guidance/guide/appw_17.pdf).

<sup>5</sup> U.S. EPA Office of Transportation and Air Quality, 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-15-084, November 2015. Available on EPA’s web page at: <https://www.epa.gov/state-and-local-transportation/project-level-conformity-and-hot-spot-analyses#pmguidance>.

<sup>6</sup> 82 FR 3078 (January 10, 2017).

Exceptional Events Rule. If EPA were to concur with the air agency's subsequent demonstration of an exceptional event, then the event-associated data would be also excluded from use in the relevant regulatory determination(s) under the Exceptional Events Rule.

**Determinations and analyses for which there is no mechanism for data exclusion, selection, or adjustment**

In contrast, there are regulatory determinations that are not eligible for monitoring data exclusion, selection, or adjustment. This memo identifies the following examples, which are listed and further clarified in Table 2:

1. Determining monitor siting, sampling frequency, minimum number, or other monitoring requirements for an area.
2. Determining monitoring data completeness.
3. Determining the priority classification of areas and the adequacy of actions for emergency episode planning (determinations under 40 CFR Part 51, Subpart H).

Additionally, EPA does not exclude ambient monitoring data from AQS for the purpose of non-regulatory communications or reporting (e.g., see National Air Quality: Status and Trends of Key Air Pollutants - <https://gispub.epa.gov/air/trendsreport/2018/>).

Please share this memorandum with appropriate contacts at state, local and tribal air agencies.

**For further information**

If you have questions concerning this memorandum, please contact Ben Gibson at (919) 541-3277 or [gibson.benjamin@epa.gov](mailto:gibson.benjamin@epa.gov), or George Bridgers at (919) 541-5563 or [bridgers.george@epa.gov](mailto:bridgers.george@epa.gov).

**Table 1.** Clarification of independent determinations and analyses covered by other regulatory programs (*not* exceptional events)

<b>Type of determination or analysis</b>	<b>Could monitoring data qualify for exclusion, selection, or adjustment?</b>	<b>What is the procedure for monitoring data exclusion, selection, or adjustment?</b>
<p><u>1. Certain Modeling Analyses under EPA’s <i>Guideline on Air Quality Models</i></u></p> <p>a. Preparing required air quality analyses for demonstrating compliance under <b>PSD permitting program.</b></p> <p>b. Estimating base and future year design values for ozone and <b>PM<sub>2.5</sub> SIP attainment demonstrations.</b></p> <p>c. Determining whether a SIP satisfies <b>CAA 110(a)(2)(D)(i)(I).</b></p> <p>d. Preparing any required PM “hot-spot” analysis for a <b>transportation conformity</b> determination for certain projects under 40 CFR Part 93 and relevant guidance.</p>	<p><b>Yes</b>, monitoring data could qualify for exclusion if:</p> <p>A. Data were already excluded under Exceptional Events Rule; or</p> <p>B. Ambient data are not representative per other applicable EPA rules/guidance (<i>i.e.</i>, 40 CFR Part 58 requirements and relevant guidance); or</p> <p>C. Ambient data are not representative to characterize background concentrations or base period concentrations in accordance with the <i>Guideline</i>, which may impact a determinative value in a past or projected time period. Situations could include removal of air quality monitoring data that apply to characterizing background contributions for NAAQS compliance demonstrations under PSD and transportation conformity, and to developing alternative current and future year design values for SIP modeling in attainment demonstrations and interstate transport assessments.<sup>7</sup></p>	<p>States may follow EPA recommendations in Section 8.3.2 c.ii. and d., and Section 8.3.3 d. of the <i>Guideline</i>.</p> <p>Early discussion in consultation with EPA or the appropriate reviewing authority is recommended, for example, as part of the modeling protocol development process (per Section 9 of the <i>Guideline</i>).</p> <p>EPA or the appropriate reviewing authority will review whether the air agency or permit applicant has appropriately documented and justified the data exclusion and/or adjustment when it acts on a permit action or SIP submission.</p>

<sup>7</sup> See “Modeling Guidance for Demonstrating Air Quality Goals for Ozone, PM2.5, and Regional Haze.”



**Table 1.** Clarification of independent determinations and analyses covered by other regulatory programs (*not* exceptional events)

<b>Type of determination or analysis</b>	<b>Could monitoring data qualify for exclusion, selection, or adjustment?</b>	<b>What is the procedure for monitoring data exclusion, selection, or adjustment?</b>
<p>2. Selecting data for tracking visibility on the 20 percent clearest and 20 percent most (anthropogenically) impaired days, as required by EPA’s <b>Regional Haze Rule</b>: In particular, this pertains to calculations of baseline, current, and natural visibility conditions; progress to date; the uniform rate of progress; and determination of the RPGs.</p>	<p><b>Yes</b>, monitoring data not affected by natural events could qualify for selection if they are among the 20 percent most anthropogenically impaired or 20 percent clearest days (Regional Haze Rule, 40 CFR §51.308(f)(1); 82 FR 3078, January 10, 2017).</p>	<p>States may follow EPA recommendations in the Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program (December 20, 2018, <a href="https://www.epa.gov/visibility/technical-guidance-tracking-visibility-progress-second-implementation-period-regional">https://www.epa.gov/visibility/technical-guidance-tracking-visibility-progress-second-implementation-period-regional</a>), or use another reasonable method to identify the included days.</p> <p>EPA reviews whether the state has appropriately identified the 20% most impaired days and 20% clearest days when it acts on a regional haze SIP submission.</p>

**Table 1.** Clarification of independent determinations and analyses covered by other regulatory programs (*not* exceptional events)

<b>Type of determination or analysis</b>	<b>Could monitoring data qualify for exclusion, selection, or adjustment?</b>	<b>What is the procedure for monitoring data exclusion, selection, or adjustment?</b>
3. Conducting analyses in support of a <b>NAAQS Limited Maintenance Plan SIP</b> submission.	<b>Yes</b> , monitoring data could qualify for exclusion for use in calculating air quality design values in support of a NAAQS LMP submission and any subsequent yearly design value calculations for areas with approved LMPs. Air quality monitoring data above the NAAQS-specific LMP threshold will be treated in a manner analogous <sup>8</sup> to the treatment of exceedance data under the Exceptional Events Rule provided the impacted data otherwise satisfy the general definition and criteria for exceptional events. <sup>9</sup>	A request for data exclusion must follow the Exceptional Events Rule demonstration process. <i>See</i> 2016 Exceptional Events Rule, 81 FR 68216 (October 3, 2016):  <a href="https://www.epa.gov/air-quality-analysis/treatment-air-quality-data-influenced-exceptional-events">https://www.epa.gov/air-quality-analysis/treatment-air-quality-data-influenced-exceptional-events</a>

<sup>8</sup> “Analogous” for this purpose means to follow the Exceptional Events Rule requirements and demonstration process to exclude certain monitoring data in LMP submissions even when the data is not an exceedance and does not contribute to a violation (*i.e.*, does not qualify as an exceptional event under the Exceptional Events Rule).

<sup>9</sup> A May 7, 2009, EPA memorandum titled, “Update on Application of the Exceptional Events Rule to the PM<sub>10</sub> Limited Maintenance Plan Option” is the original basis for this interpretation regarding PM<sub>10</sub>. The substantive content of the memo remains in effect; however, to the extent the memo cites the 2007 Exceptional Events Rule, EPA has since replaced that rule with the 2016 Exceptional Events Rule. The memo is available at [https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20090507\\_harnett\\_lmp\\_pm10\\_update\\_exc\\_event.pdf](https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20090507_harnett_lmp_pm10_update_exc_event.pdf).

**Table 2.** Clarification of determinations and analyses for which there is no mechanism for data exclusion, selection, or adjustment

<b>Type of determination or analysis</b>	<b>Could monitoring data qualify for exclusion, selection, or adjustment?</b>	<b>What is the procedure for monitoring data exclusion, selection, or adjustment?</b>
1. Determining monitor siting, sampling frequency, minimum number, or other <b>monitoring requirements</b> for an area. <sup>10</sup>	<b>No</b> , monitoring data generally cannot be excluded for the purpose of determining monitoring requirements. <sup>11</sup>	Data exclusion is generally not available, but air agencies may consult with their EPA Regional office regarding unique situations.
2. Determining <b>monitoring data completeness</b> .	<b>No</b> , monitoring data could not qualify for, nor be affected by, event-influenced exclusion. Valid monitoring data are to be counted towards data completeness even if the data have been affected by an event and even if the data have been excluded from a design value or other calculation. <sup>12</sup>	No procedure or mechanism is available or applicable.
3. Determining the priority classification of areas and the adequacy of actions for emergency episode planning ( <b>determinations under 40 CFR Part 51, Subpart H</b> ).	<b>No</b> , monitoring data could not qualify for event-influenced exclusion.	No procedure or mechanism is available or applicable.

<sup>10</sup> See, for example, 40 CFR 58.12(d)(1)(iii), which requires a certain frequency of sampling depending on the monitored design value.

<sup>11</sup> Monitoring requirement determinations that rely on a NAAQS design value (e.g., determining monitoring frequency) generally use the design value that is stored in AQS. To the extent a historical design values in AQS reflects EPA’s concurrence on the exclusion of data influenced by exceptional events for specific regulatory purposes pursuant to the Exceptional Events Rule, such monitoring requirement determinations would be indirectly affected by the exclusion of event-influenced data for an unrelated regulatory purpose.

<sup>12</sup> For additional information on data completeness, see 40 CFR Part 50, Appendices H, I, K, N, P, R, S, T and U at [https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr50\\_main\\_02.tpl](https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr50_main_02.tpl).

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