

# IPMRP Charge Questions

**EPA-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?**

**EPA-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?**

SCQ-2.1 What are the panel's views regarding whether the draft PA accurately reflects and communicates the air quality related information most relevant to its subsequent evidence-based assessment of the health and welfare effects studies, including uncertainties, as well as the development of the risk assessment for current and alternative standards? In particular, do the following sections accurately reflect and communicate current scientific understanding, including uncertainties, for: (a) relationships between annual and daily distributions of PM; (b) the review of hybrid modelling approaches used to estimate exposure in some studies and the risk assessment; and (c) information on background levels of various PM indicators?

**EPA-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?**

SCQ-3.1 Does the panel find that the questions posed in this chapter appropriately reflect the important policy-relevant issues for the PM<sub>2.5</sub> review? Are there additional policy-relevant questions that should be addressed?

SCQ-3.2 What are the panel's views on the relative weight that the draft Policy Assessment gives to the evidence-based (i.e. draft PA, section 3.2) and risk-based (i.e. draft PA, section 3.3) approaches in reaching conclusions and recommendations regarding current and alternative PM<sub>2.5</sub> standards?

SCQ 3.3 What are the panel's views on the evidence-based approach, including:

- The emphasis on health outcomes for which the draft ISA causality determinations are "causal" or "likely causal"?
- The identification of potential at-risk populations?
- Reliance on key multicity epidemiology studies conducted in the US and Canada for assessing the PM<sub>2.5</sub> levels associated with health effects?
- Characterizing air quality in these key studies using two approaches: the overall mean and 25<sup>th</sup>/75<sup>th</sup> percentiles of the distribution and the "pseudo design value" reflecting a monitor with the highest levels in an area?
- The preference for continuing the use of an annual PM<sub>2.5</sub> standard as the principle means of providing public health protection against the bulk of the distribution of short- and long-term PM<sub>2.5</sub> exposures?

- f) The draft PA conclusions on the extent to which the current scientific information strengthens or alters conclusions reached in the last review on the health effects of PM<sub>2.5</sub>?
  - g) Whether the discussions of these and other issues in Chapter 3 accurately reflect and clearly communicate the currently available health effects evidence, including important uncertainties, as characterized in the ISA?
- SCQ 3.4 What are the panel's views on the quantitative risk assessment for PM<sub>2.5</sub> including:
- a) The choice of health outcomes and studies selected for developing concentration-response functions for long and short-term effects?
  - b) The selection criteria for the 47 urban areas and PM<sub>2.5</sub> air quality scenarios analyzed?
  - c) The hybrid modeling approach used for quantifying exposure surrogates across an area and adjusting air quality for alternative standard levels, as supplemented by interpolation/extrapolation?
  - d) The characterization of variability and uncertainty in the risk assessment?
  - e) The robustness and validity of the risk estimates?
- SCQ-3.5 What are the panel's views on the draft PA preliminary conclusion that, taken together, the available scientific evidence, air quality analyses, and the risk assessment can reasonably be viewed as calling into question the adequacy of the public health protection afforded by the current primary PM<sub>2.5</sub> standards?
- SCQ-3.6 What are the panel's views on the conclusions in the draft PA regarding developing potential PM<sub>2.5</sub> alternative standards with respect to:
- a) The preliminary conclusion that the available information continues to support the PM<sub>2.5</sub> mass-based indicator, remains too limited to support a distinct standard for any specific PM<sub>2.5</sub> component or group of components, and remains too limited to support a distinct standard for the ultrafine fraction?
  - b) The preliminary conclusion to retain the annual and 24-hour averaging times?
  - c) The preliminary conclusion that it is appropriate to consider retaining the forms of the current annual and 24-hour PM<sub>2.5</sub> standards, in conjunction with revised levels?
  - d) The preliminary conclusion that the range for alternative levels for the annual PM<sub>2.5</sub> standard should begin below 12 ug/m<sup>3</sup> and extend as low as 8 ug/m<sup>3</sup>?
  - e) The possible rationales for alternative annual PM<sub>2.5</sub> levels of 12, 10, and 8 ug/m<sup>3</sup>?
  - f) The preliminary conclusion that, in conjunction with a lower annual standard intended to protect against both short- and long-term exposures, the evidence does not support the need for a revised level for the PM<sub>2.5</sub> 24-hour standard?
  - g) The discussion of an alternative approach to lower the level of the 24 hour standard to 30 ug/m<sup>3</sup> to provide increased protection for both short- and long term exposures?

**EPA-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?**

SCQ-4.1 To what extent does the panel find that the questions posed in this chapter appropriately reflect the important policy-relevant issues for the PM<sub>10</sub> NAAQS review? Are there additional policy-relevant questions that should be addressed?

SCQ-4.2 What are the panel's views of the draft PA assessment of the currently available scientific evidence regarding the health effects associated with exposures to thoracic course particles, PM<sub>10-2.5</sub>?

SCQ-4.3 What are the panel's views on the draft PA preliminary conclusion that the available evidence does not call into question the adequacy of the public health protection afforded by the current primary PM<sub>10</sub> standard and that evidence supports consideration of retaining the current standard?

**EPA-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?**

SCQ-5.1 To what extent does the panel find that the questions posed in this chapter appropriately reflect the important policy-relevant issues for the secondary PM standards? Are there additional policy-relevant questions that should be addressed?

SCQ-5.2 What are the panel's views of the draft PA evaluation of the currently available scientific evidence with respect to the welfare effects of PM. Does the assessment appropriately account for any new information related to factors that influence:

- a) Quantification of visibility impairment associated with PM<sub>2.5</sub> and examination of methods for characterizing visibility and its value to the public?
- b) The effects of PM<sub>2.5</sub> components on climate?
- c) The effects of fine and coarse particles on materials?

SCQ-5.3 What are the panel's views of the draft PA preliminary conclusion that the currently available scientific evidence does not call into question the protection afforded by the current secondary PM standards against PM welfare effects and that it is appropriate to consider retaining the current secondary PM standards without revision?

**EPA-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?**

In addressing the charge questions above, the IPMRP is likely to also address four of the general charge questions given in the Pruitt (2018) process memo. For convenience of referencing, these questions are numbered as General Charge (GC) questions 1 through 4. The IPMRP should review these general questions and, to the extent these issues are not covered

in the responses to the above questions, should consider formulation of comments and advice that cover the scope of these questions:

- GC-1. 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.**
- GC-2. 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?**
- GC-3. 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.**
- GC-4. 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.**

Finally, the IPMRP may consider issues beyond the charge questions from EPA. For example, EPA announced in July 2019 that there will not be a second draft of the ISA, despite advice from CASAC that a second draft should be made available for external review. Therefore, the IPMRP may wish to provide comments and advice regarding the draft ISA in addition to that of its December 10, 2018 and March 27, 2019 letters to CASAC. EPA has recently made announcements or taken actions that pertain to the CASAC and the NAAQS review process, such as those described in Attachment B. Therefore, the IPMRP may wish to address questions related to process issues pertaining to CASAC and NAAQS review, such as: (a) what changes have taken place to the CASAC and the NAAQS Review Process?; (b) in what ways have these changes improved or degraded the quality, credibility, and integrity of the NAAQS review process?; and (c) does the panel have recommendations regarding how the NAAQS review process can be improved?

