COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY AND ENVIRONMENT
U.S. HOUSE OF REPRESENTATIVES

HEARING CHARTER

Quality Science for Quality Air

Tuesday, October 4, 2011
10:00 a.m. to 12:00 p.m.
2318 Rayburn House Office Building

PURPOSE

On Tuesday, October 4, 2011, the Subcommittee on Energy and Environment of the Committee on Science, Space, and Technology will hold a hearing to examine the Environmental Protection Agency's (EPA) process for setting standards under the Clean Air Act including (1) the role of scientific advice from the Clean Air Scientific Advisory Committee (CASAC) and similar bodies, (2) the economic underpinnings of EPA's Regulatory Impact Analyses, and (3) the assumptions, models, and data used in projecting compliance, technological standards necessary to achieve compliance, and environmental benefits associated with proposed and finalized rules.

WITNESSES

Dr. Roger O. McClellan, Advisor, Toxicology and Human Health Risk Analysis.

Dr. George Thurston, Professor, New York University School of Medicine.

Dr. Michael Honeycutt, Chief Toxicologist, Texas Commission on Environmental Quality.

Dr. Robert F. Phalen, Professor of Medicine and Co-Director, Air Pollution Health Effects Laboratory, University of California, Irvine.

Dr. Anne E. Smith, Senior Vice President, NERA Economic Consulting.

Mr. J. Edward Cichanowicz, Consultant.

BACKGROUND

Originally passed in 1963, the Clean Air Act underwent significant amendments in 1970, 1977, and 1990. The CAA provided the EPA the statutory authority to regulate air pollution to address public health and welfare concerns. Under the CAA statutory framework, the Agency is required to set goals of reducing emissions from both stationary and mobile sources.

National Ambient Air Quality Standards

The foundation of the CAA is based primarily on the concept of nationwide air quality goals and the development of individual state plans to meet those goals. EPA has identified six "criteria pollutants" that are most prevalent and necessary to the protection of public health and welfare for National Ambient Air Quality Standards (NAAQS): sulfur dioxide (SO_2), particulate matter (PM)[1], nitrogen oxides (NO_X), carbon monoxide (CO), ozone (O_3), and lead (Pb). For each of these pollutants, EPA established a "primary" standard at a level designed to protect the public health within an "adequate margin of safety." In addition, the statute allows EPA to set a secondary NAAQS to protect public welfare. At this point, EPA has not set secondary standards at different levels than the primary standards.

The standards themselves are not directly enforceable. Rather, NAAQS establish ceilings for concentrations of criteria pollutants in ambient air. States are required to develop their own State Implementation Plans (SIPs) which outline the measures the State will take to meet the reduction required by the standard (attain) or stay in compliance with the standard (maintain). For example, a SIP may include emission limits for power plants, refineries and manufacturing facilities within the state, or fuel specifications for emission reductions from mobile sources. SIPs must be approved by EPA. If EPA determines that a SIP will not be able to attain or maintain the NAAQS concentrations, EPA can require States to abide by a Federal Implementation Plan (FIP) until such time that the State develops an approvable SIP. Further, if a State fails to submit a SIP, fails to submit an adequate SIP, or fails to implement a SIP, certain sanctions may be imposed, for example, the State may be banned from receiving Federal highway grants.

Under the CAA, each NAAQS must go through a review every five years in order to ensure the standards were protecting public health according to the most recent scientific findings. After a scientific assessment and receipt of expert advice, the Administrator uses his or her own judgment to determine whether or not and to what extent a NAAQS is to be revised. Several Supreme Court cases[2] limited the ability of EPA to take cost into consideration when setting the NAAQS. However, EPA still prepares a Regulatory Impact Assessment (RIA) that details the Agency's expected costs and benefits.

Clean Air Scientific Advisory Committee

NAAQS reviews also include a scientific assessment phase in which EPA assesses the scientific and technical data and provides opportunities for public and expert review of relevant staff documents. EPA then provides these documents to the Clean Air Scientific Advisory Committee (CASAC) for review and feedback. CASAC typically provides the Administrator of the EPA with a recommended concentration range for a particular NAAQS that it believes the scientific literature justifies.

[1] For the first time, during the 1997 revision of the PM NAAQS, EPA established separate standards for fine particulate matter (smaller than 2.5 micrometers or PM2.5) and coarse particulate matter (smaller than 10 micrometers or PM10).

[2] *Lead Industries Assn., Inc.* v. *EPA*, 647 F.2d 1130, 1148 (CADC 1980) and *Whitman V. American Trucking* (February 2001)

According to the EPA, CASAC "provides independent advice to the EPA Administrator on the technical bases for EPA's national ambient air quality standards. Established in 1977 under the Clean Air Act (CAA) Amendments of 1977 (see 42 U.S.C. § 7409(d)(2)), CASAC also addresses research related to air quality, sources of air pollution, and the strategies to attain and maintain air quality standards and to prevent significant deterioration of air quality."[3]

In providing this advice, CASAC comments on EPA staff documents and responds to charge questions from EPA staff. CASAC is comprised of seven permanent members that are supplemented by more than a dozen additional scientists that are appointed to join them for individual NAAQS reviews.

In recent months, several Members of Congress have raised questions regarding the objectivity and independence of the CASAC in providing this scientific advice to EPA.[4,5]

Hazardous Air Pollutants

The CAA distinguishes between two types of pollutants: aforementioned criteria pollutants (eg. NOx, SO2, PM, etc.) and hazardous air pollutants (HAPs). HAPs theoretically pose similar public health concerns as criteria pollutants but are much less ubiquitous; therefore a different standard setting regime was established. The National Emission Standards for Hazardous Air Pollutants (NESHAPs) was established to deal with these nonconventional pollutants. The 1990 amendments required HAPs regulations to consider cost and technological feasibility. Further, the statute directed EPA to develop standards by industrial source category (eg. acid gases) rather than focus on individual pollutants.

Maximum Achievable Control Technology

The mandating of NESHAPs by the 1990 CAAA set the course for the rapid development of technology based standards for all major and industrial source categories that emit HAPs. These standards are known as Maximum Achievable Control Technologies, or MACT. MACT standards are to be based on the "maximum degree of reductions and emissions deemed achievable for the category or subcategory, the EPA administrator, taking into consideration the cost of achieving the reduction, any non-air-quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources."[6]

Scientific Inputs for Standard Setting Under the Clean Air Act

Throughout the development of both NAAQS and NESHAP standards, EPA is required to provide scientific justification for the regulations. The initial inputs include information regarding the effects of pollutants on public health and welfare. EPA must provide information that demonstrates that criteria pollutants or HAPs within the ambient air at current concentrations constitute a threat to public health. The health risk is estimated through a scientific assessment, and the public and expert advice is provided to EPA. The Court has ruled that EPA may not take cost into account when establishing NAAQS levels, though Executive Orders have required that

[3] http://yosemite.epa.gov/sab/sabpeople.nsf/WebCommittees/CASAC
[4] http://republicans.energycommerce.house.gov/Media/file/Letters/112th/030811inhofe.pdf.
[5] http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=d55fa42f-7c41-456e-893f-2963eb26e07e.
[6] CAA 112(d)(2)

such costs must still be analyzed through a regulatory impact assessment. For MACT, EPA must take cost into account, and may not set a standard that protects the public health to a level that has no risk of health effects. Finally, EPA is required for the MACT to conduct a technological feasibility analysis to determine if the technology to reduce emissions of pollutants is available and cost effective. Again, although EPA is not required to conduct a similar analysis in the case of NAAQS levels, the Agency still does a technical assessment when developing the regulatory impact assessment.

The results of these scientific inputs: health, risk, cost and technology, provide the basis and necessary justification for EPA to move forward with setting a standard or making an existing standard more stringent. The Science, Space, and Technology Committee will examine the process by which the quality of the scientific inputs effect the overall justification for regulation, and the importance of that process in ensuring that only appropriate and necessary rules are promulgated.

Relevant Current Proposed and Finalized (but under review) Rules
The following regulations pertain to the aforementioned Clean Air Act authorities:

- National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Electric Utility Steam Generating Units;
- National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers;
- National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial & Institutional Boilers and Process Heaters;
- Portland Cement Manufacturing NESHAP and NSPS;
- Review of the Primary National Ambient Air Quality Standard for Sulfur Dioxide;
- Review of the Primary National Ambient Air Quality Standard for Ozone;
- Review of the Primary National Ambient Air Quality Standard for Particulate Matter;
- Review of the Primary National Ambient Air Quality Standard for Lead;
- Cross-State Air Pollution Rule