

# CRS Issue Brief for Congress

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## Clean Air Act Issues in the 109<sup>th</sup> Congress

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## Clean Air Act Issues in the 109<sup>th</sup> Congress

### SUMMARY

Major amendments to the Clean Air Act were among the first items on the agenda of the 109<sup>th</sup> Congress, with S. 131 (the Clear Skies Act) scheduled for markup by the Senate Environment and Public Works Committee March 9. But the Committee failed to approve the bill, on a 9-9 tie vote.

A deadline for mercury regulations has helped drive the Clear Skies debate: EPA faced a judicial deadline of March 15, 2005, to promulgate standards for mercury emissions from electric power plants. The agency met this deadline, but the specifics of its chosen regulation have been widely criticized and are now being challenged in court by 10 states. The agency also finalized, on March 10, the Clean Air Interstate Rule (CAIR), which will cap emissions of sulfur dioxide and nitrogen oxides from power plants in 28 eastern states and the District of Columbia.

Rather than promulgate these rules, the Administration would have preferred that Congress pass the Clear Skies Act, which would replace the mercury requirement and half a dozen other Clean Air Act regulatory programs with a market-based approach to controlling power plant pollution. Under Clear Skies (as under the promulgated mercury and CAIR regulations), there would be national or regional caps on emissions of mercury, sulfur dioxide, and nitrogen oxides; utilities would receive a set number of allowances; and a trading regime would permit compliance through installation of pollution controls or the purchase and use of excess allowances. The CAIR and mercury regulations mimic much of Clear Skies' cap-and-trade approach, but EPA cannot remove existing Clean Air Act requirements without new legislation. Whether to remove (or modify)

such requirements as New Source Review, deadlines for nonattainment areas, and provisions dealing with interstate air pollution are among the key issues in the Clear Skies debate. Other issues that Congress and EPA face include the costs and benefits of various levels of control, whether to make the caps more stringent, the availability of control technology, whether to cap emissions of carbon dioxide (CO<sub>2</sub>) in addition to the other three pollutants, and legal issues related to the mercury standard.

Like Clear Skies, other air issues that Congress faces are holdovers from the 108<sup>th</sup> Congress, including the regulation of fuel additives used in reformulated gasoline. One particular additive, MTBE, has contaminated groundwater in numerous states, leading 19 of them (notably California and New York) to ban or limit its use. H.R. 6, the energy bill passed by the House on April 21, would ban MTBE nationwide, with several potential exceptions, and would grant MTBE producers a safe harbor from product liability lawsuits. S. 606, approved by a Senate committee, would ban MTBE sooner and would not provide a safe harbor. The bills also differ on how much stimulus to provide for the potential MTBE replacement, ethanol.

A third set of issues seeing early action is whether to modify a requirement that state and local transportation planners demonstrate conformity between their transportation plans and the timely achievement of air quality standards. Failure to demonstrate conformity can lead to a temporary suspension of federal highway funds.

This issue brief will be updated on a regular basis.

## MOST RECENT DEVELOPMENTS

On April 21, the House passed H.R. 6, its comprehensive energy bill. Title XV of the bill would ban the gasoline additive MTBE at the end of 2014, with several possible exceptions, provide MTBE producers a safe harbor from defective product liability lawsuits, and require that motor fuels contain at least 5 billion gallons of ethanol or other renewable fuels by 2012. It also would amend the Clean Air Act to extend air quality attainment deadlines for areas affected by upwind pollution.

On March 16, the Senate Environment and Public Works Committee approved S. 606, the Reliable Fuels Act. The bill would ban MTBE within four years of enactment and require that motor fuels contain at least 6 billion gallons of ethanol or other renewable fuels by 2012. The bill does not contain a safe harbor for MTBE producers.

On March 9, the same Senate committee blocked S. 131, the Clear Skies Act, from advancing to the Senate floor. The committee's 9-9 vote brought an end for now to efforts at finding a compromise on Clear Skies or other multi-pollutant legislation. Earlier markups of Clear Skies, scheduled for February 16, March 2, and March 3, had been postponed so that Senators could undertake discussions aimed at crafting a compromise. With Clear Skies blocked, attention turned to the Environmental Protection Agency, which announced final regulations on utility emissions of mercury, sulfur dioxide, and nitrogen oxides on March 10 and March 15. Ten states have since filed suit to block the mercury regulations.

On March 10, the House passed H.R. 3, its surface transportation bill. The bill would amend Clean Air Act provisions on the conformity of transportation and air quality planning, as well as authorize spending on highways and transit through FY2009. The Senate Environment and Public Works Committee reported its version of the bill, S. 732, containing similar, but not identical, conformity provisions, on April 6.

## BACKGROUND AND ANALYSIS

Despite steady improvements in air quality in many of the United States' most polluted cities, the goal of clean air continues to elude the nation. The most widespread problems involve ozone and fine particles. As of December 2004, 159 million people lived in areas classified "nonattainment" for the ozone National Ambient Air Quality Standard; 95 million lived in areas that were nonattainment for fine particles (PM<sub>2.5</sub>).

Air quality has improved substantially since the passage of the Clean Air Act in 1970: annual emissions of the six most widespread ("criteria") air pollutants have declined almost 154 million tons (51%), despite major increases in population, motor vehicle miles traveled, and economic activity. Meanwhile, however, scientific understanding of the health effects of air pollution has caused EPA to tighten standards for ozone and fine particles. The agency attributes 17,000 premature deaths and millions of lost work days annually to exceedance of the PM<sub>2.5</sub> standard alone. Recent research has begun to tie ozone pollution to premature mortality as well. Thus, there is continuing pressure to tighten air quality standards, and attention has focused on major sources of pollution, such as coal-fired power plants and mobile sources.

With this background in mind, the remainder of this issue brief provides an overview of six prominent air issues that may be of interest in the 109<sup>th</sup> Congress: multi-pollutant (or Clear Skies) legislation for electric power plants; mercury from power plants; EPA's regulatory program for large stationary sources of pollution, known as New Source Review; the gasoline additives MTBE and ethanol; ozone nonattainment area deadlines; and the "conformity" of transportation and clean air planning. The issue brief provides an overview: most of these issues are addressed at greater length in separate CRS reports, which contain more information and detailed sources. These other CRS reports are referenced in the appropriate sections.

**Clear Skies / Multi-Pollutant Legislation.** The Senate Environment and Public Works Committee blocked S. 131, the Clear Skies Act, from advancing to the Senate floor, on a tie vote, March 9. The committee's 9-9 vote brought an end for now, and possibly for the remainder of the Congress, to further attempts to find a compromise on Clear Skies amendments. Earlier markups of Clear Skies, scheduled for February 16, March 2, and March 3, had been postponed so that Senators could undertake discussions aimed at crafting a compromise. The committee also held two hearings on the Clear Skies bill, January 26 and February 2, 2005. The bill would have significantly amended the Clean Air Act to establish a cap-and-trade system for emissions from electric power plants and other sources of air pollution, while eliminating numerous existing regulations affecting those sources.

Coal-fired power plants are among the largest sources of air pollution in the United States. Under the current version of the Clean Air Act, they are not necessarily subject to stringent requirements. Emissions and the required control equipment can vary depending on the location of the plant, when it was constructed, whether it has undergone major modifications, the specific type of coal it burns, and, to some extent, the vagaries of EPA enforcement policies. More than half a dozen separate Clean Air Act programs could potentially be used to control emissions, which makes compliance strategy complicated for utilities and difficult for regulators. And, since the cost of the most stringent available controls, for the entire industry, could range into the tens of billions of dollars, utilities have fought hard and rather successfully to limit or delay regulation.

As a result, emissions from power plants have not been reduced as much as those from some other sources. Many plants built in the 1950s or 1960s (generally referred to as "grandfathered" plants) have little emission control equipment. Collectively, these plants are large sources of pollution. In 2003, power plants accounted for nearly 11 million tons of sulfur dioxide (SO<sub>2</sub>) emissions (69% of the U.S. total), about 45 tons of mercury emissions (more than 40% of the U.S. total), and nearly 4.5 million tons of nitrogen oxides (21.5% of the U.S. total). Power plants are also considered major sources of fine particles (PM<sub>2.5</sub>) and account for nearly 40% of U.S. anthropogenic emissions of the greenhouse gas carbon dioxide.

An example of their importance was seen in the August 2003 Northeast blackout. With about 100 power plants (most of them coal-fired) shut down, researchers found that ambient levels of SO<sub>2</sub> and ozone were 90% and 50% lower, respectively, in blacked-out areas.

With new ambient air quality standards for ozone and fine particles taking effect, emissions of NO<sub>x</sub> (which contributes to the formation of ozone) and SO<sub>2</sub> (which is among the sources of fine particles) need to be reduced. Mercury emissions have also been a focus

of concern: 45 states have issued fish consumption advisories for mercury, covering 13 million acres of lakes, 767,000 river miles, and the coastal waters of 12 entire states. The continuing controversy over the interpretation of New Source Review requirements for existing power plants (described in a separate section below) is also exerting pressure for a more predictable regulatory structure.

Thus, many in industry, environmental groups, Congress, and the Administration agree that the time is ripe for legislation that addresses power plant pollution in a comprehensive (multi-pollutant) fashion. Such legislation (dubbed “Clear Skies” by the Administration) would address the major pollutants on a coordinated schedule, and would rely, to a large extent, on a system like that used in the acid rain program, where national or regional caps on emissions are implemented through a system of tradeable allowances. The key questions have been how stringent the caps should be, and whether carbon dioxide (CO<sub>2</sub>) will be among the emissions subject to a cap.

Regarding the stringency issue, Clear Skies and other bills introduced over the last two years would require reduction of NO<sub>x</sub> emissions to 1.5 or 1.8 million tons per year (a 70%-80% reduction from 1998 levels) and reduction of sulfur dioxide emissions to 2.23-3.0 million tons per year (also a reduction of 70%-80% versus 1998). Regarding mercury, the bills would either require EPA to determine the level of reductions, or require reductions of 70%-90% from current levels of emissions (from 48 to 5, 10, or 15 tons annually, depending on the bill).

In the most stringent of the bills (Senator Jeffords’s S. 150 and Representative Waxman’s H.R. 1451), these reductions would take place by 2009 or 2010 (depending on the pollutant). The Jeffords and Waxman bills would also set caps on CO<sub>2</sub> emissions. (For additional information and a detailed comparison of the legislative proposals, see CRS Report RL32755, *Air Quality: Multi-Pollutant Legislation in the 109<sup>th</sup> Congress.*)

The Clear Skies bill (S. 131) envisions less stringent standards than those in most other bills, phased in over a much longer period of time. For NO<sub>x</sub>, the bill would reduce emissions to 1.79 million tons per year, but not until 2018; an intermediate limit of 2.19 million tons would be imposed in 2008. For sulfur dioxide, the limit would be 3.0 million tons annually, also in 2018, with an intermediate limit of 4.5 million tons in 2010. For mercury, the limit would be 34 tons per year in 2010, declining to 15 tons in 2018. (In negotiations over S. 131, Senators Voinovich and Inhofe offered to change the Phase 2 deadlines under Clear Skies to 2016, and to implement a Phase 3 SO<sub>2</sub> cap of 2.5 million tons in 2018.)

Because the deadlines are far in the future, the Administration’s analysis shows that utilities would be likely to “overcomply” in the early years of the program. The Administration uses this as a selling point for its approach, arguing that it will achieve reductions sooner than would a traditional regulatory approach with the same deadlines. But overcompliance in the early years would lead to “banked” emission allowances; these could be used in later years to delay achievement of required reductions. In its analysis of the bill, EPA does not expect to see the full 70% emission reductions until 2026 or later, a point seized upon by its opponents to support a more aggressive approach.

In return for establishing its new cap-and-trade program, Clear Skies would also eliminate or restrict numerous existing Clean Air Act requirements with respect to electric

generating units, including New Source Review, New Source Performance Standards, Prevention of Significant Deterioration, Lowest Achievable Emission Rate standards, Best Available Retrofit Technology, and Maximum Achievable Control Technology regulations for mercury. It would allow sources in other industries to opt into the cap-and-trade program, and escape existing Clean Air Act controls. It would remove deadlines for local areas to achieve ozone and particulate standards under certain conditions, and make it more difficult for nonattainment areas to challenge interstate sources of air pollution. The other bills generally would leave these existing controls in place. (For a more thorough discussion of how Clear Skies would change the Clean Air Act, see CRS Report RL32782, *Clear Skies and the Clean Air Act: What's the Difference?*)

Clear Skies includes no cap on CO<sub>2</sub> emissions. It is a three-pollutant (SO<sub>2</sub>, NO<sub>x</sub>, mercury) bill, whereas most competing bills have addressed four pollutants (the three plus CO<sub>2</sub>). The Administration views controls on CO<sub>2</sub> as a step toward implementing the Kyoto Protocol to the United Nations Framework Convention on Climate Change, which it opposes for a variety of reasons, principally the potential economic impacts on U.S. industries.

The absence of CO<sub>2</sub> from the mix leads to different strategies for achieving compliance, preserving more of a market for coal, and lessening the degree to which power producers might switch to natural gas or renewable fuels as a compliance strategy. In its opposition to CO<sub>2</sub> controls, the Administration is supported by most in the utility and coal industries. Others, mostly outside these industries but including some utilities, view CO<sub>2</sub> controls as inevitable, if not desirable, and support simultaneous implementation of cap-and-trade programs for CO<sub>2</sub> and the other pollutants.

Although stalled for the past three years, Clear Skies was set for early consideration this year in the Senate Environment and Public Works Committee; but the opposing sides were not able to reach a consensus and the bill failed on a tie vote on March 9. In negotiations preceding the vote, there was some movement. On the Republican side, there were offers to move the deadlines for Phase 2 caps forward two years (from 2018 to 2016) and to add a third phase for SO<sub>2</sub>; a mechanism for addressing mercury hot spots was added; and adjustments to the provisions on interstate transport of pollution were offered. The opponents of the bill (who included all the committee Democrats, plus Senators Jeffords and Chafee) conceded that a bill with hard CO<sub>2</sub> caps would not pass, and were willing to accept some less stringent provisions on that score. These compromises proved insufficient to bridge the gap. Whether they might serve as a basis for further discussions and action later in the Congress remains to be seen.

Immediately following the vote, on March 10, EPA announced that it would promulgate final regulations for utility emissions of SO<sub>2</sub> and NO<sub>x</sub> in 28 eastern states and the District of Columbia through its Clean Air Interstate Rule (CAIR). The cap-and-trade provisions of CAIR mimic those of Clear Skies, but CAIR does not allow EPA to remove existing Clean Air Act requirements, as Clear Skies would. Under CAIR, EPA projects that nationwide emissions of SO<sub>2</sub> will decline 53% by 2015, and NO<sub>x</sub> emissions would decline 48%. The agency also projects that the rule will result in \$85-\$100 billion in health benefits annually by 2015, including the prevention of 17,000 premature deaths annually. CAIR's health and environmental benefits are more than 25 times greater than its costs, according to EPA.

**Mercury from Power Plants.** On March 15, 2005, EPA also finalized through regulation a cap-and-trade program for mercury emissions from electric utilities. These regulations (which, like CAIR, mimic the requirements of Clear Skies) rely almost entirely on co-benefits of the CAIR rule. The agency's analysis of the mercury rule finds that less than 1% of coal-fired power plant capacity would install pollution control equipment specifically designed to control mercury within 10 years as a result of the mercury rule. By 2020, only 4% of capacity would have such equipment.

EPA reversed course several times before choosing its final approach to mercury regulation. The agency was required by the terms of the 1990 Clean Air Act Amendments and a 1998 consent agreement to determine whether regulation of mercury from power plants under Section 112 of the Clean Air Act was appropriate and necessary. It concluded that it was so, in a December 2000 regulatory finding. The finding triggered other provisions of the consent agreement: that the agency propose Maximum Achievable Control Technology (MACT) standards for electric power plants by December 15, 2003, and finalize them by March 15, 2005.

The December 2003 proposal offered two alternatives. The first met the agency's requirement under the consent agreement by proposing MACT standards. The standards would have applied on a facility-by-facility basis, and would have resulted in emissions of 34 tons of mercury annually, a reduction of about 30% from the 1999 level. The standards would have taken effect in 2008, three years after promulgation, with possible one-year extensions.

The second mercury alternative, a variant of which the agency chose to promulgate March 15, 2005, uses Section 111(d) of the act. To avoid having to promulgate MACT standards, the agency proposed reversing its December 2000 regulatory finding, arguing that while MACT standards were "appropriate," they were not "necessary," since the emissions could be controlled under Section 111(d) instead. Section 111(d) has rarely been used before — and never for hazardous air pollutants. In the final rule, the agency went a step further, concluding that MACT regulations are neither appropriate nor necessary, and so revises its December 2000 regulatory finding.

Instead, the final regulations establish a national cap-and-trade system for power plant emissions of mercury. As in Clear Skies, the cap will be 15 tons of emissions nationwide in 2018 (about a 70% reduction from 1999 levels, if achieved). There will also be an intermediate cap of 38 tons in 2010. The caps will be implemented through an allowance system similar to that used in the acid rain program, through which utilities can either control the pollutant directly or purchase excess allowances from other plants that have controlled more stringently or sooner than required. As with Clear Skies, early reductions could be banked for later use, which the agency says would result in emissions of 31.3 tons in 2010, nearly 7 tons less than the cap. If this happens, it would allow utilities to delay compliance with the full 70% reduction until well beyond 2018, as they use up banked allowances rather than installing further controls. The agency's analysis projects actual emissions to be 24.3 tons (less than a 50% reduction) as late as 2020. Full compliance with the 70% reduction might be delayed until after 2030.

Besides the stretched out implementation schedule, one of the main criticisms of the cap-and-trade proposal is that it would not address "hot spots," areas where mercury



emissions and/or concentrations in water bodies are greater than elsewhere. It would allow a facility to purchase allowances and avoid any emission controls, if that compliance approach makes the most sense to the plant's owners and operators. If plants near hot spots do so, the cap-and-trade system may not have an impact on mercury concentrations in the most contaminated areas. By contrast, a MACT standard would have required reductions at all plants, and would therefore be expected to improve conditions at hot spots.

Many argue that the mercury regulations should be more stringent or implemented more quickly. To a large extent, these arguments and EPA's counterarguments rest on assumptions concerning the availability of control technologies. Controlling SO<sub>2</sub>, NO<sub>x</sub>, and mercury simultaneously, as the agency prefers, would allow utilities to maximize "co-benefits" of emission controls. Controls such as scrubbers and fabric filters, both of which are widely used today to control SO<sub>2</sub> and particulates, have the side effect (or co-benefit) of reducing mercury emissions to some extent. Under EPA's cap-and-trade regulations, both the 2010 and 2018 mercury emission standards are set to maximize use of these co-benefits. Thus, hardly any controls would be required to specifically address mercury emissions before the 2020s, and the costs specific to controlling mercury would be minimal.

Besides citing the cost advantage of relying on co-benefits, EPA has claimed that technology specifically designed to control mercury emissions (such as activated carbon injection, ACI) would not be generally available until after 2010. This assertion is widely disputed. ACI and fabric filters have been in use on municipal waste and medical waste incinerators for nearly a decade, and have been successfully demonstrated in at least 16 full-scale tests at coal-fired power plants, for periods as long as a year. Manufacturers of pollution controls and many others maintain that, if the agency required the use of ACI and fabric filters at power plants, reductions in mercury emissions as great as 90% could be achieved at reasonable cost in the near future.

The agency can take cost into consideration under the MACT or cap-and-trade rules, and cost to electric utilities appears to have been a determining factor in EPA's analysis. In its proposal, however, calculations of the overall societal costs and benefits seemed to support the imposition of a more stringent standard. The agency projected MACT compliance costs at \$945 million per year, versus quantifiable annual benefits (from longer lives and less illness) of more than \$15 billion (a 16 to 1 advantage). The final rule completely changes this analysis. It concludes that the benefits of mercury control are at most \$43 million per year, with annual costs as high as \$896 million.

In addition to the arguments over technology availability and cost, it is unclear whether EPA has legislative authority to establish a cap-and-trade program for mercury: many argue that the agency is required by the statute to impose MACT standards on each individual plant once it has decided to control mercury emissions. Questions have also arisen regarding the role of industry lobbyists in crafting portions of the EPA proposal. For many of these reasons, 45 Senators wrote EPA Administrator Leavitt at the beginning of April 2004 to request that he withdraw the mercury proposal and begin over. In June, 178 House members wrote Leavitt that they hoped further review "will lead to a stronger final rule." On February 3, 2005, the EPA Inspector General echoed these comments, concluding that EPA senior management instructed the staff to develop a standard that would result in emissions of 34 tons annually, instead of basing the standard on unbiased analysis. Nevertheless, the agency weakened the final rule rather than strengthening it. Thus, opponents, including 10 states,

have filed suit to overturn the mercury rule. (For additional information on the mercury and CAIR rules, see CRS Report RL32868, *Mercury Emissions from Electric Power Plants: An Analysis of EPA's Cap-and-Trade Regulations*; CRS Report RL32744, *Mercury Emissions from Electric Generating Units: A Review of EPA Analysis and MACT Determination*; and CRS Report RL32273, *Air Quality: EPA's Proposed Interstate Air Quality Rule*.)

**New Source Review (NSR).** A related issue that has driven some of the debate over the regulation of power plant emissions is whether EPA has adequately enforced existing regulations, using a process called New Source Review. EPA took a more aggressive stance on New Source Review under the Clinton Administration, filing lawsuits against 13 utilities for violations at 51 plants in 13 states. The Bush Administration has made little headway in settling the suits or bringing the cases to trial, and has proposed major changes that critics argue will gut New Source Review as it pertains to modifications of existing plants. EPA promulgated changes to these rules on December 31, 2002, and October 27, 2003, the net effect of which will be to allow modification of numerous existing major sources of air pollution without subjecting them to current emission standards.

The controversy over the NSR process stems from EPA's application of New Source Performance Standards to existing stationary sources of air pollution that have been modified. The Clean Air Act states that new sources (subject to NSR) include modifications of existing sources as well as plants that are totally new. Industry has generally avoided the NSR process, however, by claiming that changes to existing sources were "routine maintenance" rather than modifications. In the 1990s, EPA began reviewing records of electric utilities, petroleum refineries, and other industries to determine whether the changes were routine. As a result of these reviews, since late 1999, EPA and the Department of Justice have filed suit against or settled with 17 electric utilities that EPA claims made major modifications to 64 plants in 16 states, extending their lives and increasing their electric generating capacity without undergoing required New Source Reviews and without installing best available pollution controls. With four exceptions, these suits were filed during the Clinton Administration.

Seven of the 17 utilities charged with NSR violations (Tampa Electric, PSEG of New Jersey, Dominion Resources/Virginia Electric Power, Wisconsin Electric Power, Southern Indiana Gas and Electric, South Carolina Public Service Authority/Santee Cooper, and Illinois Power/Dynegy) and an Alcoa industrial boiler that was also charged with violations have settled with EPA, agreeing to spend over \$4.5 billion over the next decade on pollution controls or fuel switching in order to reduce emissions at their affected units. Combined, these companies will reduce pollution by about 715,000 tons annually. One other utility (Cinergy) reached agreement in principle four years ago to spend more than \$1 billion to resolve NSR violations, but final settlement negotiations have not been concluded. Cinergy recently announced that it would voluntarily spend between \$1.65 billion and \$2.15 billion over the next decade to reduce emissions of SO<sub>2</sub>, NO<sub>x</sub>, and mercury. A ninth utility, the Tennessee Valley Authority, has announced plans to spend \$1.5 billion to reduce emissions at four of its plants, although not as part of a settlement agreement. Since July 25, 2000, the agency also reached 12 agreements with petroleum refiners representing more than 40% of industry capacity. The refiners agreed to settle potential charges of NSR violations by paying fines and installing equipment to eliminate 200,000 tons of pollution.

About half the utilities charged with violations have not settled with EPA. They and other critics of the agency's enforcement actions claim that EPA reinvented the rules. They contend that a strict interpretation of what constitutes routine maintenance will prevent them from making changes that were previously allowed, without a commitment of time and money for permit reviews and the installation of expensive pollution control equipment. This provides disincentives for power producers, refiners, and others to expand output at existing facilities, they maintain.

The first case involving one of the non-settling utilities went to trial in February 2003. In an August 7, 2003, decision, U.S. District Judge Edmund Sargus found that Ohio Edison had violated the Clean Air Act 11 times in modifying its W. H. Sammis power plant. Penalties are to be determined in a separate trial that has been delayed, pending settlement negotiations.

EPA has promulgated five sets of changes to NSR. The most controversial are new regulations defining what constitutes routine maintenance, which is exempt from review. These changes appeared in the *Federal Register* on October 27, 2003. The new regulations would exempt industrial facilities from undergoing NSR (and thus from installing new emission controls) if they are replacing safety, reliability, and efficiency rated components with new, functionally equivalent equipment, and if the cost of the replacement components is less than 20% of the replacement value of the process unit. Using this benchmark, few, if any, plant modifications would trigger new pollution controls.

These changes are highly controversial. The Administration and its supporters have characterized them as streamlining or improving the program; others see them as permanently "grandfathering" older, more polluting facilities from ever having to meet the clean air standards required of newer plants. On the day the first set of changes were promulgated (December 31, 2002), nine northeastern states filed suit to overturn them. In addition, 14 states and numerous municipalities have filed suit to block the "routine maintenance" portion of the rule. This portion of the rule was stayed by the U.S. Court of Appeals for the D.C. Circuit on December 24, 2003.

Implementation of the changes also raises questions about EPA's ongoing NSR enforcement actions. While the agency stated in the new rule that "we do not intend our actions today to create retroactive applicability for today's rule," continued pursuit of the enforcement actions filed during the Clinton Administration would create a double standard for utilities, with one set of rules applicable to those utilities unlucky enough to have been cited for violations prior to promulgation of the new rule, and a different standard applicable afterward. Despite earlier agency denials that the rule would affect ongoing investigations, in early November 2003, EPA's enforcement chief, J. P. Suarez, and another EPA official were reported to have indicated that the agency would drop enforcement actions against 47 facilities that had already received notices of violation, and would drop investigations of possible violations at an additional 70 power companies. Agency staff who were involved in the enforcement actions argue that the prospect of an NSR rollback caused utilities already charged with violations to withdraw from settlement negotiations over the pending lawsuits, delaying emission reductions that could have been achieved in the near future. (For additional information, see CRS Report RS21608, *Clean Air and New Source Review: Defining Routine Maintenance*, and CRS Report RL31757, *Clean Air: New Source Review Policies and Proposals*.)

At Congress's direction, the National Academy of Sciences began a review of the NSR program in May 2004, with an expected completion date of December 2005. An interim report, released in January 2005, said the committee had not reached final conclusions, but it also said: "In general, NSR provides more stringent emission limits for new and modified major sources than EPA provides in other existing programs"; and "It is ... unlikely that Clear Skies would result in emission limits at individual sources that are tighter than those achieved when NSR is triggered at the same sources."

Besides the NAS study, on April 21, 2003, the National Academy of Public Administration released a report commissioned by Congress that made sweeping recommendations to modify NSR. The study panel recommended that Congress end the "grandfathering" of major air emission sources, by requiring all major sources that have not obtained an NSR permit since 1977 to install Best Available Control Technology or Lowest Achievable Emissions Rate control equipment. In the interim, the NAPA panel concluded, EPA and the Department of Justice should continue to enforce NSR vigorously, especially for changes at existing facilities.

**MTBE and Ethanol.** Another set of issues on which action has begun in the 109<sup>th</sup> Congress, regulation of the gasoline additives MTBE and ethanol, like Clear Skies, has been considered by several previous Congresses. Efforts in the current Congress build on this earlier work: in the energy bill passed by the House April 21, 2005, the issues hold a prominent place, mirroring the provisions of the 108<sup>th</sup> Congress's H.R. 6. In the Senate, meanwhile, the Environment and Public Works Committee ordered reported S. 606 on March 16, 2005. The bill is based on S. 791, the committee's version of MTBE/ethanol legislation in the 108<sup>th</sup> Congress.

MTBE is used to meet Clean Air Act requirements that reformulated gasoline (RFG), sold in the nation's worst ozone nonattainment areas, contain at least 2% oxygen, to improve combustion. Under the RFG program, areas with "severe" or "extreme" ozone pollution (124 counties with a combined population of 73.6 million) must use reformulated gas; areas with less severe ozone pollution may opt into the program as well, and many have. In all, portions of 17 states and the District of Columbia use RFG, and about 30% of the gasoline sold in the United States is RFG.

The law requires that RFG contain at least 2% oxygen by weight. Refiners can meet this requirement by adding a number of ethers or alcohols, any of which contains oxygen and other elements. By far the most commonly used oxygenate has been MTBE. In 1999, 87% of RFG contained MTBE, a number reduced to 46% by 2004. MTBE has also been used since the late 1970s in non-reformulated gasoline, as an octane enhancer, at lower concentrations. As a result, gasoline with MTBE has been used virtually everywhere in the United States, whether or not an area has been subject to RFG requirements.

MTBE leaks, generally from underground gasoline storage tanks, have been implicated in numerous incidents of ground water contamination. The substance creates taste and odor problems in water at very low concentrations, and some animal studies indicate it may pose a potential cancer risk to humans. For these reasons, 19 states have taken steps to ban or regulate its use. The most significant of the bans (in California, New York, and Connecticut) took effect at the end of 2003, leading many to suggest that Congress revisit the issue to

modify the oxygenate requirement and set more uniform national requirements regarding MTBE and its potential replacements (principally ethanol).

Support for eliminating the oxygen requirement on a nationwide basis is widespread among environmental groups, the petroleum industry, and states. In general, these groups have concluded that gasoline can meet the same low emission performance standards as RFG without the use of oxygenates. But potential opposition to enacting legislation removing the oxygen requirement arises from a number of agricultural interests. Nearly 13% of the nation's corn crop is used to produce the competing oxygenate, ethanol. If MTBE use is reduced or phased out, but the oxygen requirement remains in effect, ethanol use will soar, increasing demand for corn. Ethanol use has already grown substantially as MTBE begins to be phased out. Conversely, if the oxygen requirement is waived by EPA or legislation, not only will MTBE use decline, but likely, so would demand for ethanol. Thus, Members of Congress and Senators from corn states have taken a keen interest in MTBE legislation.

H.R. 6 contains numerous MTBE and ethanol provisions in Title XV. It would ban the use of MTBE as a fuel additive, except in states that specifically authorize its use, after December 31, 2014, unless the President determines not to ban it. The Clean Air Act requirement to use MTBE or other oxygenates in RFG would be repealed, 270 days after enactment. In place of this requirement, the bill would provide a major stimulus to the use of ethanol: under a renewable fuels standard (RFS), annual production of gasoline would be required to contain at least 5 billion gallons of ethanol or other renewable fuel (an increase from 3.4 billion gallons in 2004) by 2012. To prevent backsliding on air quality, the bill requires that the reductions in emissions of toxic substances achieved by RFG be maintained; it authorizes \$2 billion in grants to assist merchant MTBE production facilities in converting to the production of other fuel additives. The bill also authorizes funds for MTBE cleanup, and perhaps most controversially, would provide a "safe harbor" from defective product liability lawsuits for producers of MTBE, ethanol, and other renewable fuels: product liability lawsuits have been used to force petroleum and chemical companies to pay for cleanup of ground and surface water contaminated by releases of fuels containing MTBE.

The Senate version of MTBE/ethanol legislation, S. 606 as ordered reported, is different from H.R. 6 in several respects. It would increase the renewable fuels standard to 6 billion gallons by 2012. It would phase out the use of MTBE sooner (within four years of enactment, rather than at the end of 2014), and the provisions regarding exceptions to the ban (i.e., the only exception being in states that specifically authorize MTBE's use) omit the potential nationwide presidential exception that the House version would provide. The Senate version also omits the safe harbor for MTBE producers. In the 108<sup>th</sup> Congress, the safe harbor provision was among the bill's most controversial provisions, cited by numerous opponents of H.R. 6 in Senate debate on the conference report. (For additional discussion of the House and Senate bills, see CRS Report RL32865, *Renewable Fuels and MTBE: A Comparison of Selected Legislative Initiatives*. For background on the MTBE issue, see CRS Report RL32787, *MTBE in Gasoline: Clean Air and Drinking Water Issues*. For information on ethanol, see CRS Report RL30369, *Fuel Ethanol: Background and Public Policy Issues*.)

**Ozone Nonattainment Area Deadlines.** Another Clean Air Act provision in the House energy bill deals with the deadlines for attaining air quality standards. Section 1443

of H.R. 6 would extend deadlines for areas that have not attained the ozone air quality standard if upwind areas “significantly contribute” to their nonattainment.

Deadlines for nonattainment areas were established by the 1990 Clean Air Act Amendments. Under this statute, ozone nonattainment areas were classified in one of five categories: marginal, moderate, serious, severe, or extreme. Areas with higher concentrations of the pollutant were given more time to reach attainment. In return for the additional time, they were required to implement more stringent controls on emissions. Failure to reach attainment by the specified deadline was to result in reclassification of an area to the next highest category and the imposition of more stringent controls.

For a variety of reasons, EPA has often not reclassified areas when they failed to reach attainment by the statutory deadlines. As of April 2005, the agency’s website listed 18 marginal areas, 6 moderate areas, and 9 serious areas, most of which should have been categorized as severe under the statutory requirements. In several cases, the agency granted additional time to reach attainment on the grounds that a significant cause of the area’s continued nonattainment was pollution generated outside the area and transported into it by prevailing winds. EPA has been sued over its failure to bump up several of these areas; of the first three cases decided (Washington, D.C.; St. Louis; and Beaumont-Port Arthur, Texas), the agency lost all three.

Section 1443 would roll back reclassifications and would extend attainment deadlines in areas affected by upwind pollution to the date on which the last reductions in pollution necessary for attainment in the downwind area are required to be achieved in the upwind area. The specific date is open for interpretation. Under EPA’s overturned policy, areas were given extensions no longer than the attainment or compliance deadline in the upwind area (generally 2004, 2005, or 2007). The language of Section 1443 appears to give EPA flexibility to extend the deadlines beyond those dates, however; it also would apply to the agency’s new eight-hour ozone standard implemented last year, making many additional areas eligible for extensions.

**Conformity of Transportation Plans and SIPs.** A fifth clean air issue returning in the 109<sup>th</sup> Congress is the conformity of metropolitan area transportation plans with the Clean Air Act. Under the act, areas that have not attained one or more of the six National Ambient Air Quality Standards must develop State Implementation Plans (SIPs) demonstrating how they will reach attainment. A total of 126 areas (474 counties) with a combined population in excess of 159 million are subject to the SIP requirements for ozone, and 225 counties with a combined population of 95 million are subject to SIP requirements for fine particulates. Section 176 of the Clean Air Act prohibits federal agencies from funding projects in these areas unless they “conform” to the SIPs. Specifically, projects must not “cause or contribute to any new violation of any standard,” “increase the frequency or severity of any existing violation,” or “delay timely attainment of any standard.” Because new highways generally lead to an increase in vehicle miles traveled and related emissions, both the statute and regulations require that an area’s Transportation Improvement Program (TIP), which identifies major highway and transit projects an area will undertake, demonstrate conformity each time it is revised (i.e., at least every two years). Highway and transit projects in most nonattainment areas cannot receive federal funds unless they are part of a conforming TIP.

The impact of conformity requirements is expected to grow in the next few years for several reasons. The growth of emissions from SUVs and other light trucks and greater than expected increases in vehicle miles traveled have both made it more difficult to demonstrate conformity; court decisions have tightened the conformity rules; and the implementation of more stringent air quality standards for both ozone and fine particulates in 2004 means that additional areas will be subject to conformity beginning this year. Thus, numerous metropolitan areas could face a temporary suspension of highway and transit funds unless they impose sufficient reductions in vehicle, industrial, or other emissions. In a 2003 report, the Government Accountability Office (GAO) found that, over the preceding six years, only five metropolitan areas had to change transportation plans in order to resolve a conformity lapse; but about one-third of local transportation planners surveyed expected to have difficulty demonstrating conformity in the future. (See U.S. GAO, *Environmental Protection: Federal Planning Requirements for Transportation and Air Quality Protection Could Potentially Be More Efficient and Better Linked*, April 2003.)

The Clean Air Act provides no authority for waivers of conformity, and the only grace period allowed is for one year following an area's initial designation as nonattainment. Only a limited set of exempt projects (mostly safety-related or replacement and repair of existing transit facilities) can be funded in lapsed areas: the rules do not even allow funding of new projects that might reduce emissions, such as new transit lines. These limitations are among the issues of concern. In addition, many have raised concerns about a mismatch between the SIP, TIP, and long-range transportation planning cycles, and have called for less frequent, but better coordinated, demonstrations of conformity.

In the 109<sup>th</sup> Congress, conformity provisions mirror those in bills passed by the House and Senate in the 108<sup>th</sup>. The House has already acted. On March 2, the House Transportation and Infrastructure Committee ordered H.R. 3 reported, with amendments (H.Rept. 109-12). The bill passed the House March 10. The bill would require less frequent conformity demonstrations (at least every four years instead of every two years as in current law), and would shorten the planning horizon over which conformity must be demonstrated to 10 years in most cases, instead of the current 20 years. The local air pollution control agency would need to agree if the planning horizon were to be shortened. The House bill would also establish a 12-month grace period following a failure to demonstrate conformity before a lapse would be declared. A Senate bill, S. 732, was reported by the Environment and Public Works Committee April 6. It contains roughly similar provisions, except that it would not require concurrence by the local air pollution agency if the time horizon were to be shortened. It also would not provide the 12-month grace period before a conformity lapse. (For additional information, see CRS Report RL32106, *Transportation Conformity Under the Clean Air Act: In Need of Reform?*)