Finding a Common Ground for Canada and the United States to Resolve Acid Rain Disputes

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COMMENT

FINDING A COMMON GROUND FOR CANADA AND THE UNITED STATES TO RESOLVE ACID RAIN DISPUTES

On a clear day in Columbia, Missouri, a pedestrian may wonder why he suddenly senses an acrid taste in his mouth, or why his eyes begin to tear or sting. A car owner may notice paint coming off her car as she washes spots off its surface. The local effects of acid deposition on Missourians are relatively minor at the moment. Dr. Gray Henderson, a University of Missouri Professor in Forestry, Fish and Wildlife, attributes this to the geological composition of the state; limestone, a natural buffer to the effects of acid deposition, underlies vast portions of Missouri. As a result, the devastating effects of acid deposition experienced by Canada and the northeastern United States are not yet apparent in Missouri.

Both the relatively slight damage experienced by Missourians and the more devastating damage found in other parts of our continent as a result of acid deposition can be traced to several causes. Electric utilities contribute approximately 66 percent of sulfur dioxide (SO₂) emissions, 29 percent of nitrogen oxide (NOₓ) emissions, and about half of all acid precipitation. Columbia has two power plants that create energy for consumers by burning coal. One is operated by the City of Columbia and the other is owned and operated by the University of Missouri. Since 1981, the University has paid more than $64,000 in settlement of claims made by car owners alleging that emissions from its power plant damaged the paint on their vehicles. Since 1980, two projects have been planned to reduce sulfur dioxide emissions from the University power plant. The first project was operational in 1981. Two 325 foot (96 meter) chimneys ["tall stacks"] and two bag houses were con-

3. The comment focuses briefly on the University of Missouri plant as information is most readily available regarding its activities. It is neither the sole source of sulfur dioxide emissions, nor the source contributing the greatest percentage of sulfur dioxide in this state.
structured at the plant. The $8.5 million project brought the University within the clean air guidelines of the Environmental Protection Agency (EPA). Bag houses clean emissions and the stacks disperse whatever is left into the atmosphere. In 1986, funding for fluidized bed boilers was approved. These boilers burn coal with limestone. This process controls the formation of SO\(_2\) and NO\(_x\) within the combustion process. This process can capture up to 90 percent of all SO\(_2\) produced in burning coal.

It is the "tall stacks" management technique that should concern Canadians. The use of tall smokestacks merely manages pollutants; it does nothing to resolve the problem. Particulates are dispersed higher into the atmosphere; their concentration or composition is not changed. John E. Carroll, Department of Forest Resources at the University of New Hampshire, observed "[a]t least 50% of all Canada's acid deposition (and perhaps as much as 60%) comes from U.S. sources over which Canada exerts no influence, except through diplomacy." Despite statements made by the United States in international conferences and meetings, since 1981, the United States EPA "has authorized increases in emissions from U.S. powerplants of more than 1.6-million tons; almost equivalent to Ontario's total emissions last year."

In Canada and the northeastern United States, fishermen are catching smaller fish in smaller amounts. As of 1984, as many as 5,000 lakes in the provinces of Ontario and Quebec were either lifeless or on the brink of death. Certain Canadian lakes are missing an entire year's class of some species; "in Nova Scotia, nine streams are devoid of salmon."

There appears to be some dispute within the scientific community as to the precise relation between SO\(_2\) emission and resultant damage from acid deposition. It is not technologically feasible to trace back from the site of damage to a precise source of emission. However, enough is known for the

6. Id.
7. Columbia Skyline Newcomer, Columbia Missourian, June 12, 1980 (quoting Carol Baskin, Senior Information Specialist).
10. Gamble, Fluidized Bed Boilers with SO\(_2\)-Emissions Control, in ACID RAIN SOURCEBOOK, supra note 9, at 124, 125.
12. Giles, The Canadian Acid Rain Program, in ACID RAIN SOURCEBOOK, supra note 9, at 56, 60.
13. Catalano & Makanski, Overview, in ACID RAIN SOURCEBOOK, supra note 9, at 1, 8.
15. This conclusion is the opinion of the author based on an extensive reading of the scientific literature in the area.
16. Common knowledge indicates that it would not be possible to trace emissions
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Swedish Ministry of Agriculture to say, "[u]nless emissions of sulfur and nitrogen oxides are reduced, more lakes and streams, more soils and forests, will become acidified, adding to the economic and aesthetic damage already done."\(^{17}\)

This comment will explore the options available to Canada and the United States to spur productive governmental action in controlling sources of acid deposition. Traditional methods of international dispute resolution and the use of litigation as a catalyst to encourage governmental action and intergovernmental cooperation will be reviewed. Finally, the feasibility of international negotiated rulemaking as the vehicle by which long term, cooperative effects can be achieved will be analyzed.

I. WHAT IS ACID RAIN

Acid deposition is caused by several factors. The formation of acid precipitation in the atmosphere results from the transformation of nitrogen oxides (NO\(_2\)) and sulfur dioxide (SO\(_2\)).\(^{18}\) Because acid rain is formed in the upper atmosphere, it may be transported over continental distances.\(^{19}\)

Combustion in motor vehicles, fossil fuel fired power plants, and industries generate vast quantities of SO\(_2\), NO\(_x\), and other by-products. Most of the sulfur dioxide and nitrogen oxides are emitted as waste through smokestacks and tailpipes into the atmosphere.\(^{20}\) Daniel E. Klein, Principal of ICF, Inc., a Washington D.C. based consulting firm, estimates "that during 1980, utilities and industrial sources east of or bordering the Mississippi River emitted 75% of the total sulfur dioxide emissions in the U.S."\(^{21}\) Once in the atmosphere, the oxides combine with water vapor in the air and return to the earth in the form of rain and snow. This is known as wet deposition. Dry deposition occurs when chemicals return to earth as dry particulates where they mix with surface water and complete the transition into acids.

Prevailing air currents displace sulfur dioxide emissions an average of 200 to 500 miles from emission locations.\(^{22}\) East and northeast wind currents are

17. PROCEEDINGS OF 1982 STOCKHOLM CONFERENCE ON ACIDIFICATION OF ENVIRONMENT, SWEDISH MINISTRY OF AGRICULTURE (1982), quoted in Giles, supra note 12, at 58.
19. Wetstone, Air Pollution Control Laws in North America and the Problem of Acid Rain and Snow, 10 ENVTL. L. REP. 50,001 (1980).
20. Print 98-X, supra note 18, at 3.
21. Klein, Burning Lower-Sulfur Coals to Reduce SO\(_2\) Emissions, in ACID RAIN SOURCEBOOK, supra note 9, at 100.
prevailant in North America. The direction of these currents and the method in which NO\textsubscript{x} and SO\textsubscript{a} are dispersed over long distances support the findings that midwestern emissions are sources of acid deposition in the northeastern United States and Canada.\textsuperscript{23} For the purposes of this comment, it will be conceded that the cause of acid rain damage can be established (the complex questions of fact and scientific issues involved in proving causation are not within the scope of this comment).

The nature of acid deposition poses a challenge to nations who are trying to reduce and/or eliminate this problem. Past international pollution problems have involved identifiable sources near the boundary of the territories involved, or the pollution has occurred in a defined watershed.\textsuperscript{24} Acid deposition damage is caused by the aggregate sulfur and nitrogen oxides emissions of entire regions of one or several nations.\textsuperscript{25}

II. TRADITIONAL METHODS OF SOLVING COMMON ENVIRONMENTAL PROBLEMS BETWEEN NATIONS

Nations have turned to international organizations for guidance in solving international air pollution problems. The Organization for Economic Cooperation and Development (OECD), the European Economic Community (EEC), the Economic Commission for Europe (ECE), and the United Nations are the primary multi-national organizations trying to promote national environmental responsibility.\textsuperscript{26} Through a series of reports and declarations produced by these groups over the past decade, a consensus has been reached on the international responsibility of nations who permit activities that result in transboundary pollutants.\textsuperscript{27}

The 1972 United Nations Conference on the Human Environment in Stockholm, Sweden, produced the "most important single enunciation of the responsibility of nations to assure that their actions do not cause damage to the environment."\textsuperscript{28} The Conference adopted a Declaration to which both the United States and Canada are signatories.\textsuperscript{29} The text, in part, reads:

Principle 21, States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits

\begin{itemize}
  \item \textsuperscript{23} Id. at 165.
  \item \textsuperscript{24} Wetstone & Rosencranz, Transboundary Air Pollution: The Search for an International Response, 8 HARV. ENVTL. L. REV. 89, 90-91 (1984).
  \item \textsuperscript{25} Id. at 91.
  \item \textsuperscript{26} Id.
  \item \textsuperscript{27} Id.; see also Ianni, International and Private Action in Transboundary Pollution, 11 CAN. Y.B. INT'L L. 258 (1973).
  \item \textsuperscript{28} Wetstone & Rosencranz, supra note 24, at 92.
  \item \textsuperscript{29} Knapp, supra note 22, at 182.
\end{itemize}
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Principle 21 recognizes the competing interests of a sovereign's right to industrialize and a sovereign's right to be free from foreign pollutants. These competing interests coupled with the inability to identify the exact source of nitrogen and sulfur emissions partially explain the difficulties that all nations have in cooperating to reduce the causes of acid rain and to clean up the existing damage. This 1972 Declaration was intended to be "inspirational" rather than legally binding.

In 1979, Canada and the United States became parties to another potentially binding agreement. Both are contracting parties to the 1979 Geneva Convention on Long-Range Transboundary Air Pollution. In Geneva, both countries agreed to develop "policies and strategies" to fight the problem of transboundary acid deposition. Canada has already implemented policies that are designed to reduce eastern Canada's SO₂ emissions by fifty percent from 1980 levels.

The OECD has produced long range studies and guidelines to control SO₂ pollution. "Principles Concerning Transfrontier Pollution," adopted by the OECD Council in November 1974, is an attempt to establish some general doctrines of international law.

The 1982 Stockholm Conference on Acidification of the Environment was another high water mark in the development of a consensus on a nation's responsibility for transboundary pollutants. Over 120 scientists from twenty countries conducted expert sessions for three days. They published a list of conclusions that offer substantial support for the contention that "enough was known about the nature and effects of acid rain to justify immediate remedial


32. Knapp, supra note 22, at 183.

33. Id. at 183 n.273.

34. Id. at 160 n.10.

35. Wemstone & Rosencranz, supra note 24.


37. Id., quoted in Wetstone & Rosencranz, supra note 22, at 96.
action." Canada and the United States reacted oppositely to these findings. Canada supported vigorous implementation of international controls. The United States "staunchly oppos[ed] cooperative pollution reduction in the near future."

The 1972 and 1982 Stockholm conventions, the 1974 OECD Guidelines, and the 1979 Geneva Convention are a few examples of the strides made by international cooperation to define the environmental responsibility of individual sovereigns. But, international agreements all suffer from the same inherent problem—enforceability. Unless each nation agrees to cooperate and comply with such agreements, they are ineffectual tools to combat international environmental problems.

III. HISTORY OF ENVIRONMENTAL DISPUTE RESOLUTION BETWEEN CANADA AND THE UNITED STATES

A. Arbitration

An early example of cooperation between Canada and the United States in resolving a dispute over transboundary acid deposition is the Trail Smelter Arbitration. The United States alleged that sulfur dioxide fumes emitted from a smelter in British Columbia caused acid deposition and damage in Washington State. A three man arbitral tribunal issued an award that required Canada to pay the United States $426,000 in damages, and imposed an affirmative obligation on the smelter to control its fumes in the future. The tribunal concluded:

[u]nder the principles of international law, as well as the law of the United States, no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another of the properties of persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.

It is important to note that the tribunal reached conclusions of law based on its interpretation of United States Supreme Court decisions.

Although Trail Smelter seems to provide a promising argument for the use of international arbitration to resolve disputes between the United States and Canada, the stringent causation requirement and the distinguishable facts of the case itself may explain why no other disputes between these two nations

38. Wetstone & Rosencranz, supra note 24, at 108.
39. Id. at 109.
40. Id.
42. Id.
43. Ianni, supra note 27, at 262.
44. Trail Smelter, supra note 41, at 716.
45. Id. at 714-17.
have been resolved in this manner. In *Trail Smelter*, the United States established the "serious consequence" of injury from SO₂ fumes "by clear and convincing evidence." However, *Trail Smelter* was a relatively simple case; one source emitted the pollutant and the Canadian government admitted liability. It is much more difficult to ascertain the exact source of long range, transboundary pollutants and apportion responsibility among nations who each contribute pollutants. In addition, the *Trail Smelter* resolution was time consuming; it took thirteen years.

Arbitration, therefore, may not be an effective resolution technique for Canada to utilize in solving acid deposition disputes with the United States. Both "defendant" and "plaintiff" governments must submit to arbitration. Enforcement poses additional problems. Despite the aforementioned drawbacks, there appears to have been one positive result from the *Trail Smelter Arbitration*. Since this decision, a trend has developed in defining a nation's international responsibility to include responsibility for those activities occurring within a State's territory that result in pollution outside its territory.

**B. Treaties**

The United States and Canada have been successful in resolving disputes through treaties. For example, an International Joint Commission (IJC) was established over seventy five years ago to enforce the "International Boundary Waters Treaty" of 1909. The IJC has "quasi-judicial powers concerning the use, obstruction and diversion of boundary waters, as well as an advisory role in helping the governments to settle disputes." The IJC will help settle international disputes when requested to do so by both countries and, in this event, will issue non-binding recommendations.

There are more recent examples of cooperation between Canada and the United States. Both countries are signatories to the 1972 Declaration on the Human Environment, and contracting parties to the 1979 Geneva Convention. In 1980, the United States and Canada signed a "Memorandum of Intent," agreeing to separately develop policies to control factors which cause acid deposition and to arrive at a bilateral agreement regarding transboundary acid deposition. This memorandum also recognized the problem of cross-media pollution and, as a response, required each country to "exchange information in research programs being undertaken in both countries on the atmospheric aspects of the transport of air pollutants and on their effects on aquatic........

46. *Id.* at 716.
47. *Id.*
48. *Id.*
50. *Id.* at 134.
51. *Id.*
Cooperative efforts stagnated after 1980. Canada has established guidelines to reduce SO$_x$ emissions.$^{54}$ The United States has proclaimed that more research is necessary before it will consider any controls on sulfur emissions.$^{54}$ The United States did not attend a 1984 conference which Canada hosted to address the problems of acid deposition.$^{57}$ The countries in attendance agreed to cut sulfur emissions by 30 percent by 1993.$^{58}$ The United States has not yet joined "the 30% Club."$^{59}$

United States federal legislation to effectively regulate industrial emissions has not materialized. In the author's opinion, this lack of effective regulation may indicate that steel and auto industries are influentially lobbying to oppose such legislation. Canadian Prime Minister Brian M. Mulroney has remarked:

"Canada's Prime Minister Brian M. Mulroney . . . [In 1987] . . . scolded Vice-President George Bush, saying the United States was failing to live up to agreements to cut down on acid rain. Canadian officials say the Reagan Administration's proposed 1988 budget for acid rain—$287-million, mostly for developing ways to burn coal more cleanly—is not enough compared to the $5-billion, five-year effort that the United States promised last May."$^{60}$

In the short term, Canada should reassess its policy of trying to solve the problem of transboundary pollution through diplomacy. Efforts through traditional methods of resolving international disputes have not been fruitful.

C. Litigation

Canada could use litigation as a catalyst. United States cooperation and appetite for long term solutions through traditional methods of dispute resolution might be stimulated by the prospect of defending a serious lawsuit. There are several potential forums available to Canada—International Court of Justice, United States' courts and agencies, and Canadian courts. Canada should explore her litigation options in order to urge the United States to more effectively use and comply with traditional international dispute resolution methods in order to remedy the grave problem of damage from acid deposition.

55. The 30% Club: A Treaty to Curb Acid Rain, TIME, Apr. 2, 1984, at 32.
56. Id.
57. Id.
58. Id.
59. Id.
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1. International Court of Justice

The International Court of Justice is a forum designed to resolve disputes between sovereigns. Both the United States and Canada have accepted the compulsory jurisdiction of the court under Article 36(2) of the court's statute.\(^6\) However, the United States acceptance of jurisdictional submission has been amended to include the "Connally amendment."\(^6\) This amendment permits the United States to withdraw from disputes which the United States itself deems to concern matters which are "essentially within the domestic jurisdiction of the United States of America."\(^6\) In 1985, the United States exercised this power to withdraw when Nicaragua attempted to air its grievances before the International Court of Justice.\(^6\) Likewise, Canada may, and has, invoked this amendment under the principle of reciprocity.\(^6\)

Yet, provided both the United States and Canada agree to submit to the jurisdiction of the International Court of Justice, the forum could apply international common law. The underlying principle of international common law is that of responsibility. This concept is expressed in Principle 21 of the 1972 United Nations Conference on the Human Environment, the 1979 OECD guidelines, and in decisions made in various international forums since the Trail Smelter Arbitration. These decisions state "that a State has an obligation to repair the offense committed in its jurisdiction" that has an adverse effect outside its jurisdiction.\(^6\)

Although there are no international rules or standards that relate specifically to environmental law, international tribunals and the International Court of Justice have applied general principles of international conduct in the context of environmental disputes. The general principle of a nation's responsibility, as applied to the environmental dispute in Trail Smelter, was the basis for the arbitral tribunal's ruling in Lake Lanoux Arbitration.\(^7\)

The International Court of Justice also relied on principles enunciated in Trail Smelter when it granted an interim order advising the French government to refrain from nuclear testing that would deposit radioactive fallout on Australian territory.\(^8\) The International Court of Justice held that nations must consider extra-territorial impacts of actions taken within their borders in the Corfu Channel case of 1949.\(^9\) The court imposed an obligation on Albania

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61. Ianni, supra note 27, at 263.
62. Id. at 262.
63. Id. at 263.
65. Ianni, supra note 27, at 263.
67. Lake Lanoux Arbitration (France v. Spain), 12 REP. INT'L ARB. AWARDS 281 (French), reprinted in 24 I.LR. 101 (English) (1957).
69. Wetstone & Rosencranz, supra note 24, at 121 (discussing Corfu Channel
to warn ships of other nations travelling on Albania's territorial waters that the waters contained mine fields. These cases add additional authority to the proposition that each state has an obligation to not knowingly allow its territory to be used for acts contrary to the rights of other states. 70

A finding of knowledge by the state and an ability to prevent harm are key factors to the resolution of such disputes by the International Court of Justice. "Since the decision in Corfu Channel, international legal scholars have concluded that a State may not, with actual or imputed knowledge, allow its territory to be used so that it harms another State." 71 By analogy, the International Court of Justice could reach an effective decision regarding the responsibility of the United States and Canada for transboundary pollution. The decisions of the International Court of Justice indicate that a nation can be held responsible for the damage caused by transboundary pollutants that are permitted by the environmental laws of the source nation. 72 In particular, the United States could be held responsible for those SO₂ emissions from private sources within the United States if United States law permits these private sources to emit such substances.

However, as in international arbitration, compliance problems exist. First, it is doubtful that both countries would submit to the Court's jurisdiction; both have withdrawn under the Connally amendment in the past. Provided they do submit, there is the question of whether an effective remedy could be fashioned. Canada has already implemented plans reducing future emission levels. Perhaps a directive could be issued requiring the United States to do the same. But, as previously discussed, this was the purpose of the 1980 "Memorandum of Intent," which the United States has failed to follow. Another remedy which could effectively begin to treat the problem is to set up a standing committee with negotiated rulemaking authority. However, in the author's opinion, the poor track record of the Reagan Administration makes a suit in the International Court of Justice a less attractive alternative.

2. Litigation Options in the United States

Litigation in the United States would provide Canada with several options. First, Canada could seek enforcement under § 115 of the Clean Air Act (CAA). 73 Or, Canada could bring an action in federal court under the common law theory of nuisance or trespass. Under either approach, certain common problems become apparent. The common and distinct procedural problems of bringing a lawsuit in the United States will be addressed first, followed by a discussion of some of the substantive difficulties which Canada

Case, in The International Law of Pollution 76-77 (1974)).

70. Ianni, supra note 27, at 261.
71. Knapp, supra note 22, at 175.
72. Id.; Ianni, supra note 27, at 260.
might encounter.

a. *Procedural Consideration: Canada as a Plaintiff*

An injured party can bring an action against a domestic polluter under United States federal statutes. The CAA defines who may instigate procedures under the Act. In addition, Title 28, section 1350 of the United States Code provides: "The district courts shall have original jurisdiction of any civil action by an alien for a tort only, committed in violation of the law of nations or a treaty of the United States." Utilization of § 1350 could hinge on whether the "law of nations," or international common law is deemed violated. Injured aliens and foreign states are presumed to have a right to sue United States nationals who cause them legal injury.

i. *Standing*

It is not clear whether Canada would have standing to challenge the EPA's failure to act in accordance with § 115. "Section 304 of the Clean Air Act authorizes 'any person' to sue to force the EPA Administrator to perform non-discretionary duties." The CAA provides that "person" is to include an individual, corporation, partnership, association, State, municipality, political subdivision of a state, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof. Whether Canada is deemed a "person" will determine whether Canada would have standing. The United States Supreme Court deemed that India was a "person" within the meaning of the Clayton Act. In *Pfizer, Inc. v. Government of India,* the court noted that there is a presumption that foreign nations are entitled to sue in United States courts. Therefore, *Pfizer* could be cited as precedent to qualify Canada as a "person" within the meaning of § 302(e). If Canada is deemed a "person" within the meaning of § 302(e), this would statutorily confer standing.

If Canada does not qualify for standing by statute, she must look to the United States' constitution. The Supreme Court has held that Article III of

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74. *Id.*
75. *Id.*
78. *Note, Beyond the Bargaining Table: Canada's Use of Section 115 of the United States Clean Air Act To Prevent Acid Rain,* 16 CORNELL INT'L L.J. 193, 224 (1983).
79. *Id.* at 224 (construing 42 U.S.C. § 7604(a)(2) (Supp. IV 1980)).
80. 42 U.S.C. § 7602(e).
82. *Id.* at 308.
83. *Id.*
the Constitution requires that the plaintiff establish actual injury—reasonably traceable to the alleged wrongful conduct—and that the injury be such that the court can shape a remedy. In addition, the Supreme Court has held that the plaintiff's interest must arguably fall “within the zone of interests to be protected or regulated by the statute ...” And, if § 115 is intended to protect foreign countries and foreign citizens, a Canadian claim would be “arguably within the zone of interest to be protected or regulated by the statute.”

ii. Venue

In addition to standing problems, a lawsuit alleging non-compliance with the CAA poses potential venue problems. Congress prescribed that venue is only available in the judicial district where the polluting facility is located. One commentator has stated that “[b]ecause of the likelihood that acid rain sources may be scattered over a broad geographic area and because of the causation problems associated with acid rain litigation, it is unlikely that all the defendants in any one action will be found in one state.” As a practical matter, this would greatly increase the costs of litigation under the CAA and limit its feasibility. Canada would have to file multiple claims in several jurisdictions in order to receive substantial relief. These same problems would arise if Canada brings suit alleging nuisance. Venue is appropriate in diversity cases where all defendants reside or where the cause of action arose. As noted above, the defendants may be from a broad geographic area thus making compulsory joinder of the defendants impossible.

iii. Defendant Class Actions

Venue problems might be solved by using defendant class action procedures. Rule 23(a) of the Federal Rules of Civil Procedure expressly authorizes suing defendants as a class. Four requirements must be satisfied: the class must be so numerous that joinder is impracticable; there are common questions of law or fact common to the class; the defenses of the representative are typical of those of the class as a whole; and the representation must adequately represent the interests of the class.

Potential defendants will argue that individualized proof is necessary and

87. 42 U.S.C. § 7604(c)(1).
89. 28 U.S.C. § 1391.
90. FED. R. CIV. P. 23(a).
therefore class certification is inappropriate.\textsuperscript{91} This difficulty could be alleviated by dividing the class into subclasses to coincide with the various natures of the defendants' emissions.\textsuperscript{92} It could also be argued that this issue concerns apportionment of responsibility and not the original question of liability to the plaintiff.

Although suing a class of defendants seems to pose problems, there are recent decisions in tort cases where responsibility was apportioned among a defendant class. For instance, in \textit{Sindell v. Abbott Laboratories},\textsuperscript{93} a market share approach was used to apportion responsibility among the manufacturers of DES to determine tort liability for damages in a products liability suit.\textsuperscript{94} The court held that "[e]ach defendant will be held liable for the proportion of the judgment represented by his share of the market unless it demonstrates that it could not have made the product which caused the plaintiff's injuries."\textsuperscript{95} Liability could be apportioned among polluters based on the rate and density of their emissions or upon their rate of coal and fuel consumption.

Once the defendant class satisfies the criteria expressed above, there seem to be no further hurdles to its utilization by Canada as a plaintiff alleging nuisance or trespass. Under a nuisance or trespass theory, Canada could request traditional tort remedies. If, however, Canada brought an action under § 115 of the CAA, Canada could compel reduction of emission standards provided she meets the statutory requirements of the Act.\textsuperscript{96}

\begin{itemize}
\item \textbf{b. Substantive Considerations}

\item \textbf{i. Federal Common Law}

Canada could bring a cause of action against a defendant or class of defendants alleging nuisance. The federal courts would have subject matter jurisdiction by virtue of diversity and could apply the federal common law of nuisance.

There is an emerging federal common law of nuisance which is being used successfully to address interstate pollution. The doctrine is based on Supreme Court decisions made in the early 1900's. The Court stated, in a 1907 case concerning the emission of acid gases by a copper smelter:

\begin{quote}
It is a fair and reasonable demand on the part of a sovereign that the air over its territory should not be polluted on a great scale by sulphurous acid gas, that the forests on its mountains, be they better or worse, and whatever domestic destruction they have suffered, should not be further destroyed or threatened by the act of persons beyond its control, that the crops and
\end{quote}

\textsuperscript{91} Fischer, \textit{supra} note 88, at 469.

\textsuperscript{92} \textit{See} Pruitt v. Allied Chemical Corp., 85 F.R.D. 100 (E.D. Va. 1980).

\textsuperscript{93} 26 Cal. 3d 588, 607 P.2d 924, 163 Cal. Rptr. 132 (1980).

\textsuperscript{94} \textit{Id.} at 612, 607 P.2d at 937, 163 Cal. Rptr. at 145.

\textsuperscript{95} \textit{Id.}

\textsuperscript{96} \textit{See} 42 U.S.C. § 7415.
orchards on its hills should not be endangered from the same source.\textsuperscript{97}

In a 1972 decision, Justice Douglas declared, "[w]hen we deal with air or water in their ambient interstate aspects, there is a federal common law."\textsuperscript{98} The federal courts would have diversity jurisdiction to resolve a dispute between Canada and United States polluters.

ii. The Clean Air Act, as amended, 1977

Section 115 of the CAA compels the EPA Administrator to take abatement action in certain circumstances.\textsuperscript{99} The Administrator must make certain findings regarding the impact of United States emissions abroad.\textsuperscript{100} To trigger an abatement action, the Administrator must find:

1. that upon reports, surveys or studies from any duly constituted international agency, he has reason to believe that any air pollutants emitted in the United States cause or contribute to air pollution which may reasonably be anticipated to endanger the public health and welfare in a foreign country; and

2. that the affected country has given the United States essentially the same rights with respect to the prevention and control of air pollution in that country as § 115 gives to that country with regard to U.S. emissions.\textsuperscript{101}

Section 115 provides that another country may seek relief even when United States emissions are not "the sole cause of the harm to the public health and welfare" of the other country; United States emissions "need only 'contribute' to such conditions."\textsuperscript{102} The two prerequisites previously mentioned must be met before an Administrator may be compelled to take abatement action. In applying this section to Canada's predicament, the Administrator must make findings of fact that give him reason to believe that United States emissions at least "contribute" to pollution which one "may reasonably" anticipate would endanger the "public health and welfare" of Canada. Second, the Administrator must be satisfied that the United States has "essentially the same rights" to relief in Canada.

In early 1981, just prior to the Reagan administration assumption of power, Douglas Costle, then EPA Administrator, made findings that convinced him these two prerequisites were met.\textsuperscript{103} Costle issued a directive that EPA

\begin{footnotes}
100. Id.; see also Knapp, supra note 22, at 188.
102. Id. at 142.
\end{footnotes}
staff begin the abatement process that was not carried out. President Reagan's appointed Administrator, Anne Gorsuch, concluded that Costle's findings were of no legal significance and therefore not binding upon the EPA. In a 1986 opinion reversing a district court's holding that the Costle letters legally obligated his successors to act, circuit Judge Scalia (now Supreme Court Judge) concluded that Costle's letters were not binding as they were not made in the course of proper EPA procedures. The problems with an action under § 115 should be apparent. To prevail, the EPA itself must make findings of fact that United States emissions may be harming Canadians and conclusions that, in actuality, Canada's CAA allows reciprocal remedies.

In December 1980, the Canadian Parliament passed legislation intending to provide the United States with rights reciprocal to those contained in § 115. Although the Canadian CAA uses essentially the same language as the United States CAA, the EPA must assess whether this Canadian legislation confers sufficient enforcement authority, and if this authority is being exercised and interpreted in a similar manner to that conferred by § 115.

The impact of United States sulfur emissions on Canada is well documented. Canada should request EPA action in order to prod the United States into some action on emission reduction. Canada must confront the Reagan Administration's stance that more research is needed. “At the ‘Shamrock Summit’ in March of 1985, the President is reported to have made personal pledges to Canadian Prime Minister Brian Mulroney that he would work in good faith toward a solution of the acid rain dispute between the two countries.” Canada should test this pledge through a request that the EPA institute stricter emission controls. At the same time, Canada could file nuisance claims against defendants or classes of defendants in the federal district court in which they or their representatives reside.

3. Litigation in Canada

The United States and Canada may have subject matter jurisdiction over persons who act outside their jurisdiction and cause injury within their jurisdiction. It is settled law in the United States and England that if conduct is considered actionable when it occurs and produces injury within the state, the same conduct may also be actionable even if it occurs in a foreign state yet produces injury locally; provided the conduct is not excused by the law of that
foreign state. Emission of pollutants in the United States which cause acid deposition in Canada would satisfy these criteria providing that these emission levels are not justifiable under United States statutes or regulations.

a. Jurisdiction

Cases indicate that Canada could issue a writ of summons to an American defendant in an action based on nuisance or trespass theories or even in a negligence cause of action, providing the plaintiff alleges that the defendant’s duty was breached in Canada. Canada does not have long arm statutes to confer jurisdiction and permit service of process as do states in the United States. However, extraterritorial service of process may be allowed at a court’s discretion pursuant to statutes modelled after England’s Order 11 of the Rules of the Supreme Court of Judicature.

Extraterritorial service of process has been allowed under Order 11 where the action is based on a tort committed within the jurisdiction. Canadian case law indicates that the situs of the tort would be deemed to be the place of injury in a transboundary pollution case. Generally, the Commonwealth Courts only assert jurisdiction over a defendant when he has made affirmative contacts within the jurisdiction. This appears to be analogous to the United States’ courts requirements of minimum contacts.

Canadian courts would look to the conduct of American defendants to see whether injury has occurred within their jurisdiction as a result of the defendant’s purposeful conduct. The building of tall smoke stacks to improve local air quality could be viewed as sufficiently purposeful. A Canadian court decided that the essence of defamation occurred in Ontario where a United States broadcast defamed an Ontario resident. The court issued an extraterritorial writ of summons in this case and noted that the defendant could reasonably foresee that the broadcast could be heard in Ontario. The building of tall smoke stacks by an American defendant to improve local air quality could be viewed as either sufficiently purposeful or reasonably foreseeable that a tall stack could, or would, disperse pollutants into Canada. Subject matter jurisdiction over foreign polluters would not be defeated because the act com-

112. Id. at 241.
113. Id. at 241 n.252.
114. Id. at 248.
115. Id.
116. Id.
118. McCaffrey, supra note 111, at 249 n.290.
120. See, e.g., supra notes 13 & 14.
plained of occurred outside Canada’s borders.

b. Defendant Class Actions

Rule 75 of the Supreme Court of Ontario Rules of Practice and Order 15 and Rule 12 of the English Rules of the Supreme Court permit defendant class actions (these are the equivalent of our Federal Rules of Civil Procedure). Unlike a Canadian plaintiff class action, a representative defendant must be appointed or authorized by the court to defend on behalf of a defendant class.121 Without such authorization, those defendants not named would not be bound.122 It should be noted that Ontario has deemed that a plaintiff class action is inappropriate in a nuisance suit.123 The requirement of particular damage for a private nuisance action is said to preclude the existence of any common interest.124 Presently, there is a commission reviewing the efficacy of class actions in environmental litigation in Canada.125

4. Enforcement

It appears likely that neither Canada nor the United States would decline to enforce a judgment entered in the other country on account of the other’s service of extraterritorial service of process issued in accordance with its procedural requirements.126 In the United States, the jurisdiction of a foreign court is measured by this standard:

[S]everal courts in this country have held that the jurisdiction of a foreign country to render a judgment against United States citizens and corporations must be determined under the same standards applied to a judgment of one state sought to be enforced in another.127

This holding indicates that a United States court could enforce a Canadian province’s ex parte judgment against a United States defendant granting damages for pollution caused injury.

5. Drawbacks of Litigation

Litigation is not a long term solution to the disputes which have arisen and which will arise over damage caused by transboundary pollutants. A long term solution resolving the source of these disputes must be forthcoming. Traditional international dispute resolution methods between the United

122. Id.
124. Id.
125. ONTARIO LAW REFORM COMMISSION, supra note 121, at 275.
126. McCaffrey, supra note 111, at 253.
States and Canada are positive evidence that these two nations can resolve their disputes and solve common problems through cooperative methods. These methods are only successful when both countries are willing to cooperate. However, "[b]ased on recent announcements by both President Reagan and EPA Administrator Ruckelhaus, it would appear that there is still a lack of commitment in the U.S. to begin a reduction program." 128 Canada may have to resort to litigation as a catalyst. If Canada chooses to make this shift in policy, several options are available. Canada could file an action in the International Court of Justice, a United States federal court, or a Canadian provincial court. Any of these actions would serve to illustrate Canada's frustration with the diplomatic impasse now existing between the United States and Canada.

IV. PROPOSAL FOR A LONG TERM SOLUTION: NEGOTIATED RULEMAKING

If either litigation proves to be a catalyst or the United States changes its approach to the acid rain problem, Canada and the United States should establish a standing committee to negotiate specific elements of a joint reduction program. This committee should consist of representatives of private industry, environmental groups, and elected officials from both the United States and Canada. The committee's role would be to propose regulations to each country's environmental agency, monitor the programs, flexibly assess changes in technology and the environmental damage caused by acid deposition, and help settle international disputes when requested to do so by both countries. This proposal will be analyzed within the framework Philip J. Harter proposed for negotiated rulemaking in his 1982 article, "Negotiating Regulations: A Cure for Malaise." 129

Negotiated rulemaking could result in sound regulations and facilitate the regulatory process through participation of all centrally interested parties. Eisenberg comments that in order to improve the likelihood of successful negotiations, each party must believe it will benefit, and the party perceived to be stronger must be given incentive to participate. 130 Harter suggests: the number of participants should be limited (e.g. 15); the issues negotiated should be mature, a sense of inevitability of regulation should exist; all participants should have an opportunity to gain; the subject of negotiation should not concern fundamental values; and no party participating should have the power to achieve its will without the other party sanctioning such behavior. 131

128. Giles, supra note 12, at 60.
129. Harter, Negotiating Regulations: A Cure for Malaise, 71 GEO. L.J. 1 (1982). Although Mr. Harter's article assesses the need and feasibility of negotiated rulemaking for internal administrative rule making, it was a useful approach to assess the feasibility of negotiated rulemaking in an international setting.
131. Harter, supra note 129, at 46-47
Several commentators have jumped on the negotiated rulemaking bandwagon—heralding its application by administrative agencies as a cure for the perceived problems with agency rulemaking. In 1982, the Administrative Conference of the United States published their recommendation that negotiated rulemaking be considered by agencies. The EPA has applied negotiated rulemaking to determining nonconformance penalties under § 206(g) of the CAA, and air pollution emission ("source performance") standards for emissions from wood burning stoves. The EPA has encouraged individuals to "suggest EPA regulations as candidates for regulatory negotiation."

A. Suitability

The problem of acid deposition is one which could lend itself to resolution or mitigation in a negotiated rulemaking setting. The damage from acid deposition has been extensive. Each country has already imposed standards on its citizens and corporations. It must be recognized that both the existing and future controls on United States industry regarding their emissions is likely to be determined by Congress. Neither Canada nor the United States has the ability to impose its will without greater harm to the environment. And the constituents of each country are vitally interested in a safe, clean, and enjoyable environment.

Both Canada and the United States can gain from resolution of, or attention to, the ongoing problems caused by acid deposition. In the author's opinion, although the Reagan administration contends that the time is not yet ripe for regulation without further scientific data, the international community does not seem to support this conclusion. Damage to the environment exists and will continue. The rupture in United States-Canadian relations as a result of our current "wait and see approach" should be sufficient impetus for the United States to come to the bargaining table.

B. Representation

A committee comprised of representatives from all interested parties could be proposed by the national environmental agency of each country. For example, the EPA could propose a list of negotiators including industry repre-

133. 47 Fed. Reg. 30,708 (1982) (to be codified at 1 C.F.R. § 305.82-4 (1986)).
sentatives, environmentalists, and congressional committee members. The participants should be selected to ensure that all critical issues are raised, all central issues are represented, and to flexibly accommodate a change of representation should the need arise.\textsuperscript{137}

An additional consideration regarding representation may become essential if the committee is to negotiate tax increases on Canadian energy. Canadian provinces must each be represented in any negotiation session which would affect taxes on energy sold from their particular province. Canada has a confederal system, and the provinces are ultimately responsible for the sale of their energy.

\begin{enumerate}
\item[C. Incentive for Participation]
To improve the likelihood of successful negotiations, topics should be included in the discussions that are of considerable importance to each country and each representative. Yet, the array of topics must also include those most likely to encourage varied and often conflicting interests that it is worthwhile for them to participate. For example, a sample of topics to be decided at an initial session could include: emission standards, implementation dates, non-conformance penalties, monitoring strategy, and possible taxes on any energy sold by Canada to the United States.

The latter topic may provide incentive for United States energy industry representatives to participate. If these representatives perceive the only outcome of any negotiation would be stricter emission requirements and quicker implementation dates, they may be reluctant or unwilling to be a part of the solution. Therefore, a bargaining chip of import taxes on Canadian energy could entice this interest group to participate.\textsuperscript{138}

\item[D. Factual Disputes]
A consensus as to factual issues involved in the problem of acid deposition damage could be achieved through the creation of a scientific subcommittee. This subgroup could be convened in advance of the negotiations in order to prepare a report to be utilized as a basis for negotiations. A joint committee of renowned scientists could evaluate current scientific, complex data and develop a consensus on threshold factual issues. Or, both Canada and the United States could invite the help of the International Joint Commission to serve in this capacity.

This subgroup could also be used to identify areas which need further research, recommend pollution management techniques, and keep abreast of new advances in technology which could alter the way in which the problem of

\textsuperscript{137} See Harter, \textit{supra} note 129.
acid deposition is handled. In short, the subgroup could gather technical data, assess conflicting studies, and come to a consensus where possible, and funnel this agreed upon information to the negotiators.

E. Financing

Funding could be raised by contributions from each participant, including government contributions and industry. Other sources such as foundations could be solicited to contribute; all funds should be placed in a pool. Environmental groups which are participating could be funded from the pool of contributions so no allegations could be substantiated that they compromised their positions through the receipt of direct funds from government or certain industries. The mediator or facilitator could allocate costs evenly between the United States and Canada.

F. Organization of the negotiation

Provided Canada and the United States agree to set up a negotiated rulemaking committee, each country should appoint a convener. The convener could identify feasible topics for discussion, make an initial determination as to what interests would be affected by regulations directed at these topics, and suggest a list of representatives of these interests to each country.

In the United States, upon review of the convener’s proposal, a team could be selected by congressional mandate or EPA proposal. For example, the EPA could publish a recommended list of participants in the Federal Register and invite comment on the suggested representatives. This would invite input on the central interests involved, encourage interests that have not been identified by the consultative process to identify themselves and seek inclusion, and enable those identified to evaluate the individual(s) suggested to represent their interest. The EPA and convener should agree on the final United States team.

The next important step would be to identify a mediator who is acceptable to both countries and is well versed in environmental affairs. There are many individuals with the expertise necessary to fill this role. The mediators first task would be the oversight of a pre-negotiation conference of the scientific subcommittee.

As suggested earlier, the actual negotiations could include a determination of emission standards, implementation dates, penalties for noncompliance, a monitoring system, and taxes on the international sale of energy between the two countries. The ground rules of the actual negotiations can be decided between each country’s convener. For example, they could define consensus, describe the role of the mediator, and agree on dates and places where the committee can be convened.

In order to satisfy United States law, the role of the international committee must be limited to that of an advisory group to the EPA. As long as the
rule, which ultimately results from the negotiated rulemaking, is a product of the EPA itself and promulgated in accordance with the statutorily mandated procedures (i.e. proper notice and comment) and all affected interests have been fairly represented in the negotiation, the rule can survive judicial scrutiny under the delegation doctrine. In addition, the CAA itself limits the judicial scope of review of an Administrator’s decisions. The court may reverse an administrator’s decision for procedural error only if:

(i) his failure to observe procedural requirements was arbitrary and capricious, (ii) an objection was raised during the comment period or the grounds for such objection only arose after the comment period and the objection is “of central relevance to the outcome of the rule,” and (iii) “the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.”

This rigorous standard was established so that the EPA’s rulemaking would not be “casually overturned for procedural reasons.”

It appears that as long as the committee only recommends specific proposals to the EPA and the EPA retains the ability to ultimately choose whether to adopt a proposal, or the EPA uses the negotiation committee recommendations as a basis for its own rulemaking, the creation and function of a negotiation committee will not violate any United States laws. And, as long as the negotiation sessions are either open to the public or a public record is made of their contents, the sessions themselves will not violate United States laws.

The incentive that remains for Canada and United States interests to participate in a negotiated rulemaking process—despite the confines on that process mandated by United States law—is that, from the outset, it can be established that the EPA will publish the committee’s proposed regulation in a notice of proposed rulemaking in the Federal Register, unless the Agency has good cause not to do so. This upfront agreement will encourage participants because the result of their efforts will not be altered at the caprice of a government EPA official.

V. CONCLUSION

Negotiated rulemaking by an international committee is a cooperative vehicle through which the United States and Canada could create guidelines and reduce future damage to the environment on our continent from acid deposi-

139. See Perritt, supra note 132, at 1695; see also 5 U.S.C. § 552(b) (1983).
140. 42 U.S.C. § 7607.
142. Id. at 391.
144. See Harter, supra note 129.
tion. Sufficient research exists to provide a basis for joint action on this problem. Existing efforts by the United States to cooperate have been feeble. In order to encourage increased cooperation, Canada could bring a lawsuit as described. This suit could serve as a catalyst and spur efforts by the United States government to act in accordance with the treaties and conferences to which it has pledged recognition. Traditional methods of developing international environmental policy have been effective in establishing cooperative policies aimed at diminishing or resolving mutual environmental problems. However, in the particular case of acid rain deposition, negotiated rulemaking could prove a very effective, innovative way for the United States and Canada to jointly combat the problem.

The United States government should encourage every possible approach to diminish future damage from sulfur and nitrogen oxide emissions. This attitude must be encouraged throughout the United States even though states such as Missouri are only mildly affected by the damage caused when such emissions are spewed into the atmosphere. Although the local effects of acid deposition are only present in some parts of the United States, it is time to strive to resolve environmental problems that effect our continent through cooperation techniques.

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