

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb is filled with a dark blue color, and the bottom bulb is filled with a light blue color. The globe is centered in the narrow neck of the hourglass.

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February 2, 2009

Congressional Research Service

Report RL32782

Clear Skies and the Clean Air Act: Whats the Difference?

Larry Parker and James E. McCarthy, Resources, Science, and Industry Division

February 25, 2005

Abstract. The 109th Congress, like the two before it, is expected to consider proposals to control emissions of multiple pollutants from electric power plants. The bills include an Administration-based proposal, the Clear Skies Act (S. 131), which would control emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury, and other bills that would control the three pollutants plus the greenhouse gas carbon dioxide.

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CRS Report for Congress

Received through the CRS Web

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February 25, 2005

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Summary

The 109th Congress, like the two before it, is expected to consider proposals to control emissions of multiple pollutants from electric power plants. The bills include an Administration-based proposal, the Clear Skies Act (S. 131), which would control emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury, and other bills that would control the three pollutants plus the greenhouse gas carbon dioxide.

Much of the debate surrounding the Administration's Clear Skies proposal has focused on its cap-and-trade implementation scheme. But in some ways, the proposal's cap-and-trade provisions are its least significant aspects in terms of the proposal's interaction with the structure of the Clean Air Act. EPA has already promulgated regulations using a regional cap-and-trade program to control NO_x emissions over the eastern United States (the "NO_x SIP Call") under existing Clean Air Act authority, and has proposed other cap-and-trade regulations to achieve Clear Skies' level of reductions over 28 eastern states and the District of Columbia for both SO₂ and NO_x (in the Clean Air Interstate Rule). In addition, EPA has proposed cap-and-trade regulations to achieve mercury reductions similar to those in Clear Skies, although the legality of these regulations is more questionable.

Critical to the fabric of the Clean Air Act are the various provisions in Clear Skies to alter or to delete existing sections of the Act with respect to both electric generating units (EGUs) and industrial sources that choose to opt into the program. The Administration has made it clear that with Clear Skies' comprehensive approach to EGUs and opt-ins, it believes certain CAA provisions need no longer apply to them, in some cases permanently, in others for as long as 20 years or under certain conditions. These include most statutory requirements for Prevention of Significant Deterioration and attainment of National Ambient Air Quality Standards under Title I of the Act, as well as most controls on hazardous air pollutants as they apply to EGUs and opt-ins. These changes would diminish the suite of options states currently have to achieve compliance with air quality standards.

In July 2001 testimony, then-EPA Administrator Whitman identified the central issue in Clear Skies' interaction with current law: Are the emission reduction targets stringent enough to permit the relaxing or removal of current provisions of the Clean Air Act designed to achieve the same thing with respect to electric utilities? EPA's analysis indicates that Clear Skies will not achieve either the 8-hour ozone or the fine particulate ambient air quality standards that the agency recently implemented within current CAA compliance deadlines. Some nonattainment areas will need additional controls and time to reach attainment. Clear Skies addresses these issues in part by providing 5 to 15 years of additional time, while effectively removing additional electric utility control from the suite of options available to states to achieve the standards. Similarly, with mercury, Clear Skies proposes relatively modest controls on electric utilities, and, as currently drafted, would effectively remove additional electric utility controls from the suite of options available to the states. The ability of industrial sources to opt into Clear Skies could further reduce state control options for both mercury and criteria pollutants. This report will not be updated.

Contents

Introduction	1
Title I of the Clean Air Act	2
Background: Regulating Criteria Air Pollutants Under Title I	3
National Ambient Air Quality Standards / New Source Performance Standards / Lowest Achievable Emissions Rate	3
Prevention of Significant Deterioration / New Source Review / Best Available Control Technology	4
Background: Regulating Mercury Under Title I	5
Changes Proposed by Clear Skies	7
New Authorities	8
1. Cap and Trade Program for SO ₂ , NO _x , and Mercury	8
2. National Emission Standards for SO ₂ , NO _x , and Hg Emissions from New and Reconstructed EGUs	9
3. Authority for Non-Utility Sources to Opt into the Cap-and-Trade Program	9
4. Establishment of an Optional “Transitional Area” Category in Place of Nonattainment Designations	10
Authorities Removed or Limited	10
1. Exemption from Major Source Requirements Under Parts C and D	10
2. Changes to the Hazardous Air Pollutant Provisions of Section 112	11
3. Changes to Section 126 Petitions	11
4. Change in Noncompliance Penalties Under Title IV	12
5. Preemption of State Requirements	12
6. Elimination of New Source Review for Modifications of EGUs ..	12
7. Elimination of Best Available Retrofit Technology (BART) Requirements	13
8. Class I PSD Areas	13
9. Class II PSD Areas	13
10. Extension of Deadlines for the Ozone and PM _{2.5} NAAQS	13
11. Elimination of the Provisions of Subpart 2 for Ozone Nonattainment	14
12. Elimination of the Conformity Requirements	14
Impact of Clear Skies	14
Impact on Regulating Criteria Air Pollutants	14
Impact of Clear Skies on Mercury Regulation	17
Conclusion	18

List of Tables

Table 1. Implementing Title I: Simplified Structure for Electric Generating Units	6
Table 2. Implementing Section 112 for Mercury and Other HAPs from Electric Generating Units and Other Sources	7
Table 3. Summary of EGU Requirements under Title I If Clear Skies Is Enacted	15
Table 4. Control of Mercury and Other HAPs from Electric Generating Units (and Opt-Ins) If Clear Skies Is Enacted	17

Clear Skies and the Clean Air Act: What's the Difference?

Introduction

In February 2002, the Bush Administration announced two air quality proposals to address the control of emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), mercury (Hg), and carbon dioxide (CO₂).¹ The first proposal, called “Clear Skies,” would amend the Clean Air Act (CAA) to place emission caps on electric utility emissions of SO₂, NO_x, and Hg. Implemented through a tradeable allowance program, the emissions caps would be imposed in two phases: 2010 (2008 in the case of NO_x) and 2018. As part of a complete rewrite of Title IV of the Clean Air Act, Clear Skies was introduced in the 108th Congress on February 27, 2003, as H.R. 999 and S. 485.² In the 109th Congress, a modified version of Clear Skies (S. 131) has been introduced by Senator Inhofe and has become the focus of congressional hearings and potential markup.³

Much of the debate surrounding the Administration’s Clear Skies proposal has focused on its cap-and-trade implementation scheme. For example, EPA states: “The Clear Skies approach would deliver guaranteed emissions reductions of SO₂, NO_x, and mercury at a fraction of command and control costs, increasing certainty for

¹ Papers outlining the Administration’s proposals are available from the White House website: [<http://www.whitehouse.gov/news/releases/2002/02/clearskies.html>] for the three-pollutant proposal, and [<http://www.whitehouse.gov/news/releases/2002/02/climatechange.html>] for the climate change initiative.

² The second proposal (for which no legislation has been introduced) initiates a new voluntary greenhouse gas reduction program, similar to ones introduced by the earlier George H. W. Bush and Clinton Administrations. Developed in response to the U.S. ratification of the 1992 UNFCCC, these previous plans projected U.S. compliance, or near compliance, with the UNFCCC goal of stabilizing greenhouse gas emissions at their 1990 levels by the year 2000 through voluntary measures. The new proposal introduced by the Bush Administration does not make that claim, only projecting a 100 million metric ton reduction in emissions from what would occur otherwise in the year 2012. Instead, the plan focuses on improving the carbon efficiency of the economy, reducing current emissions of 183 metric tons per million dollars of GDP to 151 metric tons per million dollars of GDP in 2012. It proposes several voluntary initiatives, along with increased spending and tax incentives, to achieve this goal. The Administration notes that the new initiatives would achieve about one-quarter of the objective, while three-quarters of the projected reduction would occur through already existing efforts underway.

³ For more specifics, see CRS Report RL32755, *Air Quality: Multi-Pollutant Legislation in the 109th Congress*, by Larry Parker.

industry, regulators, consumers and citizens.”⁴ In some ways, the proposal’s cap-and-trade provisions are its least significant aspects in terms of the proposal’s interaction with the structure of the Clean Air Act. EPA has already promulgated regulations using a regional cap-and-trade program to control NO_x emissions over the eastern United States (called the NO_x SIP Call) under existing Clean Air Act authority, and has proposed other cap-and-trade regulations to achieve Clear Skies’ level of reductions over 28 eastern states and the District of Columbia for both SO₂ and NO_x.⁵ In addition, EPA has proposed other cap-and-trade regulations to achieve similar Clear Skies mercury reductions, although their legality has been subject to some question.⁶

Far more important to the fabric of the Clean Air Act are the various provisions in Clear Skies to alter, delete, or hold in abeyance for some time existing sections of the Clean Air Act with respect to affected electric generating units and industrial sources that choose to opt into the program. The Administration has made it clear that with Clear Skies, it believes certain CAA provisions are no longer necessary. As stated by then-EPA Administrator Whitman before the Senate Environment and Public Works Committee, as EPA was developing Clear Skies legislation:

Well, it is our feeling that right now that depending on where you set the targets, that New Source Review is certainly one of those regulatory aspects that would no longer be necessary — the regional haze, the BART, as I mentioned before, the MACT standards, the NO_x SIP Call, the 126 Rule, acid rain — all of those could be eliminated and combined into one regulatory process under a new piece of legislation that would be vastly simplified. It depends where they go on those for utilities — we are talking for utilities now — as far as most of those are concerned. But where you go depends on what level is set in the final legislation, how far you can go to eliminate the additional regulations that we have in place now.⁷

This report examines the potential impact Clear Skies legislation would have on the structure of the Clean Air Act with respect to electric generating units and other industrial sources that choose to opt into the program.

Title I of the Clean Air Act

Many of the changes in the Clean Air Act proposed by Clear Skies would occur with respect to Title I. Within its general regulatory structure, several distinctions arise that affect utility planning and operations — for example, whether the facility

⁴ From EPA’s Clear Skies website: [<http://epa.gov/air/clearskies/basic.html>].

⁵ See CRS Report RL32273, *Air Quality: EPA’s Proposed Interstate Air Quality Rule*, by Larry Parker and John Blodgett.

⁶ For a discussion, see CRS Report RL32203, *Legal Analysis and Background on the EPA’s Proposed Rules for Regulating Mercury Emissions from Electric Utilities*.

⁷ Administrator Whitman in response to question from Senator Voinovich, in U.S. Senate, Committee on Environment and Public Works, Subcommittee on Clean Air, Wetlands, and Climate Change, *Clean Power Act*, hearings, July 26, 2001, S.Hrg. 107-570, p. 36.

is located in clean or dirty air areas, whether a facility is existing or new, and what fuel it burns. And while the underlying regulatory structure generally applies to SO₂, NO_x, and particulate matter (PM), the specific requirements for each differ. Despite changes made in the 1990 Clean Air Act Amendments, specifically the addition of a cap-and-trade program to control SO₂ emissions (Title IV), the basic structure designed in 1970 and expanded in 1977 remains the backbone of the Act. The addition of Title IV in 1990 did not change any of the basic requirements of the Act; Title IV was a supplemental provision, not a substitute for existing provisions.

Background: Regulating Criteria Air Pollutants Under Title I

National Ambient Air Quality Standards / New Source Performance Standards / Lowest Achievable Emissions Rate. As enacted in 1970, the CAA established a two-pronged approach to protect and enhance the quality of the nation's air. First, the Act established National Ambient Air Quality Standards (NAAQS), which set limits on the level of specified air pollutants in ambient air. Second, the Act required national emission limits to be set for major new polluting facilities; these are called New Source Performance Standards (NSPS).

NAAQS have been established for six “criteria” pollutants, including SO₂, NO_x, and PM.⁸ Under the law, EPA sets primary NAAQS⁹ to protect the public health with an “adequate margin of safety.”¹⁰ EPA periodically reviews NAAQS to take into account the most recent health data. NAAQS are federally enforceable with specific deadlines for compliance, but states are primarily responsible for actually implementing the standards, through development and enforcement of State Implementation Plans (SIPs). In general, these plans focus on reducing emissions from existing facilities to the extent necessary to ensure that ambient levels of pollution do not exceed the NAAQS.

For areas *not* in attainment with one or more of these NAAQS, the 1970 CAA mandates states to require *new* sources to install Lowest Achievable Emissions Rate (LAER) technology. Along with “offset” rules,¹¹ LAER ensures that overall emissions do not increase as a result of a new plant's operation. LAER is based on the most stringent emission rate of any state implementation plan or achieved in

⁸ Criteria pollutants, defined in Section 108 of the Act, are pollutants in ambient air that endanger public health or welfare and are emitted from numerous or diverse mobile or stationary sources. The term “criteria” refers to the Section's requirement that the EPA Administrator issue criteria for such pollutants within 12 months of listing them.

⁹ “Secondary” NAAQS, also nationwide standards, protect “welfare” values, such as visibility and agricultural productivity. There is no specific deadline for achieving secondary NAAQS.

¹⁰ For a further discussion of NAAQS standard-setting, see CRS Report 97-722 ENR, *Air Quality Standards: The Decisionmaking Process*, by John Blodgett, Larry Parker, and James McCarthy.

¹¹ “Offset” rules require that new major sources of pollution reduce emissions from existing facilities in a nonattainment area by more than the emissions they will generate.

practice without regard to cost or energy use.¹² *Existing* sources in a nonattainment area are required to install less stringent Reasonably Available Control Technology (RACT), a state determination based on federal guidelines.

The 1970 CAA also established New Source Performance Standards (NSPS), which are emission limitations imposed on designated categories of major new (or substantially modified) stationary sources of air pollution. For fossil fuel-fired electric generating facilities, EPA has set NSPS for SO₂, NO_x, and PM₁₀ (particles smaller than 10 microns), and is required by the Act to review the standards every eight years. A new source is subject to NSPS regardless of its location or ambient air conditions.

Recognizing that pollutants are no respecters of state boundaries, the CAA has established several mechanisms for addressing interstate pollution that may contribute to noncompliance with a NAAQS. These mechanisms include regional commissions, such as the Ozone Transport Commission, state petitions under Section 126, and other provisions for regional groups. The largest of these interstate regulatory regimes is the NO_x SIP Call, which controls NO_x emissions from 20 states and the District of Columbia. Under the NO_x SIP Call, the affected states are given emission budgets that they can achieve in whatever manner they choose. Noting the regional nature of the ozone problem in the eastern United States, EPA successfully encouraged states to implement the rule through an EPA-coordinated cap-and-trade program.

In summary, under this overall regulatory regimen, existing sources in nonattainment areas are subject to controls determined by the state as necessary to meet NAAQS; existing sources in attainment areas are essentially free from controls. And major new sources, including fossil fuel-fired electric generating facilities, are subject to NSPS as the minimum requirement, anywhere.¹³

Prevention of Significant Deterioration / New Source Review / Best Available Control Technology. The 1977 CAA broadened the air quality control regimen with the addition of the Prevention of Significant Deterioration (PSD) and visibility impairment provisions. The PSD program (Part C of Title I of the CAA) focuses on ambient concentrations of SO₂, NO_x, and PM in “clean” air areas of the country (i.e., areas where air quality is better than the NAAQS). The provision allows some increase in clean areas’ pollution concentrations depending on their classification. In general, historic or recreation areas (e.g., national parks) are classified Class I with very little degradation allowed, while most other areas are classified Class II with moderate degradation allowed. States are allowed to

¹² LAER may not be less stringent than NSPS, described below.

¹³ The federal focus on new facilities arose from several factors. First, it is generally less expensive to design into new construction necessary control features than to retrofit those features on existing facilities not designed to incorporate them. Second, uniform standards for new construction ensures that individual states will not be tempted to slacken environmental control requirements to compete for new industry.

reclassify Class II areas to Class III areas, which would be permitted to degrade up to the NAAQS.¹⁴

New sources in PSD areas must undergo preconstruction review (called New Source Review or NSR) and must install Best Available Control Technology (BACT) as the minimum level of control. State permitting agencies determine BACT on a case-by-case basis, taking into account energy, environmental, and economic impacts. BACT cannot be less stringent than the federal NSPS, but it can be more so. More stringent controls can be required if modeling indicates that BACT is insufficient to avoid violating PSD emission limitations, or the NAAQS itself.

A complement to the PSD program for existing sources is the regional haze program (Section 169A of the Act), which focuses on “prevention of any future, and the remedying of any existing, impairment of visibility” resulting from manmade air pollution in national parks and wilderness areas.¹⁵ Among the pollutants that impair visibility are sulfates, organic matter, and nitrates. Sources built between 1962 and 1977 are required to install Best Available Retrofit Technology (BART). In 1999, the EPA promulgated a regional haze program, which would entail more stringent controls on NO_x and SO₂.

Table 1 summarizes the current air quality control requirements imposed on fossil fuel-fired electric generating facilities by Title I.

Background: Regulating Mercury Under Title I

Separate from the Title I requirements for criteria pollutants, Section 112 of the Act establishes a two-phase federal regulatory program for 188 hazardous air pollutants (HAPs) listed in the Act. Among the HAPs is mercury.

In the first phase, Maximum Achievable Control Technology (MACT) standards are to be promulgated for all major sources of the pollutants. MACT is determined by the EPA Administrator, but it must be at least as stringent as the best controlled similar source for new sources or (with some exceptions) the average of the best performing 12% for existing sources. In the second phase, eight years after promulgation of MACT, additional regulations may be promulgated to address any “residual risks” from HAPs after the implementation of MACT.

Electric utilities were given special treatment under Section 112. In Section 112(n), the Act required that EPA report to Congress on the hazards to public health from electric generating units’ emissions of HAPs and make an affirmative finding that regulation under Section 112 is “appropriate and necessary” for such units before proceeding to issue MACT standards. EPA made this finding in December 2000; but in January 2004, it proposed to rescind its conclusion that the MACT standard was necessary, instead proposing a cap-and-trade program under Section 111 as its preferred approach.

¹⁴ None have been reclassified to Class III, however.

¹⁵ See CRS Report RL32483, *Visibility, Regional Haze, and the Clean Air Act: Status of Implementation*, by Larry Parker and John Blodgett.

Table 1. Implementing Title I: Simplified Structure for Electric Generating Units

Minimum Level of Control for all Sources	Everywhere		Nonattainment Area		Attainment Area	
	New Source	Existing Source	New Source	Existing Source	New Source	Existing Source
	NSPS as set by EPA under Section 111 (<i>also covers modified existing sources</i>)	none, unless modified or covered by visibility rules (i.e., built between 1962 and 1977)	LAER as determined by individual states; can not be less stringent than the federal NSPS	RACT as determined by individual states under federal guidelines	BACT as determined by individual states; can not be less stringent than federal NSPS	BART required in areas affected by visibility provisions
Limits on Ambient Impact	NAAQS for SO ₂ , NO ₂ , O ₃ , PM ₁₀ , and PM _{2.5}		Offset Requirements (OSR)		PSD for SO ₂ , NO ₂ , and PM — Increments — Visibility	
Local/State Responsibility	SIP NSPS-NSR Section 126 Petitions (for transboundary pollution)		SIP Nonattainment NSR Section 126 Petitions (for affecting nonattainment)		SIP PSD-NSR Section 126 Petitions (for affecting PSD and visibility)	

Source: CRS, modified from Electric Power Research Institute, *NOx Regulatory Changes and the Electric Utility* (September 1981), pp. 2-3.

Table 2. Implementing Section 112 for Mercury and Other HAPs from Electric Generating Units and Other Sources

Maximum Achievable Control Technology (MACT)	Everywhere	
	New Sources	Existing Sources
	Applicable at each source Not less stringent than the best controlled similar source	Applicable at each source Not less stringent than the average of the best performing 12% (best 5 sources, if fewer than 30 sources)
Residual Risk	<p>If required to provide an ample margin of safety to protect public health</p> <p>8 years after promulgation of MACT</p> <p>Applicable at each source</p> <p>10⁻⁶ standard (1 in 1 million risk) for carcinogens</p> <p>Could be used to address hot spots</p>	
State/Local Authority	Allows more stringent state and local standards	

Source: CRS.

Under current law, states are allowed to implement standards for HAPs that are more stringent than the federal ones, and several (including Massachusetts, Connecticut, New Jersey, and Wisconsin) have already done so.

Table 2 summarizes the current requirements imposed on fossil fuel-fired electric generating facilities by Section 112.

Changes Proposed by Clear Skies¹⁶

Clear Skies would change numerous provisions of current law. Some of these changes add new authorities or programs — for example, the establishment of national cap-and-trade programs for utility emissions of NO_x and mercury, and the extension and revision of the Title IV cap-and-trade program for SO₂. Other changes remove existing authority (e.g., the hazardous air pollutant provisions of Section 112, as they relate to mercury emissions from utilities and from opt-in facilities in other industries). And other changes modify and/or hold in abeyance certain provisions for several years (e.g., BART, Section 126, conformity).

¹⁶ The reader should note that modifications to specific Clear Skies proposals, such as S. 131, are likely as the bill moves through the legislative process. This report focuses on provisions that were in S. 131 as introduced.

A list of the additional authorities would include (1) the cap-and-trade programs for SO₂, NO_x, and Hg; (2) statutory national emission standards for new and reconstructed electric generating units (EGUs); (3) authority for sources in other industries to opt into the cap-and-trade program; and (4) establishment of an optional “transitional area” category in place of the traditional nonattainment area designations under Sections 107 and 110.

A list of the authorities removed (or limited in new ways) would include (1) provisions for major sources (i.e., affected EGUs and opt-in units would no longer be considered major sources); (2) changes to the hazardous air pollutant provisions of Section 112, removing utilities and opt-in units from the sources whose mercury emissions can be controlled under Maximum Achievable Control Technology (MACT) and residual risk provisions; (3) changes to Section 126, establishing a moratorium on the use of petitions to control interstate air pollution, and establishing substantially more stringent requirements for acceptance of such petitions after the moratorium; (4) reduction of the noncompliance penalties under the new SO₂ cap-and-trade program; (5) effective preemption of more stringent state requirements for NO_x and mercury; (6) elimination of New Source Review (NSR) for modifications of major sources; (7) elimination of Best Available Retrofit Technology (BART) requirements under Section 169A (which concerns visibility protection); (8) establishment of a statutory 50 km zone around Class I areas for imposition of the Prevention of Significant Deterioration (PSD) requirements (replacing a current regulatory 100 km zone); (9) exempting affected units located in PSD Class II areas from Class II limitations on pollution increments; (10) extension of deadlines for meeting the ozone and PM_{2.5} NAAQS; (11) a *de facto* moratorium on the provisions of Subpart 2 dealing with ozone nonattainment in most areas; and (12) a *de facto* moratorium on the conformity requirements (for highways and other projects) under Section 176 in most ozone and PM_{2.5} nonattainment areas.

New Authorities

1. Cap and Trade Program for SO₂, NO_x, and Mercury. Much of Clear Skies consists of detailed provisions that would replace Title IV of the Clean Air Act, the acid precipitation title, with a revised and expanded version establishing a multi-pollutant cap-and-trade program. The proposal would place caps on emissions of SO₂, NO_x, and Hg in two phases, and would set up trading programs to provide flexibility in meeting the three caps.

For the version introduced as S. 131, Phase 1 would establish caps for EGUs of:

- 2.19 million tons of NO_x in 2008;
- 4.5 million tons of SO₂ in 2010; and
- 34 tons of mercury in 2010.

The S. 131 Phase 2 caps, which would take effect in 2018, are set at:

- 1.79 million tons of NO_x;
- 3.0 million tons of SO₂; and

- 15 tons of mercury.¹⁷

The allowance trading program provisions are generally similar to those of the existing Title IV program. As specified under S. 131, allowances would be allocated free to EGUs based on historic fuel usage. For the new NOx and Hg programs, the allocation would be adjusted by factors specified in the bill (e.g., EGUs fueled by lignite would receive three times as many Hg allowances as would comparable EGUs fueled by bituminous coal). Unlike the existing program, a small pool (7% of the SO₂ and 5% of the NOx and Hg allowances) would be set aside for new units.

2. National Emission Standards for SO₂, NOx, and Hg Emissions from New and Reconstructed EGUs. Clear Skies would establish statutory standards for emissions of SO₂, NOx, and Hg from new and reconstructed EGUs. The standards are generally more stringent than current NSPS (e.g., for NOx, the standard would be 1.0 lb/MWh for coal-fired EGUs versus the current NSPS of 1.6 lb/Mwh¹⁸; for particulate matter, the standard would be 0.20 lb/MWh, about one-third less than the current NSPS). The Hg standard (0.015 lb/GWh) is more stringent than the proposed MACT for subbituminous, lignite, and IGCC units — especially the lignite units — but it would allow two and a half times as much emissions as the proposed MACT for bituminous-fired EGUs.

Compared to the current NSPS, the National Emission Standards would apply to fewer units (as discussed further in item 6 under “Authorities Removed or Limited,” below). The National Emission Standards would be reviewed and, if appropriate, revised at least every eight years following their promulgation, the same as the requirement for existing NSPS.

3. Authority for Non-Utility Sources to Opt into the Cap-and-Trade Program. S. 131 would allow units that are not affected EGUs and whose emissions of SO₂, NOx, and Hg are vented only through a stack or duct to opt into the cap-and-trade program. The proposal establishes alternative methods of determining allowances for these units based on a unit’s heat input or product output and its emissions during one of several optional base periods. In the case of S. 131,

¹⁷ The extent to which these caps would reduce emissions is difficult to estimate. Some estimates compare the caps to actual emission levels, generally using as a baseline 2000 data for SO₂ and NOx and 1999 (latest data available) for mercury. Emissions of all three pollutants are likely to be lower at present than they were in 1999 or 2000, particularly NOx, for which a major new regulatory program (the NOx SIP call) took effect in 2004. With SO₂, there is the further question of whether the bill’s caps should be compared to actual emissions (11.4 million tons in 2000) or the existing SO₂ cap under the current Title IV (8.95 million tons in 2000). Emissions in 2000 and subsequent years have exceeded the cap as utilities used up prior year (banked) allowances. Mercury reduction estimates are complicated by the fact that units emitting 50 pounds or less annually would be exempt from the cap in S. 131, as introduced. While detailed monitoring data are unavailable, about half the EGUs would be exempt from the cap under this provision. Thus, a comparison of S. 131’s caps to 1999 emissions from all EGUs overstates the percentage reduction that would be achieved.

¹⁸ EPA proposed a 1.0 lb/Mwh standard (the same as that in Clear Skies) under current authority on February 22, 2005.

a unit would receive allocations equal to 70% of its baseline SO₂ and NO_x emissions beginning in 2010, and 50% beginning in 2018. Mercury allocations, beginning in 2010, would be equal to the emissions allowed under federal or state hazardous air pollutant standards (generally, the standards for industrial boilers and process heaters promulgated by EPA in September 2004).

In return for opting into the cap-and-trade program, units would be exempt from compliance deadlines for all hazardous air pollutants under four broad categories of regulations (industrial boilers, process heaters, combustion engines and turbines, and plywood) as soon as they apply for acceptance,¹⁹ and would be permanently exempt from the regulations if EPA accepts their application to opt in.

In addition, units that opt in would no longer be considered a major source or a major emitting facility or major stationary source for purposes of Part C (PSD) and Part D (nonattainment) of the Act for 20 years. As discussed later (see item 1 under “Authorities Removed or Limited,” below), this would exempt opt-in units from several requirements provided the owner/operator properly operated, maintained, and repaired the unit’s pollution control equipment to limit particulate emissions and used good combustion practices to minimize carbon monoxide emissions.

4. Establishment of an Optional “Transitional Area” Category in Place of Nonattainment Designations. Clear Skies would amend Section 107 of the Clean Air Act to allow areas to be designated “transitional” rather than “nonattainment” for the new 8-hour ozone and PM_{2.5} standards, if EPA or state modeling demonstrate that the area will attain the new standards by December 31, 2015. EPA modeling demonstrates that 88% of the ozone and about two-thirds of the PM_{2.5} nonattainment counties would qualify for this transitional status;²⁰ other areas could qualify by adopting additional local controls. The effects of this change (as discussed in more detail in items 10, 11, and 12 under “Authorities Removed or Limited”) are to extend the deadlines for reaching attainment and remove numerous statutory requirements for nonattainment areas under Part D until after 2017.

Authorities Removed or Limited

1. Exemption from Major Source Requirements Under Parts C and D. Clear Skies would provide that affected units (including both EGUs and facilities in other industries that opt into the cap-and-trade program) would not be considered major emitting facilities or major stationary sources of air pollution for purposes of Parts C (PSD provisions) and D (nonattainment provisions) of Title I of the Clean Air Act for a period of 20 years after the date of enactment. For the PSD program, this would exempt them from the requirements of NSR and BART, as well as BACT. Unless an affected unit was located within 50 km of Class I areas (158 designated national parks and wilderness areas), it would not be subject to the ambient air protections (i.e., increments) of the PSD program. If the unit is located within 50 km

¹⁹ The deadline for compliance would otherwise generally be 2007 - 2010.

²⁰ See CRS Report RL32345, *Implementation of EPA’s 8-Hour Ozone Standard*, p. 6, and CRS Report RL32431, *Particulate Matter (PM_{2.5}): National Ambient Air Quality Standards (NAAQS) Implementation*, pp. 10-11.

of a Class I area , however, it would remain subject to the PSD requirements in Part C of Title I.²¹ (See further discussion under items 7, 8, and 9, below.)

For nonattainment areas, Clear Skies would exempt affected units from nonattainment NSR, LAER, and offset requirements. This would limit the ability of nonattainment areas to impose additional controls on existing EGUs and opt-in facilities under their State Implementation Plans.

To qualify for the exemptions, an existing affected unit (or opt-in unit as noted above) must show that it “operates, maintains and repairs pollution control equipment to limit emissions of particulate matter” and “uses good combustion practices to minimize emissions of carbon monoxide” within three years of the date of enactment.

2. Changes to the Hazardous Air Pollutant Provisions of Section 112. Clear Skies would revise Section 112 of the Clean Air Act to preclude regulation of any hazardous air pollutants emitted by electric utility steam generating units through either MACT or residual risk standards, with the following exception. The Administrator would retain the authority to address any non-mercury hazardous air pollutants from EGUs provided that any determination to do so is based on public health concerns and, on an individual source basis, considers the effects of emission controls installed or anticipated in order to meet 2018 emission requirements under the cap-and-trade program. A determination to impose such controls would also need to be based on a peer-reviewed study with notice and opportunity to comment, to be completed not before January 2015. Any such standards could not take effect before January 1, 2018.

As noted earlier, S. 131 as introduced also exempts units that opt into the cap-and-trade program from compliance deadlines under four sets of hazardous air pollutant regulations already promulgated under Section 112 once the units apply to opt in; it would permanently exempt them from compliance with the four MACT standards if EPA accepts their application.

3. Changes to Section 126 Petitions. Clear Skies would add a new Section 110(q) to the Clean Air Act, establishing a moratorium on the use of petitions to control interstate air pollution from affected units (under Section 126 of the Act) and establishing more stringent requirements for acceptance of such petitions after the moratorium. Under current law, Section 126 authorizes downwind states or political subdivisions to petition the Administrator to find that certain upwind

²¹ In addition, Clear Skies would require State Implementation Plans (SIPs) to include requirements that prior to the commencement of construction of an affected unit in an attainment or unclassifiable area (e.g., a PSD Class II area), the owner or operator must demonstrate that the emissions increase from construction or operation will not cause or contribute to air pollution in excess of any national ambient air quality standard (NAAQS), a less stringent requirement than current law. In areas designated nonattainment, the state must determine that construction or operation will not interfere with any program to assure that the NAAQS are achieved. Interference will be deemed not to occur if, for three years prior to the date a complete permit application is submitted, the area was in full compliance with all requirements of the Clean Air Act, including the requirements for SIPs.

sources emit air pollutants in amounts that contribute significantly to the petitioner's nonattainment. If the Administrator grants the finding, the upwind sources must either shut down or implement controls that the Administrator may mandate, within a specified period, but no later than three years from the date of the finding. The amendment would provide that the Administrator may not require submission of SIPs subjecting affected units to Section 126 requirements with an effective date prior to December 31, 2014.

In reviewing a petition under Section 126, the Administrator would have to consider, among other factors, any emissions reductions required to occur by the applicable attainment dates of any relevant nonattainment areas. In addition, as conditions for making a finding concerning affected units, the Administrator would have to determine that the required emission reductions from the affected units (1) are at least as cost-effective as emission reductions from each other principal category of sources in areas upwind of the petitioner (including on-road and off-road mobile sources), and (2) will improve air quality in the petitioner's nonattainment areas at least as cost-effectively as other emission reductions, if a methodology is reasonably available to make such determinations.

4. Change in Noncompliance Penalties Under Title IV. Clear Skies would replace the Clean Air Act's existing Section 411 beginning in 2008, effectively reducing the penalties for noncompliance with the sulfur dioxide cap-and-trade program provided in current law. Under current law, noncompliance penalties were set at \$2,000 per ton of excess emissions in 1990. The amount is adjusted for inflation: in 2004, the adjusted amount would have been \$2,890.59, according to the Bureau of Labor Statistics. Section 406 of the bill would set the penalties at \$2,000, with no further inflation adjustments, thus cutting the penalty by about one-third initially, and more in subsequent years.

5. Preemption of State Requirements. Like current law, Clear Skies states that it does not preempt the right of any state or political subdivision thereof to adopt or enforce limits more stringent than those provided in the bill. Under the cap-and-trade programs, however, "*notwithstanding any other provision of this Act,*" states and their political subdivisions would be prohibited from interfering with the transfer, sale, or purchase of allowances. The net effect of these provisions would be to allow increased emissions in another jurisdiction by an amount equal to any reduction achieved in a more stringent state for each of the three covered pollutants. Since the bill also limits the ability to file Section 126 petitions to control out-of-state pollution, a more stringent standard enacted by a state might have no effect on national levels of a pollutant, but would burden a state's economy with additional control costs.

6. Elimination of New Source Review for Modifications of EGUs. As noted earlier, Clear Skies would exempt EGUs and opt-in facilities from NSR for a period of 20 years. The bill does, however, establish National Emission Standards for new EGUs (also described above). These new standards would not apply to "modified" units, but would apply to "reconstructed" units. Reconstruction is defined as the replacement of components to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost to construct a comparable new unit. Also, the standards would not apply to reconstructed units unless it is technologically and economically feasible to meet the standards.

Under current law and subsequent regulation, there is no specific cost criterion for what qualifies as a modification requiring an affected source to undergo NSR, but it is considered to be well below a 50% threshold. EPA's October 2003 attempt to establish a 20% threshold was criticized as exempting virtually every plant modification from the existing requirement, and was stayed by the U.S. Court of Appeals for the D.C. Circuit on December 24, 2003.²²

7. Elimination of Best Available Retrofit Technology (BART) Requirements. Under Section 169A of Part C of the Clean Air Act, major sources that were in operation between 1962 and 1977 are subject to BART. BART is intended to assure reasonable progress toward the goal of visibility protection in Class I national park and wilderness areas. Clear Skies would exempt EGUs and opt-in facilities from BART for a period of 20 years after enactment.

8. Class I PSD Areas. As noted above, S. 131 as introduced provides that an affected unit to be located within 50 km of a Class I area on which construction or reconstruction begins after the date of enactment would remain subject to PSD requirements. PSD currently requires that all major new and modified sources with the potential to affect air quality in a Class I area obtain a new source permit that assures no adverse impact on the area's visibility. The statute does not specify a specific distance limit, but the regulations require permit applicants to identify Class I areas within 100 km of the unit's location.²³

9. Class II PSD Areas. Under the PSD program, areas classified as Class II are permitted to increase moderately ambient concentrations of SO₂, NO_x, and PM by a statutorily determined increment (regulatorily determined in the case of NO_x). Clear Skies would exempt affected units located in Class II areas from having to offset or otherwise further control their emissions in order to maintain ambient air quality within the Class II increments.

10. Extension of Deadlines for the Ozone and PM_{2.5} NAAQS. Under current law, nonattainment areas must generally demonstrate that they will attain the new standards for ozone and fine particles (PM_{2.5}) by 2007, 2009, or 2010 (depending on EPA's classification scheme).²⁴ As noted earlier, Clear Skies would create a new "transitional" area classification in place of nonattainment, for areas that can demonstrate through modeling that they will attain the standards by December 2015. Until that date, transitional areas would not incur penalties or face additional requirements beyond those identified in the EPA or state modeling (generally the Clear Skies controls and already promulgated federal standards for mobile sources). After 2015, if an area failed to achieve the standard, it would be designated nonattainment by June 2017, and would then have to impose controls to reach

²² For additional discussion, see CRS Report RS21608, *Clean Air and New Source Review: Defining Routine Maintenance*.

²³ For additional information, see the National Park Service website at [<http://www2.nature.nps.gov/air/Regs/psd.htm>].

²⁴ For ozone deadlines, see [<http://www.epa.gov/oar/oaqps/greenbk/gnc.html>]. All PM_{2.5} areas have an initial deadline of 2010.

attainment by 2022. Meanwhile, until 2017, the ozone transitional areas would be exempt from statutory requirements spelled out in Subpart 2 of Part D of the Act (described below).

11. Elimination of the Provisions of Subpart 2 for Ozone Nonattainment. Subpart 2 (Sections 181 and 182) of the Clean Air Act spells out numerous specific requirements for areas that are classified in Marginal, Moderate, Serious, Severe, or Extreme ozone nonattainment. These can include LAER standards and offset requirements for new stationary sources, imposition of RACT on existing stationary sources, inspection and maintenance programs for motor vehicles, vapor recovery at gas stations, use of reformulated gasoline, and \$5,000 per ton penalties on some emissions if an area ultimately fails to meet the standard. EPA has proposed to keep these requirements in place for areas that have failed to meet the 1-hour ozone standard, but it would appear that such areas might be able to qualify as “transitional” under Clear Skies.²⁵ Transitional areas would not be considered in nonattainment. If the areas do qualify as transitional, they would appear to be able to roll back statutory requirements to which they are now subject, provided that they can demonstrate attainment by 2015.

12. Elimination of the Conformity Requirements. Under Section 176 of the Clean Air Act, ozone and PM_{2.5} nonattainment areas are required to demonstrate that new federally funded projects (e.g., for highways, transit, or airports) conform to the area’s SIP for clean air. Failure to demonstrate transportation conformity can lead to a suspension of federal transportation funds until conformity is demonstrated. By reclassifying most ozone and PM_{2.5} nonattainment areas “transitional,” Clear Skies would eliminate the application of conformity in those areas until 2018.

Impact of Clear Skies

Impact on Regulating Criteria Air Pollutants

Proposed Clear Skies legislation would make numerous changes to the structure of Title I with respect to electric generating units (EGUs) covered by the proposed legislation and those industrial sources that choose to opt into the proposed program. **Table 3** attempts to provide an overview of what Title I would look like under Clear Skies with respect to EGUs and industrial sources that chose to opt in. The most significant structural change would be the elimination of location as a variable for controlling EGUs (unless within 50 km of a PSD Class I area). The emission limitations envisioned under Clear Skies are not based on whether an EGU is in an attainment or nonattainment area. This situation extends to the allowance system, which is allowed to operate regardless of an EGU’s location or a state or local government’s desires to restrict trading in order to help the area come into compliance with NAAQS. Because EGUs would no longer be major sources under the meaning of Part C and Part D, states’ ability to set stringent LAER or offset rules on EGUs in nonattainment areas would be eliminated.

²⁵ Personal communication, Office of Air Quality Planning and Standards, February 10, 2005.

Table 3. Summary of EGU Requirements under Title I If Clear Skies Is Enacted

Minimum Level of Control for all Sources	Everywhere		Nonattainment Area		Attainment Area	
	New Source	Existing Source	New Source	Existing Source	New Source	Existing Source
	Statutory Standards, compliance with Clear Skies	Statutory requirements, compliance with Clear Skies	Same as everywhere	Same as everywhere	Same as everywhere unless 50 Km from PSD Class I area	Same as everywhere unless 50 Km from PSD Class I area
Limits on Ambient Impact	NAAQS for SO ₂ , NO ₂ , PM ₁₀ , O ₃ , and PM _{2.5}		Transitional NAAQS for O ₃ , and PM _{2.5}		NAAQS PSD increments do not apply to EGUs unless within 50 Km from PSD Class I area Visibility requirements replaced with compliance with Clear Skies	
Local/State Responsibility	SIP — NSR eliminated for EGUs complying with Clear Skies — States and localities not allowed to interfere with the free operation of allowance system		SIP — Sec. 126 petitions limited by Clear Skies — NSR eliminated for EGUs complying with Clear Skies — States and localities not allowed to interfere with the free operation of allowance system — Transitional designation eliminates conformity requirements and Subpart 2 mandating controls		SIP — NSR eliminated for EGUs complying with Clear Skies — States and localities not allowed to interfere with the free operation of allowance system	

Source: CRS.

Likewise, the inability to restrict trading by EGUs within nonattainment areas would prevent state and local governments from influencing the actual emissions of such EGUs. Finally, the state's enforcement mechanism, NSR, is eliminated for EGUs covered by Clear Skies.

If states chose to set stringent state standards under their own Clean Air Act or equivalent statute, those standards would not be completely controlling. By preventing states from restricting allowance trading, any extra reductions achieved by state legislation designed to help achieve attainment (or protect local habitat or scenic areas under Part C) would create additional allowances that the utility could sell to upwind utilities not covered by the state's legislation. The state could neither prevent the sale nor obtain relief under a Section 126 petition forcing the neighboring utilities to reduce emissions (until after 2014 under strict conditions).

For the 8-hour ozone and PM_{2.5} NAAQS, Clear Skies attempts to eliminate the need for stronger state and local standards (at least the "need" in a regulatory sense) in most cases by establishing a new "transitional" designation for areas that do not currently meet ambient air quality standards. Areas would be designated transitional if EPA or state modeling showed that Clear Skies and other measures such as the recently promulgated controls on mobile sources would bring an area into attainment by December 2015. Transitional areas would not be considered nonattainment in a regulatory or legal sense, obviating the need and the statutory pretext for additional controls.

With respect to PSD, Clear Skies attempts to protect Class I areas by providing for Part C requirements for facilities within 50 km of an Class I area. Whether this is sufficient is debatable. In terms of protecting areas that states deem worthy of protection but that do not meet Clear Skies' Class I requirement, states and localities are basically in the same situation as with respect to nonattainment — that is, they are severely constrained in being able to meet requirements by the inability to impose additional controls on EGUs and opt-ins.

The distinction that has been the source of the most substantial controversy over the years, EGU age, is not fully resolved by Clear Skies. Both Title I and Title IV of the CAA place the most stringent requirements on new sources, allowing existing sources to operate with fewer controls. Clear Skies would reduce this disparity by setting up allowance reserves for new sources. However, although all allowances would be allocated free, the allocation formulas for existing sources would be more generous than for new sources. In addition, the allowances for new sources are on a first-come, first-serve basis. Once the reserve is exhausted, no further allowances are available, and no existing allocations may be reassigned by EPA to future new sources commencing operation. Thus, existing units would continue to have an advantage over new facilities, which would receive either fewer allowances than existing sources, or none at all.

Table 4. Control of Mercury and Other HAPs from Electric Generating Units (and Opt-Ins) If Clear Skies Is Enacted

	Everywhere	
	New Sources	Existing Sources
Maximum Achievable Control Technology (MACT)	<p>No longer applicable</p> <p>Replaced by cap on emissions from all units</p> <p>Individual sources may reduce emissions or may purchase allowances from overcomplying sources</p>	<p>No longer applicable</p> <p>Replaced by cap on emissions from all units</p> <p>Individual sources may reduce emissions or may purchase allowances from overcomplying sources</p>
Residual Risk	<p>No longer applicable</p> <p>Administrator would retain authority to address non-mercury HAPs from EGUs and opt-in facilities</p> <p>Determination to impose such controls would need to be based on a peer-reviewed study of public health concerns on an individual unit basis and could not take effect before January 1, 2018</p>	
State/Local Authority	<p>Allows more stringent state and local standards, but standards would not be controlling because states and localities would not be allowed to interfere with the free operation of the allowance system</p>	

Source: CRS.

Impact of Clear Skies on Mercury Regulation

Table 4 provides an overview of the regulation of mercury and other hazardous air pollutants under Clear Skies. Maximum Achievable Control Technology standards and residual risk standards would no longer be applicable to new or existing EGUs; nor would they apply to other industrial sources that opt into the cap-and-trade program. The absence of such unit-specific standards would make it more difficult to address “hot spots,” areas where concentrations of mercury are greater than elsewhere.

As with the PSD and nonattainment provisions, if states chose to set more stringent state standards under their own Clean Air Act or equivalent statute, those standards would not be completely controlling. By preventing states from restricting allowance trading, any extra reductions achieved by state legislation designed to regulate mercury would create additional allowances the utility could sell to upwind utilities not covered by the state’s legislation. The state could not prevent the sale.

The Administrator would retain the authority to address non-mercury HAPs from EGUs under stringent conditions, including a requirement for a peer-reviewed study of public health concerns on an individual unit basis with notice and opportunity to comment. Any such standards could not be implemented before 2018.

Conclusion

In some ways, former Administrator Whitman has identified the central issue in Clear Skies' interaction with the Clean Air Act: Are the targets stringent enough to permit the relaxing or removal of some provisions of the Clean Air Act designed to achieve the same thing with respect to electric utilities?

In terms of utility controls designed to achieve the NAAQS, it must be stated that Clear Skies will not achieve either the 8-hour ozone NAAQS or the fine particulate NAAQS within the current CAA compliance deadlines, neither in terms of the reductions necessary to achieve those standards nor the timing of the reductions Clear Skies would achieve. EPA's analysis indicates that some nonattainment areas will need additional controls and time to reach attainment.²⁶ Clear Skies, as currently drafted, would effectively remove additional electric utility control from the suite of options available to states to achieve that additional level of control. In addition, the opt-in provision means that the reach of Clear Skies is unclear. In some areas, the removal of an industrial source from Part C or Part D could greatly reduce the options state and local authorities would have to achieve NAAQS attainment or to maintain PSD increments.

Similar problems are anticipated for Clear Skies' mercury controls. At present, 45 states have issued fish consumption advisories because of mercury contamination. In about half the cases, the advisories affect every water body in the state. Clear Skies proposes relatively modest controls on mercury from electric utilities,²⁷ and most other sources of mercury are already subject to more stringent controls.²⁸ As currently drafted, Clear Skies would effectively remove additional electric utility controls from the suite of options available to the states to further reduce mercury emissions. The ability of industrial sources to opt into the Clear Skies program would further reduce state mercury control options.

The response of the Administration is to argue that reductions will be achieved sooner and less expensively under Clear Skies than under the Clean Air Act,²⁹ even though Clear Skies would extend compliance deadlines 5 to 15 years for states to achieve air quality standards. The record of Title IV suggests that substantial overcontrol may be achieved in the early years of a market-based cap-and-trade program. However, as the program also illustrates over the past couple of years, those early reductions can be used later to increase emissions in a given year over the

²⁶ See EPA's technical analysis, Section B: Human Health and Environmental Benefits, available at [http://epa.gov/air/clearskies/03technical_package_sectionb.pdf].

²⁷ Administration analyses indicate that because of credits for early reductions, the 29% reduction in mercury envisioned for Clear Skies first phase will not be achieved until 2013, and the 70% reduction for phase 2 not until after 2026.

²⁸ For a list of the major sources of mercury and the degree of control required, see CRS Report RL31881, *Mercury Emissions to the Air: Regulatory and Legislative Proposals*, Table 1.

²⁹ See EPA's Clear Skies website at [<http://epa.gov/air/clearskies/basic.html>].

mandated cap.³⁰ Thus, achieving reductions early under a cap-and-trade program does not mean achieving more reductions over the longer term. For state and local authorities, this additional flexibility allowing sources to use banked allowances can further complicate compliance strategies.

<http://wikileaks.org/wiki/CRS-RL32782>

³⁰ For a history of emission reductions under Title IV, see:
[<http://www.epa.gov/airmarkets/cmprpt/arp03/summary.html>]