

STATE OF NEW YORK
STATE OF CONNECTICUT
STATE OF MAINE
STATE OF VERMONT

COMMONWEALTH OF MASSACHUSETTS
STATE OF NEW HAMPSHIRE
STATE OF RHODE ISLAND

October 26, 1999

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Carol M. Browner
Administrator, Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Re: Petition for rulemaking under 42 U.S.C. § 7409(b)(2)

Dear Administrator Browner:

The undersigned representatives of the States of New York, Connecticut, Maine, New Hampshire, Rhode Island and Vermont and the Commonwealth of Massachusetts call upon EPA to use its authority under Section 109(b)(2) of the Clean Air Act (the "Act"), 42 U.S.C. § 7409(b)(2), to promulgate secondary National Ambient Air Quality Standards ("NAAQS") for the criteria pollutants associated with the formation of acid rain, including nitrogen dioxide (NO₂), sulfur dioxide (SO₂) and fine particulate matter (PM_{2.5}). Recent federal studies, including the National Acid Precipitation Assessment Program's *Biennial Report to Congress: An Integrated Assessment (the "NAPAP Report")*, document the continued – and increasing – damage being inflicted by acid deposition to the lakes and forests of New York, New England and other parts of the nation. Other adverse welfare effects associated with the transformation of these criteria pollutants include visibility impairment, eutrophication of coastal estuaries, global warming, tropospheric ozone and stratospheric ozone depletion. See, e.g., *Nitrogen Oxides: Impacts on Public Health and Environment* (EPA452/R-97-002). The time has come for EPA to take action to address these welfare effects. Therefore, please consider this letter to be a formal request, pursuant to the Administrative Procedure Act, 5 U.S.C. § 553(e), for a rulemaking to establish the requisite secondary standards.

Section 109(b)(2) requires EPA to set secondary standards for each criteria pollutant at levels which are "requisite to protect the public welfare from any known or adverse effects associated with the presence of such pollutant in the ambient air." Congress intended for EPA to use the secondary NAAQS to address all environmental and welfare effects associated with each criteria pollutant, including effects in other environmental media such as eutrophication and acidification of surface

waters, and welfare effects like regional haze which has impacts extending well beyond the class I federal areas which Congress singled out for special protection more than 20 years ago. The Clean Air Act Amendments of 1990 amended Section 302(h) of the Act to make clear that in considering the welfare effects of criteria pollutants such as sulfur dioxide, nitrogen dioxide, particulate matter and ozone, EPA is required to evaluate all the effects of such pollutants "whether caused by transformation, conversion or combination with other pollutants." The language of this Amendment clearly references the transformation of pollutants resulting in the inevitable formation of sulfate and nitrate aerosols and/or their ultimate environmental impacts as wet and dry deposition, clearly signaling Congressional intent that the welfare damage occasioned by sulfur and nitrogen oxides be addressed through the secondary standard provisions of Section 109 of the Act.

In the past, EPA has been reluctant to use the secondary standard provisions of the Act to address acid depositions and other effects of transformation products like sulfate and nitrate aerosols. 75 Fed. Reg. 21351, 21357 (April 21, 1993). Understandably, one of EPA's reasons has been that it wished to see whether the implementation of the acid rain provisions of Title IV would eliminate these problems. However, EPA's optimism in this regard has proven to be unjustified. In its Report, NAPAP finds that, for the Adirondack lakes, for example, "the recovery anticipated in 1990 has not been realized." *NAPAP Report* at 51. Similarly, EPA explained in 1996 that "additional, regional NO_x reductions of at least 40% are likely to be necessary in order to mitigate the effects of acid deposition in the Adirondacks. In particular, it is estimated that between 40-50% reductions of NO_x in the Eastern United States beyond those already required in the Clean Air Act may be necessary simply to keep the number of acidified lakes in the Adirondacks in New York at 1984 levels. Without additional reductions, the number of acidic lakes in the Adirondacks are projected to increase by almost 40% by 2040." 61 Fed. Reg. 67111, 67115 (December 19, 1996).

Similar continuing damage is evident in other parts of the nation, refuting EPA's previous view that use of the NAAQS was not an appropriate means to address what it perceived to be only a regional problem. See, e.g., 61 Fed. Reg. 52852, 62854 (October 8, 1996). The *NAPAP Report* informs us that recent data establishes that acid deposition is clearly a national problem.

Chronically high nitrate concentrations in lake or stream water, indicative of ecosystem nitrogen saturation, have been found in recent years at a variety of locations in the western and eastern United States, including the San Bernardino and San Gabriel Mountains within the Los Angeles air basin, the Front Range of Colorado, the Allegheny Mountains of West Virginia, the Catskill Mountains of New York, and the Great Smoky Mountains in Tennessee. Nitrogen saturation is occurring throughout high-elevation watersheds of the Colorado Front Range. *NAPAP Report* at 49.

Damage to fish populations has also been observed in the Appalachian Range, including in the chronically acidified streams of Virginia's Shenandoah National Park. *Id.* at 51. A recent study

prepared by researchers at the University of Virginia and funded by Trout Unlimited demonstrates that the 40% reductions in acid deposition likely to result from full implementation of the Clean Air Act Amendments of 1990 would still result in 22% of Virginia's streams being unable to support brook trout or other fish species. *Acid Rain: Current and Projected Status of Coldwater Fish Communities in the Southeastern US in the Context of Continued Acid Deposition*, Bulger, Cosby and Webb, 1998.

Widespread damage to the nation's forest resources from acid deposition has also been established. Researchers have documented damage to the red spruce forests at high elevations in the northeast, including the Adirondack Park, and the Southern Appalachians. *NAPAP Report* at 54-57. Other forest regions identified by NAPAP as sensitive ecosystems that are subject to high deposition rates include: Colorado alpine meadows; southern California urban forest; and southern pine and pine-hardwood in the southern Appalachians. *Id.* at 57-58.

The NAPAP Report and other recent federal summary assessments such as the National Park Service's *Introduction to Visibility* (W. Malm, CSU, ISSN 0737-5352-40, 1999) clearly show that despite modest recent reductions in utility SO₂ emissions, sulfate aerosols continue to be the predominant cause of visibility impairment throughout the Eastern United States. Sulfate aerosols, resulting primarily from the direct transformation products of sulfur dioxide, are currently responsible for 50 to 70% of the haze in the Eastern United States and 20 to 40% in the West. Nitrate aerosols cause an additional 5 to 30% of the haze problem nationwide (Malm, 1999).

Furthermore, NAPAP concluded that the nitrification of Chesapeake Bay, Long Island Sound and other coastal estuaries is due in large part to airborne nitrogen deposition in the estuaries and their watersheds. *Id.* at 52. Indeed, coastal eutrophication, including the "dead zone" in the Gulf of Mexico, which results from nitrification, with substantial contributions from the deposition of NO_x transformation products, is emerging as one of the nation's most pressing environmental problems. *Clean Water Action Plan: Restoring and Protecting America's Waters*, 1998.

In any case, the damage caused by sulfate and nitrate aerosols and deposition in New York and New England must be considered national in scope in light of the fact that most of the emissions which contribute to acid deposition in these areas originate from power plants located upwind of the damaged resources. Furthermore, even if the national effects of acid precipitation were not so well-established, Section 109(b)(2) requires EPA to promulgate secondary standards as necessary to address all welfare effects, including the destruction of New York's and New England's streams, lakes and forests and visibility impairment in scenic areas like the Adirondack, Berkshire and Appalachian Mountains. Just as EPA sets the primary NAAQS at levels protective of the most vulnerable members of the public, such as children, the elderly and persons suffering from asthma, the secondary NAAQS should be set at levels which protect the nation's most vulnerable resources: high altitude forests, sensitive streams and lakes, coastal estuaries, and visual air quality in scenic

areas within, but not limited to, National Parks and Wilderness Areas.

Another reason previously expressed by EPA for not using the secondary standard provisions in the past was its uncertainty about what levels are protective. For example, in declining to revise the secondary standard for sulfur dioxide in 1993, EPA referenced research efforts underway which would help identify the appropriate NAAQS, including the NAPAP effort and EPA's acid deposition standard feasibility study. 58 Fed. Reg. at 21357. The reports of those research efforts are now available for use by EPA, in addition to the \$600 million worth of NAPAP studies which predated the 1990 Clean Air Act Amendments. Adding the new data to the vast body of scientific information that was already available makes acid deposition one of the most thoroughly studied environmental phenomena in history. Although more studies may further substantiate the damage being caused by acid deposition, we believe firmly that EPA now has sufficient data upon which to base action. Similar data have been employed for years in Europe and in Canada to determine critical environmental loads for sulfur deposition (and more recently for nitrogen deposition). A similar "threshold" concept is readily calculable for sulfate and nitrate impacts on visibility (and is the underlying basis for EPA's regional haze regulations). These thresholds for various sulfur and nitrogen oxide transformation products can, in turn be related through various regional modeling tools to the initial concentrations of precursor sulfur and nitrogen oxides, such that "safe" levels of the precursor concentrations could be determined that would afford some level of protection against adverse downwind effects of their chemical transformation products.

Recent experience disproves EPA's past belief that other mechanisms may be more suitable than the secondary standards as a tool to address acid deposition and other secondary effects of these pollutants. See 61 Fed. Reg. at 52854-55. As explained above, both EPA and NAPAP have already concluded that the reductions from the implementation of Title IV requirements are insufficient. Furthermore, the "NO_x SIP Call" and EPA's final action on the Section 126 petitions filed by New York and other States (if upheld by the courts) would limit summertime emissions only, not the wintertime emissions responsible for the most damaging nitrogen deposition. In a report issued in 1997, EPA recognized that "wintertime NO_x emissions reductions are especially important to lessening the incidence and severity of acidic episodes in certain areas. Continuous year-round NO_x controls appear to be the most beneficial for decreasing acid deposition damage to natural resources." *Nitrogen Oxides: Impacts on Public Health and the Environment*, EPA 452/R-97-002 (August 1997), p. 27. Although we were hopeful that the fine particulate standard would result in significant reductions in the formation and deposition of sulfates and nitrates, the future of that standard is in serious doubt as a result of the May 14, 1999 decision of the U.S. Court of Appeals for the District of Columbia Circuit in *American Trucking Assn. v. EPA*. Furthermore, even if the proposed fine particle standards survive, the short-term (65 ug/m³ 98th percentile 3-year average) standard is clearly inadequate to provide any measure of visibility protection, particularly for hygroscopic sulfate and nitrate aerosols in the humid Eastern US.

In addition to the mandate of Section 109(b)(2) to promulgate secondary NAAQS in these circumstances, Section 109(d)(2) requires reevaluation of each primary NAAQS every five years. EPA is either in the process of reviewing the NAAQS or is currently obligated to complete a review of existing NAAQS. For example, EPA is currently in the process of reevaluating the primary standard for SO₂ on remand from the D.C. Circuit. For NO₂, it has been six years since EPA's publication of the most recent criteria document in 1993, meaning that an updated criteria document is currently due under Section 109(d)(2)(B), which requires a review of each NAAQS and criteria document every five years. EPA should begin work on the criteria document immediately, in order to promulgate a revised standard in 2001, five years since the last review of the standard was completed in 1996. Finally, in accordance with the directive of President Clinton (62 Fed. Reg. 38421), review of the PM_{2.5} criteria document should get under way immediately, regardless of whether the recent decision of the D.C. Circuit is allowed to stand. EPA should take the opportunity to incorporate its consideration of possible secondary standards revisions into these ongoing NAAQS review processes.

As you know, the northeastern states have repeatedly urged EPA to take responsibility for identifying and implementing the standards or emission reductions necessary to sufficiently abate acid deposition and associated effects. In July 1997, New York, joined by Connecticut and New Hampshire, sued EPA over its failure to comply with the Congressional mandate that it identify an acid deposition standard protective of the resources threatened by acid deposition. Likewise, in July 1998, New York provided formal notice of its intent to sue EPA over its failure to comply with the requirement of Section 817 of Public Law 101-549 that EPA "request the National Academy of Sciences to prepare a report to Congress on the role of national secondary ambient air quality standards in protecting welfare and the environment." To date, EPA has been unwilling to commit to perform a study which requires it to comply with the requirement of Section 817(4) that the required report "determine the ambient concentrations of each such [criteria] pollutant which would be adequate to protect welfare and the environment from such [adverse] effects." The 1998 Acid Rain Action Plan of the New England Governors and Eastern Canadian Premiers (see: <http://www.cmp.ca/neg/reports/acid-e.htm>) outlines a series of environmental assessments and modeling steps which would also take a comprehensive look at all the environmental impacts associated with the sulfur and nitrogen oxide emissions which cause acid rain, and which would evaluate all the benefits of various future emissions reductions of these pollutants. If EPA were to conduct these kinds of assessments on a national basis, a clear picture would emerge of the benefits of a range of secondary SO₂ and NO_x standards, and of the specific numerical levels of such standards which are necessary to prevent further environmental degradation.

Ultimately, we believe that EPA must take action to reduce the sulfur and nitrogen oxide emissions that cause such a wide range of adverse environmental impacts, rather than just perform more studies. The time has come for EPA to meet its statutory obligation to promulgate sufficiently protective secondary NAAQS for SO₂, NO₂ and PM_{2.5}. These standards will, in turn, trigger actions necessary to prevent further degradation of the resources damaged as a result of these pollutants.

We trust that you recognize the need for imminent action to address these problems. We thank you for your personal attention to this urgent matter.

Very truly yours,

FOR THE STATE OF NEW YORK

ELIOT SPITZER, ATTORNEY GENERAL

By:

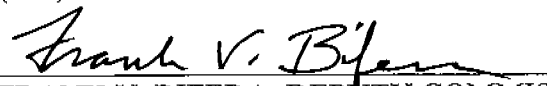

J. JARED SNYDER

Assistant Attorney General

The Capitol

Albany, NY 12224

(518) 474-8010


FRANK V. BIFERA, DEPUTY COMMISSIONER
GENERAL COUNSEL, N.Y.S. DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

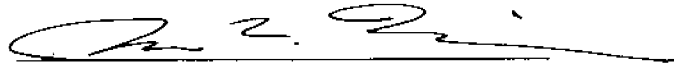
50 Wolf Road

Albany, NY 12233

FOR THE COMMONWEALTH OF
MASSACHUSETTS:

THOMAS F. REILLY
ATTORNEY GENERAL OF MASSACHUSETTS


by:



James R. Milkey
Assistant Attorney General
Chief, Environmental Protection Division
200 Portland Street, 3rd floor
Boston, MA 02114



ROBERT DURAND
SECRETARY OF THE EXECUTIVE OFFICE OF
ENVIRONMENTAL AFFAIRS
100 Cambridge Street
Boston, MA 02202



LAUREN A. LISS
COMMISSIONER, MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL
PROTECTION
1 Winter Street
Boston, MA 02108

FOR THE STATE OF MAINE

Gerald D. Reid (61,555)

GERALD D. REID

Assistant Attorney General
Department of the Attorney General
State House Station #6
Augusta, ME 04333-0006
(207) 626-8800

James P. Brooks (61,555)

JAMES P. BROOKS

Director
Bureau of Air Quality
State House Station #17
Augusta, ME 04333-0017
(207) 287-2437

FOR THE STATE OF NEW HAMPSHIRE

PHILIP T. MCLAUGHLIN
ATTORNEY GENERAL of the
STATE OF NEW HAMPSHIRE

by:

Maureen D. Smith (67,555)

MAUREEN D. SMITH

Assistant Attorney General
Office of the Attorney General
33 Capitol Street
Concord, NH 03301-6397
(603) 271-3679

ROBERT W. VARNEY
COMMISSIONER of the DEPARTMENT OF
ENVIRONMENTAL SERVICES
STATE OF NEW HAMPSHIRE

by:

Kenneth A. Colburn (67,555)

KENNETH A. COLBURN, Director, ARD
Department of Environmental Services
6 Hazen Drive
Concord, NH 03302-0095
(603) 271-3503

FOR THE STATE OF CONNECTICUT:

RICHARD BLUMENTHAL,
ATTORNEY GENERAL

by: Kimberly Massicotte (6, 55)
KIMBERLY MASSICOTTE
Assistant Attorney General
Office of the Attorney General of Connecticut
P.O. Box 120
Hartford, CT 06141-0120
(860-808-5250)

Arthur J. Rocque Jr. (9, 55)
ARTHUR J. ROCQUE, Jr.
COMMISSIONER, DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Jane K. Stahl (1, 55)
JANE K. STAHL
DEPUTY COMMISSIONER, DEPT. OF
ENVIRONMENTAL PROTECTION

Carmine D. DiBattista (4, 55)
CARMINE DiBATTISTA
CHIEF, BUREAU OF AIR MANAGEMENT
Dept. Of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

FOR THE STATE OF RHODE ISLAND

SHELDON WHITEHOUSE, in his
capacity as ATTORNEY GENERAL
OF THE STATE OF RHODE ISLAND,

by: Michael Rubin (s, JJS)
MICHAEL RUBIN

Environmental Advocate and
Assistant Attorney General
Department of the Attorney General
150 South Main Street
Providence, RI 02903
(401) 274-4400

Jan H. Reitsma (s, JJS)
JAN H. REITSMA, Director
Rhode Island Department of
Environmental Management
235 Promenade Street
Providence, RI 02908
(401) 222-2808

FOR THE STATE OF VERMONT:

WILLIAM H. SORRELL
ATTORNEY GENERAL

by: Erick Titrud (s, JJS)
ERICK TITRUD

Assistant Attorney General
Office of the Attorney General
109 State Street
Montpelier, VT 05609-1001
(802) 828-5518

Canute Dalmasse (s, JJS)
CANUTE DALMASSE, COMMISSIONER
VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
103 South Main Street
Waterbury, VT 05671-0401