



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

April 28, 2022

**MEMORANDUM**

**SUBJECT:** CASAC Review of the document titled *Policy Assessment for the Reconsideration of the Ozone National Ambient Air Quality Standards, 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 Reconsideration of the Ozone National Ambient Air Quality Standards, 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 reconsideration of the 2020 decision on the ozone (O<sub>3</sub>) national ambient air quality standards (NAAQS). The document is also available from the EPA website at <https://www.epa.gov/naaqs/ozone-o3-standards-policy-assessments-current-review>, under "Policy Assessments from Current Review." The draft PA will be reviewed by the Clean Air Scientific Advisory Committee (CASAC) at public meetings scheduled for June 8, 10, 13 and 17, 2022. I am requesting that you forward this document to the Committee to prepare for the June meetings.

The draft PA for this reconsideration considers key policy-relevant issues in light of the available evidence assessed in the 2020 *Integrated Science Assessment for Ozone and Related Photochemical Oxidants* (ISA) and quantitative air quality, exposure and risk analyses based on that evidence, including some analyses updated for this reconsideration. The 2020 ISA (available here: <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=348522>) remains the scientific assessment of the health and welfare effects evidence for this reconsideration. In addition, EPA has provisionally considered two sets of studies that were published after the cutoff date for the 2020 ISA. These evaluations are considered in two technical memorandums to the docket and are also being made available here as attached electronic files. Considering the limited new information identified in these groups of studies, EPA has not reopened the air quality criteria to supplement the 2020 ISA. Lastly, an attachment to this memorandum provides background 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 meetings. Should you have any questions regarding the document, please contact me (919-541-3889; email [sasser.erika@epa.gov](mailto:sasser.erika@epa.gov)) or my staff Ms. Leigh Meyer (919-541-5587; email [meyer.leigh@epa.gov](mailto:meyer.leigh@epa.gov)) or Dr. Mary Hutson (919-541-0715; email [Hutson.mary@epa.gov](mailto:Hutson.mary@epa.gov)).

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Attachments:

Background and charge questions for the CASAC review of the *Policy Assessment for the Reconsideration of the National Ambient Air Quality Standards for Ozone, External Review Draft*

PDFs

*Policy Assessment for the Reconsideration of the National Ambient Air Quality Standards for Ozone, External Review Draft* (pdf)

Luben et al., (2020). Memorandum to Ozone NAAQS Review Docket (EPA–HQ–ORD–2018–0279). RE: List of Studies Identified by Public Commenters That Have Been Provisionally Considered in the Context of the Conclusions of the 2020 Integrated Science Assessment for Ozone and Related Photochemical Oxidants. December 2020. Document ID. EPA–HQ– OAR–2018–0279-0560. (pdf)

Duffney, et al., (2022). Memorandum to the Review of the Ozone National Ambient Air Quality Standards (NAAQS) Docket (EPA–HQ–ORD–2018–0279). Re: Provisional Evaluation of Newly Identified Controlled Human Exposure Studies in the context of the 2020 Integrated Science Assessment for Ozone and Related Photochemical Oxidants. April 15, 2020.

## **Background and charge questions for the CASAC review of the *Policy Assessment for the Reconsideration of the Ozone National Ambient Air Quality Standards, External Review Draft***

### **Overarching Context for the Reconsideration of the 2020 Ozone NAAQS Final Action**

On October 29, 2021, the EPA announced that it will reconsider the 2020 decision to retain the primary (health-based) and secondary (welfare-based) Ozone (O<sub>3</sub>) National Ambient Air Quality Standards (NAAQS) established in 2015. As described further below, the EPA's plans are to reconsider the decision based on the existing scientific record and in a manner that adheres to rigorous standards of scientific integrity and provides ample opportunities for public input and engagement.

### **Context for the Draft PA**

The draft Policy Assessment (PA) for the reconsideration of the current primary (health-based) and secondary (welfare-based) O<sub>3</sub> NAAQS is being transmitted to CASAC for review. The PA is prepared by the Office of Air Quality Planning and Standards (OAQPS). When final, the PA provides an evaluation, for consideration by the EPA Administrator, of the policy implications of the currently available scientific information assessed in the ISA, of any quantitative air quality, exposure or risk analyses based on the ISA findings, and related limitations and uncertainties.

The draft PA for this reconsideration considers key policy-relevant issues, drawing on those identified in the 2019 *Integrated Review Plan for the Ozone National Ambient Air Quality Standards* (IRP)<sup>1</sup>, in light of the available evidence assessed in the 2020 *Integrated Science Assessment for Ozone and Related Photochemical Oxidants* (ISA) and quantitative air quality, exposure and risk analyses based on that evidence, including some analyses updated for this reconsideration.

The 2020 ISA remains the scientific assessment of the health and welfare effects evidence for this reconsideration. EPA has additionally provisionally considered two sets of studies that were published after the cutoff date for the 2020 ISA ("new" studies). These evaluations are considered in two technical memorandums to the docket. The first memorandum provisionally considered a set of "new" scientific studies on the health and welfare effects of O<sub>3</sub> that were raised and discussed in public comments on the July 2020 proposed decision (Luben et al., 2020). For the second memorandum, EPA focused on the most policy-relevant new information and thus, conducted a literature search for any new controlled human exposure studies that may have been published since the literature cutoff date for the 2020 ISA, and provisionally evaluated this small set of newly identified studies (Duffney et al., 2022). In both memorandums, the EPA has concluded that the new information and findings do not materially change any of the broad scientific conclusions regarding the health and welfare effects of O<sub>3</sub> in ambient air in the ISA or warrant reopening the air quality criteria.

Thus, this draft PA reassesses the policy implications of the scientific evidence for ozone-related

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<sup>1</sup> The IRP is available at: <https://www.epa.gov/naaqs/ozone-o3-standards-planning-documents-current-review>

health and welfare effects described in the 2020 ISA as well as related air quality, and exposure and risk analyses first presented in the 2020 PA. Accordingly, this document draws heavily on information presented in the 2020 PA, with some updates to include more recent air quality information. For the secondary standard, air quality and exposure analyses in this PA have been expanded to include analyses performed after completion of 2020 PA in response to public comments, but included in the final 2020 decision, and updated with recent ozone air quality measurements.

Ultimately, a final decision in this reconsideration will reflect the judgments of the Administrator. The role of the PA is to help “bridge the gap” between the Agency’s scientific assessment in the ISA and the quantitative analyses, and the judgments required of the EPA Administrator in determining whether it is appropriate to retain or revise the standards. Review of the draft 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.

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

**Chapter 1 – Introduction:** Chapter 1 provides introductory information including a summary of the legislative requirements for the NAAQS, an overview of the history of the O<sub>3</sub> NAAQS and the decisions made in prior reviews, and a summary of the scope and approach for the reconsideration of the 2020 final decision, including the evidence base for this reconsideration.

1. To what extent does the Panel find that the information in Chapter 1 is clearly presented and provides useful context for this reconsideration?
2. In its decision to reconsider the 2020 O<sub>3</sub> NAAQS decision, the EPA stated that the reconsideration would be based on the existing scientific record. What are the Panel’s views on EPA’s evaluation of newer studies and its conclusion that they do not materially change the findings of the 2020 ISA or warrant reopening the air quality criteria?

**Chapter 2 –Air Quality:** Chapter 2 describes the major emissions sources of O<sub>3</sub> precursors; the atmospheric chemistry related to O<sub>3</sub> in ambient air; the O<sub>3</sub> monitoring network; trends of O<sub>3</sub> concentrations in ambient air, and; a modeling analysis of O<sub>3</sub> from background sources.

1. To what extent does the Panel find that the information in Chapter 2 is clearly presented and that it provides useful context for the reconsideration?

**Chapter 3 – Review of the Primary Standard:** Chapter 3 summarizes key aspects of the health effects evidence and quantitative exposure/risk analyses that are particularly relevant to considering the adequacy of the current primary standard. Further, the chapter presents the preliminary staff conclusion that, collectively, the scientific evidence and quantitative exposure and risk analyses can reasonably be viewed as supporting retention of the current standard. Lastly, the chapter also identifies key areas for additional research and data collection to inform future reviews.

1. What are the Panel’s views on the approach to considering the health effects evidence and the risk assessment to inform preliminary conclusions on the primary standard? To what extent is the evaluation of the available information, including the key considerations as well as associated limitations and uncertainties, technically sound and clearly communicated?

2. In the Panel's view, does the discussion in section 3.5 provide an appropriate and sufficient rationale to support staff's preliminary conclusion that it is appropriate to consider retaining the current primary standard, without revision?
3. What are the Panel's views regarding the areas for additional research identified in section 3.6? Are there additional areas that should be highlighted?

**Chapter 4 –Review of the Secondary Standard:** Chapter 4 summarizes key aspects of the welfare effects evidence and quantitative air quality and exposure analyses that are particularly relevant to considering the adequacy of the current secondary standard. Further, the chapter presents the preliminary staff conclusion that, collectively, the scientific evidence and quantitative exposure and risk analyses can reasonably be viewed as supporting retention of the current standard. Lastly, the chapter also identifies key areas for additional research and data collection to inform future reviews.

1. What are the Panel's views on the approach to considering the evidence for welfare effects and quantitative air quality/exposure analyses to inform preliminary conclusions on the secondary standard? To what extent is the evaluation of the available information, including the key considerations as well as associated limitations and uncertainties, technically sound and clearly communicated?
2. In the Panel's view, does the discussion in section 4.5 provide an appropriate and sufficient rationale to support staff's preliminary conclusion that it is appropriate to consider retaining the current secondary standard, without revision?
3. What are the Panel's views regarding the areas for additional research identified in section 4.6? Are there additional areas that should be highlighted?