

## **MEMORANDUM**

**SUBJECT:** CASAC Review of the document titled *Policy Assessment for Review of the National Ambient Air Quality Standards for Particulate Matter – External Review Draft*

**FROM:** Erika N. Sasser, Director  
Health and Environmental Impacts Division  
Office of Air Quality Planning and Standards  
United States Environmental Protection Agency

**TO:** Aaron Yeow, Designated Federal Officer  
Clean Air Scientific Advisory Committee  
EPA Science Advisory Board Staff Office

Attached is the document titled *Policy Assessment for the Review of the National Ambient Air Quality Standards for Particulate Matter – External Review Draft* (draft PA) prepared by the Environmental Protection Agency's (EPA) Office of Air Quality Planning and Standards (OAQPS) as part of EPA's ongoing review of the National Ambient Air Quality Standards (NAAQS) for Particulate Matter (PM). The draft PA will be reviewed by the Clean Air Scientific Advisory Committee (CASAC) at an upcoming public meeting. I am requesting that you forward the draft PA to the CASAC to prepare for that meeting.

The draft PA is being made available to the CASAC in the form of the attached electronic file. The document is also available from the EPA website at <https://www.epa.gov/naaqs/particulate-matter-pm-air-quality-standards>. Printed copies of this document can be sent to the CASAC via US mail upon request. The attachments to this memorandum provide additional context and specific charge questions to guide the CASAC's review of the draft PA.

We look forward to discussing the draft PA with the CASAC at our upcoming meeting. Should you have any questions regarding the draft PA, please contact me (919-541-3889; email [sasser.erika@epa.gov](mailto:sasser.erika@epa.gov)) or Dr. Scott Jenkins on my staff (919-541-1167; email [jenkins.scott@epa.gov](mailto:jenkins.scott@epa.gov)).

Attachments

Cc:

Tom Brennan, SAB, OA

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## Overarching Context for the Review of the PM NAAQS

Two sections of the Clean Air Act (CAA) govern the establishment and revision of the NAAQS. Section 108 (42 U.S.C. 7408) directs the Administrator to identify and list certain air pollutants and then to issue air quality criteria for those pollutants.<sup>1</sup> Section 109 [42 U.S.C. 7409] directs the Administrator to propose and promulgate “primary” and “secondary” NAAQS for pollutants for which air quality criteria are issued [42 U.S.C. § 7409(a)]. Section 109(b)(1) defines primary standards as ones “the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health.”<sup>2</sup> Under section 109(b)(2), a secondary standard must “specify a level of air quality the attainment and maintenance of which, in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of [the] pollutant in the ambient air.”<sup>3</sup>

In setting primary and secondary standards that are “requisite” to protect public health and welfare, respectively, as provided in section 109(b), the EPA’s task is to establish standards that are neither more nor less stringent than necessary. In so doing, the EPA may not consider the costs of implementing the standards.<sup>4</sup> Likewise, “[a]ttainability and technological feasibility are not relevant considerations in the promulgation of national ambient air quality standards.”<sup>5</sup> At the same time, courts have clarified the EPA may consider “relative proximity to peak background ... concentrations” as a factor in deciding how to revise the NAAQS in the context of considering standard levels within the range of reasonable values supported by the air quality criteria and judgments of the Administrator.<sup>6</sup>

Section 109(d)(2)(B) provides that the independent scientific review committee “shall complete a review of the criteria...and the national primary and secondary ambient air quality standards...and shall recommend to the Administrator any new...standards and revisions of existing criteria and standards as may be appropriate....” Since the early 1980s, this independent review function has been performed by the CASAC of the EPA’s Science Advisory Board. A number of other advisory functions are also identified for the committee by section 109(d)(2)(C), which reads:

Such committee shall also (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised national ambient air quality standards, (ii) describe the research efforts necessary to provide the required information, (iii) advise the

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<sup>1</sup> In the current NAAQS process, the air quality criteria are represented by the Integrated Science Assessment.

<sup>2</sup> The legislative history of section 109 indicates that a primary standard is to be set at “the maximum permissible ambient air level . . . which will protect the health of any [sensitive] group of the population,” and that for this purpose “reference should be made to a representative sample of persons comprising the sensitive group rather than to a single person in such a group.” S. Rep. No. 91-1196, 91st Cong., 2d Sess. 10 (1970).

<sup>3</sup> Under CAA section 302(h) (42 U.S.C. § 7602(h)), effects on welfare include, but are not limited to, “effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.”

<sup>4</sup> See generally, *Whitman v. American Trucking Associations*, 531 U.S. 457, 465-472, 475-76 (2001).

<sup>5</sup> *American Petroleum Institute v. Costle*, 665 F.2d 1176, 1185 (D.C. Cir. 1981).

<sup>6</sup> *American Trucking Associations, Inc. v. EPA*, 283 F.3d 355, 379 (D.C. Cir. 2002).

Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.

Referencing the CAA, the May 2018 NAAQS process memorandum (Pruitt, 2018) identified a set of general charge questions to be posed to the CASAC in the NAAQS review process. Those questions are as follows:

- What scientific evidence has been developed since the last review to indicate if the current primary and/or secondary NAAQS need to be revised or if an alternative level or form of these standards is needed to protect public health and/or public welfare? Please recommend to the Administrator any new NAAQS or revisions of existing criteria and standards as may be appropriate. In providing advice, please consider a range of options for standard setting, in terms of indicators, averaging times, form, and levels for any alternative standards, along with a description of the alternative underlying interpretations of the scientific evidence and risk/exposure information that might support such alternative standards and that could be considered by the Administrator in making NAAQS decisions.
- Do key studies, analyses, and assessments which may inform the Administrator's decision to revise the NAAQS properly address or characterize uncertainty and causality? Are there appropriate criteria to ensure transparency in the evaluation, assessment, and characterization of key scientific evidence for this review?
- Are there areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised NAAQS? Please describe the research efforts necessary to provide the required information.
- What is the relative contribution to air pollution concentrations of natural as well as anthropogenic activity? In providing advice on any recommended NAAQS levels, please discuss relative proximity to peak background levels.
- Please advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such NAAQS.

The draft PA for the current PM NAAQS review is being transmitted to CASAC for review. The PA, prepared by the OAQPS, is a document that provides a transparent analysis regarding the adequacy of the current standards and, as appropriate, potential alternatives for Agency consideration prior to the issuance of proposed and final decisions. The PA integrates and interprets the information from the Integrated Science Assessment (ISA) and from any risk and exposure analyses, together with related limitations and uncertainties, to frame policy options for consideration by the Administrator. Such an evaluation of policy implications is intended to help "bridge the gap" between the Agency's scientific assessments, presented in the ISA and quantitative analyses, and the judgments required of the EPA Administrator in determining whether it is appropriate to retain or revise the NAAQS. In so doing, the PA is also intended to facilitate CASAC advice to the Agency and recommendations to the Administrator on the

adequacy of the existing standards or revisions that may be appropriate to consider, as provided for in the CAA.

In addition to the general charge questions listed above, the May 2018 NAAQS process memorandum recognized that supplemental charge questions would also be made available to provide more detailed requests as necessary (Pruitt, 2018). In order to facilitate the CASAC's review of the draft PA and consideration of its advice to the Administrator on the PM NAAQS, the EPA has also identified the following specific charge questions. These questions focus on the approaches taken in the draft PA to evaluating the available scientific and technical information and to reaching preliminary conclusions on the PM NAAQS. The CASAC's responses to these specific charge questions will be considered by the EPA in developing a final PA in this review.

### **Specific Charge Questions for Review of the Draft PA**

1. **Chapter 1 – Introduction:** To what extent does the CASAC find that the information in Chapter 1 is clearly presented and that it provides useful context for the review?
2. **Chapter 2 – PM Air Quality:** To what extent does the CASAC find that the information in Chapter 2 is clearly presented and that it provides useful context for the review?
3. **Chapter 3 – Review of the Primary PM<sub>2.5</sub> Standards:** What are the CASAC views on the approaches described in chapter 3 to considering the PM<sub>2.5</sub> health effects evidence and the risk assessment in order to inform preliminary conclusions on the primary PM<sub>2.5</sub> standards? What are the CASAC views regarding the rationales supporting the preliminary conclusions on the current and potential alternative primary PM<sub>2.5</sub> standards?
4. **Chapter 4 – Review of the Primary PM<sub>10</sub> Standard:** What are the CASAC views on the approach described in chapter 4 to considering the PM<sub>10-2.5</sub> health effects evidence in order to inform preliminary conclusions on the primary PM<sub>10</sub> standard? What are the CASAC views regarding the rationale supporting the preliminary conclusions on the current primary PM<sub>10</sub> standard?
5. **Chapter 5 – Review of the Secondary Standards:** What are the CASAC views on the approach described in chapter 5 to considering the evidence for PM-related welfare effects in order to inform preliminary conclusions on the secondary standards? What are the CASAC views regarding the rationale supporting the preliminary conclusions on the current secondary PM standards?
6. **Chapters 3 to 5:** What are the CASAC views regarding the areas for additional research identified in Chapters 3, 4 and 5? Are there additional areas that should be highlighted?