

Overview of EPA's Process for Reviewing the Primary National Ambient Air Quality Standards (NAAQS) for NO₂

Presentation to the NO_x Panel of the Clean Air Scientific Advisory Committee

June 5, 2013



Overview

- Clean Air Act (CAA) requirements regarding the NAAQS
- Overview of review process for primary NO₂ NAAQS
- Summary of decisions in most recent review of primary NO₂ NAAQS
- Schedule for review of Primary NO₂ NAAQS



CAA Requirements Regarding NAAQS

- The Clean Air Act requires EPA to set primary and secondary NAAQS for common air pollutants
 - EPA has set NAAQS for PM, O₃, NO₂, SO₂, Pb, CO
- Primary (health-based) standards . . . in the “judgment of the Administrator” are “requisite” to protect public health with an “adequate margin of safety”
 - “Requisite” means sufficient but not more than necessary
 - “Adequate margin of safety” – intended to address uncertainties associated with inconclusive evidence, and to provide a reasonable degree of protection against hazards that research has not yet identified
- Secondary (welfare-based) standards . . . in the “judgment of the Administrator” are “requisite to protect the public welfare from any known or anticipated adverse effects”
 - Welfare effects include: “effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility. . .”



CAA Requirements Continued

- Section 109(d) of the CAA establishes a 5-year NAAQS review cycle and requires EPA to obtain advice from an independent scientific review committee
 - 109(d)(1): ...at five year intervals...the Administrator shall complete a thorough review of the criteria...and the national ambient air quality standards...and shall make such revisions...as may be appropriate
 - 109(d)(2)(A): The Administrator shall appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies
 - 109(d)(2)(B): ...at five-year intervals...the committee...shall complete a review of the criteria...and...standards...and shall recommend to the Administrator any new...and revisions of existing criteria and standards as may be appropriate...
- The U.S. Supreme Court has held that, in setting NAAQS, EPA may not consider the costs or feasibility of meeting standards
 - Costs can be considered in developing control strategies to meet the standards (implementation phase)



Improving Efficiency in Current Review of Primary NO₂ NAAQS

- By increasing emphasis on the IRP, we believe we can achieve greater efficiency while maintaining the thoroughness of the review
- Expanded IRP will facilitate efficiency improvements
 - Provide more information on process and history to better orient the Panel
 - Discuss more fully the planned scopes of Assessment documents
 - Include judgments as to what analyses may or may not be warranted, including whether a new Risk/Exposure Assessment is warranted at all
- Conduct CASAC *advisory* meeting on the draft IRP at a face-to-face meeting, rather than a *consultation* by teleconference
 - A substantive written response is provided in an advisory process, whereas no substantive written response is provided in a consultation
 - Would likely result in more specific and focused advice and a clearer understanding and agreement on the rest of the process
- In current review, the draft IRP will be reviewed by the Panel at the same meeting as the 1st draft ISA
 - To facilitate Panel feedback on the approach to developing the ISA prior to the Panel's review of the 1st draft ISA, the draft plan for the NO_x ISA has been developed separately
 - Draft plan for NO_x ISA is subject of today's consultation



Decisions in 2010 Review of Primary NO₂ NAAQS

- Existing standard as of 2010 review: Annual standard with level of 53 ppb
 - In place since 1971
- In 2010, EPA set a new 1-hour NO₂ standard with a level of 100 ppb
 - Also retained the existing annual standard, with its level of 53 ppb
- Revised NAAQS based largely on evidence indicating respiratory effects attributable to short-term (i.e., minutes to hours) NO₂ exposures
 - ISA concluded that short-term NO₂ exposures are “likely” to cause adverse effects on the respiratory system
 - Greatly expanded body of epidemiologic evidence, with studies reporting NO₂-associated hospital admissions and emergency department visits in locations meeting the annual standard
 - Human clinical studies reporting increased airway responsiveness following exposures to NO₂ concentrations at and above 100 ppb
- Air quality and exposure analyses indicated increased NO₂ concentrations and exposures near major roads
 - Revised rule required the addition of NO₂ monitors near major roadways in order to capture the highest concentrations likely to occur in many urban areas
- In subsequent litigation, EPA’s decisions regarding primary NO₂ standard were upheld by D.C. Circuit Court
 - U.S. Supreme Court denied industry petition to review lower court’s ruling



Projected Schedule for Current Review of Primary NO₂ NAAQS

Stage of Review	Major Milestone	NO ₂ Primary
	<i>Last review ended:</i>	<i>Jan 2010</i>
Integrated Review Plan (IRP)	Call for Information	Feb 2012
	Workshop on science/policy issues	Feb 29–Mar 1, 2012
	Draft ISA Plan	May 2013
	CASAC consultation on draft ISA Plan	June 2013
	Draft IRP	Oct 2013
	CASAC/public review of draft IRP	Nov 2013
	Final IRP	Jan 2014
Integrated Science Assessment (ISA)	1 st draft ISA	Aug 2013
	CASAC/public review of 1 st draft ISA	Nov 2013
	2 nd draft ISA	Apr 2014
	CASAC/public review of 2 nd draft ISA	Jul 2014
	Final ISA	Nov 2014
Risk and Exposure Assessment (REA)	REA plan (if warranted)	Oct 2013
	CASAC review of REA plan (if warranted)	Nov 2013
	REA developed (if warranted)	TBD
Policy Assessment (PA) and Rulemaking	1 st draft PA	June 2014
	CASAC/public review of 1 st draft PA	July 2014
	2 nd draft PA	March 2015
	CASAC/public review of 2 nd draft PA	April 2015
	Final PA	Sept 2015
	Proposed rulemaking	Feb 2016
	Final rulemaking	Nov 2016



For More Information...

- NAAQS Assessment and rulemaking documents:
<http://www.epa.gov/ttn/naaqs/>
- Specific questions
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