



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 10 1998

OFFICE OF  
GENERAL COUNSEL

MEMORANDUM

SUBJECT: EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources

FROM: Jonathan Z. Cannon  
General Counsel

A handwritten signature in black ink, appearing to read "Jonathan Z. Cannon".

TO: Carol M. Browner  
Administrator

**I. Introduction and Background**

This opinion was prepared in response to a request from Congressman DeLay to you on March 11, 1998, made in the course of a Fiscal Year 1999 House Appropriations Committee Hearing. In the Hearing, Congressman DeLay referred to an EPA document entitled "Electricity Restructuring and the Environment: What Authority Does EPA Have and What Does It Need." Congressman DeLay read several sentences from the document stating that EPA currently has authority under the Clean Air Act (Act) to establish pollution control requirements for four pollutants of concern from electric power generation: nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon dioxide (CO<sub>2</sub>), and mercury. He also asked whether you agreed with the statement, and in particular, whether you thought that the Clean Air Act allows EPA to regulate emissions of carbon dioxide. You agreed with the statement that the Clean Air Act grants EPA broad authority to address certain pollutants, including those listed, and agreed to Congressman DeLay's request for a legal opinion on this point. This opinion discusses EPA's authority to address all four of the pollutants at issue in the colloquy, and in particular, CO<sub>2</sub>, which was the subject of Congressman DeLay's specific question.

The question of EPA's legal authority arose initially in the context of potential legislation addressing the restructuring of the utility industry. Electric power generation is a significant source of air pollution, including the four pollutants addressed here. On March 25, 1998, the Administration announced a Comprehensive Electricity Competition Plan (Plan) to produce lower

prices, a cleaner environment, increased innovation and government savings. This Plan includes a proposal to clarify EPA's authority regarding the establishment of a cost-effective interstate cap and trading system for NO<sub>x</sub> reductions addressing the regional transport contributions needed to attain and maintain the primary National Ambient Air Quality Standards (NAAQS) for ozone. The Plan does not ask Congress for authority to establish a cap and trading system for emissions of carbon dioxide from utilities as part of the Administration's electricity restructuring proposal. The President has called for cap-and-trade authority for greenhouse gases to be in place by 2008, and the Plan states that the Administration will consider in consultation with Congress the legislative vehicle most appropriate for that purpose.

As this opinion discusses, the Clean Air Act provides EPA authority to address air pollution, and a number of specific provisions of the Act are potentially applicable to control these pollutants from electric power generation. However, as was made clear in the document from which Congressman DeLay quoted, these potentially applicable provisions do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems.

## II. Clean Air Act Authority

The Clean Air Act provides that EPA may regulate a substance if it is (a) an "air pollutant," and (b) the Administrator makes certain findings regarding such pollutant (usually related to danger to public health, welfare, or the environment) under one or more of the Act's regulatory provisions.

### A. Definition of Air Pollutant

Each of the four substances of concern as emitted from electric power generating units falls within the definition of "air pollutant" under section 302(g). Section 302(g) defines "air pollutant" as

any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent that the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

This broad definition states that "air pollutant" includes any physical, chemical, biological, or radioactive substance or matter that is emitted into or otherwise enters the ambient air. SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> and mercury from electric power generation are each a "physical [and] chemical . . .

substance which is emitted into . . . the ambient air," and hence, each is an air pollutant within the meaning of the Clean Air Act.<sup>1</sup>

A substance can be an air pollutant even though it is naturally present in air in some quantities. Indeed, many of the pollutants that EPA currently regulates are naturally present in the air in some quantity and are emitted from natural as well as anthropogenic sources. For example, SO<sub>2</sub> is emitted from geothermal sources; volatile organic compounds (precursors to ozone) are emitted by vegetation; and particulate matter and NO<sub>x</sub> are formed from natural sources through natural processes, such as naturally occurring forest fires. Some substances regulated under the Act as hazardous air pollutants are actually necessary in trace quantities for human life, but are toxic at higher levels or through other routes of exposure. Manganese and selenium are two examples of such pollutants. EPA regulates a number of naturally occurring substances as air pollutants, however, because human activities have increased the quantities present in the air to levels that are harmful to public health, welfare, or the environment.

#### B. EPA Authority to Regulate Air Pollutants

EPA's regulatory authority extends to air pollutants, which, as discussed above, are defined broadly under the Act and include SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and mercury emitted into the ambient air. Such a general statement of authority is distinct from an EPA determination that a particular air pollutant meets the specific criteria for EPA action under a particular provision of the Act. A number of specific provisions of the Act are potentially applicable to these pollutants emitted from electric power generation.<sup>2</sup> Many of these specific provisions for EPA action share a common

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<sup>1</sup> See also section 103(g) of the Act (authorizes EPA to conduct a basic research and technology program to develop and demonstrate nonregulatory strategies and technologies for air pollution prevention, which shall include among the program elements "[i]mprovements in nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including sulfur oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, and carbon dioxide, from stationary sources, including fossil fuel power plants.").

<sup>2</sup> See e.g., section 108 (directs Administrator to list and issue air quality criteria for each air pollutant that causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare and that is present in the ambient air due to emissions from numerous or diverse mobile or stationary sources); section 109 (directs Administrator to promulgate national primary and secondary ambient air quality standards for each air pollutant for which there are air quality criteria, to be set at levels requisite to protect the public health with an adequate margin of safety (primary standards) and to protect welfare (secondary standards)); section 110 (requires states to submit state implementation plans (SIPs) to meet standards); section 111(b) (requires Administrator to list, and set federal performance standards for new sources in, categories of stationary sources that cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare); section 111(d) (states must establish performance standards for existing sources for any air pollutant (except criteria

feature in that the exercise of EPA's authority to regulate air pollutants is linked to a determination by the Administrator regarding the air pollutants' actual or potential harmful effects on public health, welfare or the environment. See, e.g., sections 108, 109, 111(b), 112, and 115. See also sections 202(a), 211(c), 231, 612, and 615. The legislative history of the 1977 Clean Air Act Amendments provides extensive discussion of Congress' purposes in adopting the language used throughout the Act referencing a reasonable anticipation that a substance endangers public health or welfare. One of these purposes was "[t]o emphasize the preventative or precautionary nature of the act, i.e., to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health." H.R. Rep. No. 95-294, 95th Cong., 1st Sess., at 49 (Report of the Committee on Interstate and Foreign Commerce). Another purpose was "[t]o assure that the health of susceptible individuals, as well as healthy adults, will be encompassed in the term 'public health,' . . ." Id. at 50. "Welfare" is defined in section 302(h) of the Act, which states:

[a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.<sup>3</sup>

EPA has already regulated SO<sub>2</sub>, NO<sub>x</sub> and mercury based on determinations by EPA or Congress that these substances have negative effects on public health, welfare, or the environment. While CO<sub>2</sub>, as an air pollutant, is within EPA's scope of authority to regulate, the Administrator has not yet determined that CO<sub>2</sub> meets the criteria for regulation under one or more

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pollutants or hazardous air pollutants) that would be subject to a performance standard if the source were a new source); section 112(b) (lists 188 hazardous air pollutants and authorizes Administrator to add pollutants to the list that may present a threat of adverse human health effects or adverse environmental effects); section 112(d) (requires Administrator to set emissions standards for each category or subcategory of major and area sources that the Administrator has listed pursuant to section 112(c)); section 112(n)(1)(A) (requires Administrator to study and report to Congress on the public health hazards reasonably anticipated from emissions of listed hazardous air pollutants from electric utility steam generating units, and requires regulation if appropriate and necessary); section 115 (Administrator may require state action to control certain air pollution if, on the basis of certain reports, she has reason to believe that any air pollutant emitted in the United States causes or contributes to air pollution that may be reasonably anticipated to endanger public health or welfare in a foreign country that has given the United States reciprocal rights regarding air pollution control); Title IV (establishes cap-and-trade system for control of SO<sub>2</sub> from electric power generation facilities and provides for certain controls on NO<sub>x</sub>).

<sup>3</sup> The language in section 302(h) listing specific potential effects on welfare, including the references to weather and climate, dates back to the 1970 version of the Clean Air Act.

provisions of the Act. Specific regulatory criteria under various provisions of the Act could be met if the Administrator determined under one or more of those provisions that CO<sub>2</sub> emissions are reasonably anticipated to cause or contribute to adverse effects on public health, welfare, or the environment.

### C. EPA Authority to Implement an Emissions Cap-and-Trade Approach

The specific provisions of the Clean Air Act that are potentially applicable to control emissions of the pollutants discussed here can largely be categorized as provisions relating to either state programs for pollution control under Title I (e.g., sections 107, 108, 109, 110, 115, 126, and Part D of Title I), or national regulation of stationary sources through technology-based standards (e.g., sections 111 and 112). None of these provisions easily lends itself to establishing market-based national or regional emissions cap-and-trade programs.<sup>4</sup>

The Clean Air Act provisions relating to state programs do not authorize EPA to require states to control air pollution through economically efficient cap-and-trade programs and do not provide full authority for EPA itself to impose such programs. Under certain provisions in Title I, such as section 110, EPA may facilitate regional approaches to pollution control and encourage states to cooperate in a regional, cost-effective emissions cap-and-trade approach (see Notice of Proposed Rulemaking: Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 F.R. 60318 (Nov. 7, 1997)). EPA does not have authority under Title I to require states to use such measures, however, because the courts have held that EPA cannot mandate specific emission control measures for states to use in meeting the general provisions for attaining ambient air quality standards. See *Commonwealth of Virginia v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997). Under certain limited circumstances where states fail to carry out their responsibilities under Title I of the Clean Air Act, EPA has authority to take certain actions, which might include establishing a cap-and-trade program.<sup>5</sup> Yet EPA's ability to invoke these provisions for federal action depends on the actions or inactions of the states.

Technology-based standards under the Act directed to stationary sources have been interpreted by EPA not to allow compliance through intersource cap-and-trade approaches. The

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<sup>4</sup> Title IV of the Act provides explicit authority for a cap and trade program for SO<sub>2</sub> emissions from electric power generating sources.

<sup>5</sup> For example, section 110(c) requires EPA to promulgate a Federal implementation plan where EPA finds that a state has failed to make a required submission of a SIP or that the SIP or SIP revision does not satisfy certain minimum criteria, or EPA disapproves the SIP submission in whole or in part. In addition, section 126 provides that a State or political subdivision may petition the Administrator for certain findings regarding emissions from certain stationary sources in another state. If the Administrator grants the petition, she may establish control requirements applicable to sources that were the subject of the petition.

Clean Air Act provisions for national technology-based standards under sections 111 and 112 require EPA to promulgate regulations to control emissions of air pollutants from stationary sources. To maximize the opportunity for trading of emissions within a source, EPA has defined the term "stationary source" expansively, such that a large facility can be considered a "source." Yet EPA has never gone so far as to define as a source a group of facilities that are not geographically connected, and EPA has long held the view that trading across plant boundaries is impermissible under sections 111 and 112. See, e.g., National Emission Standards for Hazardous Air Pollutants for Source Categories; Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 59 Fed. Reg. 19402 at 19425-26 (April 22, 1994).

### III. Conclusion

EPA's regulatory authority under the Clean Air Act extends to air pollutants, which, as discussed above, are defined broadly under the Act and include SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and mercury emitted into the ambient air. EPA has in fact already regulated each of these substances under the Act, with the exception of CO<sub>2</sub>. While CO<sub>2</sub> emissions are within the scope of EPA's authority to regulate, the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act.

With the exception of the SO<sub>2</sub> provisions focused on acid rain, the authorities potentially available for controlling these pollutants from electric power generating sources do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems. Under certain limited circumstances, where states fail to carry out their responsibilities under Title I of the Act, EPA has authority to take certain actions, which might include establishing a cap-and-trade program. However, such authority depends on the actions or inactions of the states.