

## **Charge to the CASAC NO<sub>x</sub>/SO<sub>x</sub> Primary Review Panel**

Within each of the main sections of the draft risk and exposure assessment document, we ask the panel to address the following:

### Air Quality Information and Analyses (Chapters 2, 5, and 6)

1. To what extent are the air quality characterizations and analyses technically sound, clearly communicated, appropriately characterized, and relevant to the review of the primary NO<sub>2</sub> NAAQS?
2. To what extent are the properties of ambient NO<sub>2</sub> appropriately characterized, including ambient levels, spatial and temporal patterns, and relationships between ambient NO<sub>2</sub> and human exposure?
3. We have evaluated air quality in a number of individual locations throughout the United States. What are the views of the panel regarding the appropriateness of these locations and on the approach used to select them?
4. In order to simulate just meeting the current standard, we have rolled up NO<sub>2</sub> air quality levels. To what extent is the approach taken technically sound, clearly communicated, and appropriately characterized? Do Panel members have comments on the relevance of this simulation for reviewing the primary NO<sub>2</sub> NAAQS?
5. Because of the impact of mobile sources on ambient NO<sub>2</sub>, we have estimated on-road NO<sub>2</sub> concentrations. To what extent is the approach taken technically sound, clearly communicated, and appropriately characterized? Do Panel members have comments on the relevance of this procedure for reviewing the primary NO<sub>2</sub> NAAQS?
6. What are the views of the Panel regarding the adequacy of the assessment of uncertainty and variability?

### Exposure Analysis (Chapters 5 and 7):

1. To what extent is the assessment, interpretation, and presentation of the initial results of the exposure analysis technically sound, clearly communicated, and appropriately characterized?
2. The draft risk and exposure assessment document evaluates exposures in Philadelphia. Future drafts will also evaluate exposures in Atlanta, Detroit, Los Angeles, and Phoenix. What are the views of the panel regarding the appropriateness of these locations and on the approach used to select them?
3. Do Panel members have comments on the appropriateness and/or relevance of the populations evaluated in the exposure assessment?
4. To what extent are the approaches taken to model stationary sources and mobile sources technically sound and clearly communicated?
5. Human exposures are modeled using APEX to simulate the movement of individuals through different microenvironments. Do Panel members have comments on the microenvironments modeled?
6. What are the views of the Panel regarding the adequacy of the assessment of uncertainty and variability?

### Characterization of Health Risks (Chapters 3 and 4 and Sections 6.3, 7.8, and 7.9):

1. What are the views of the Panel on the overall characterization of the health evidence for NO<sub>2</sub>? Is this presentation clear and appropriately balanced?
2. The characterization of health risks focuses on potential health benchmark values identified from the experimental NO<sub>2</sub> human exposure literature on airways responsiveness. What are the views of the Panel on using potential health benchmarks from this literature to characterize health risks?
3. Do panel members have comments on the range of potential health effects benchmark values chosen to characterize risks associated with 1-hour NO<sub>2</sub> exposures?
4. To what extent is the assessment, interpretation, and presentation of initial health risk results technically sound, clearly communicated, and appropriately characterized?
5. While the epidemiology literature will be considered in developing the Agency's policy assessment as part of an evidence-based evaluation of potential alternative standards, staff have judged that it is not appropriate to use the available NO<sub>2</sub> epidemiological studies as the basis for a quantitative risk

assessment in this review. Do panel members have comments on this judgment and/or on the rationale presented to support it?