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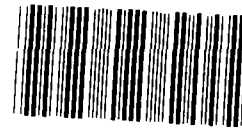
GAO

Report to Congressional Requesters

October 1987

CANADIAN POWER IMPORTS

Issues Related to Competitiveness



134302

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**Resources, Community, and
Economic Development Division**

B-208231

October 19, 1987

The Honorable Quentin N. Burdick
United States Senate

The Honorable Kent Conrad
United States Senate

The Honorable Byron L. Dorgan
House of Representatives

In your April 10, 1987, letter you asked that we examine a number of issues in order to clarify the effects of imported power from Canada on domestic utilities. In a subsequent meeting with Representative Dorgan, we discussed the results of our earlier report on the Canadian electricity imports situation.¹ At that time, Representative Dorgan indicated a need for further clarification of the issues in connection with his consideration of a proposal prepared by the Ad Hoc Coalition on International Electric Power Trade (a group concerned about Canadian electricity imports) to legislatively address its concerns. As agreed with Representative Dorgan, this report discusses

- ongoing studies on the extent of Canadian governmental subsidies to its electric power industry;
- information on the relative level and costs to Canadian and U.S. utilities of environmental standards applicable to their fossil-fueled power plants;
- information on the impacts of electricity imports on domestic coal producers, a key concern of the Ad Hoc Coalition; and
- our comments on the potential legislative proposal being considered.

In summary, the Department of Energy (DOE), the Department of Commerce, and the Edison Electric Institute (an association of domestic electric companies) have efforts underway to examine the extent of financial subsidies provided to Canadian provincial utilities. For example, with respect to tax subsidies, preliminary results of a study sponsored by DOE indicate that Canadian hydropower would remain competitive with U.S. electricity even if hypothetically subjected to U.S.

¹See Canadian Power Imports. A Growing Source of U.S. Supply (GAO/RCED-86-119, Apr. 30, 1986).

taxes. More definitive information should become available on the subsidy issue in the next few weeks, when the above study efforts are completed.

Regarding environmental standards, information available thus far indicates that Canadian utilities have not undertaken the types of environmental control actions nor incurred the costs that U.S. utilities have in controlling sulfur dioxide (SO₂) emissions from their fossil-fueled power plants. While the differences in approach to environmental controls at fossil-fueled power plants appear to provide Canada a cost advantage in producing electricity from such plants, we caution against using such a comparison to assess each country's relative commitment to environmental regulation because the U.S. and Canadian sources and levels of SO₂ emissions are very different.

The following sections discuss these matters in greater detail.

Efforts to Examine Subsidies Afforded Canadian Utilities

As you are aware, the Ad Hoc Coalition is concerned that government subsidies to Canadian provincial electric utilities help these utilities to unfairly compete for U.S. electricity markets. According to the Coalition, the major Canadian electricity producers are provincially owned and receive a level of subsidies which, if eliminated, could raise the price of Canadian power by more than 100 percent. The Coalition has expressed its intentions to resolve this issue by bringing an unfair trade practice action before the U.S. International Trade Commission.

Certain aspects of the subsidy issue are being examined in an ongoing study sponsored by DOE, and staff of the Commerce Department and the Edison Electric Institute also have efforts underway to examine this issue. According to preliminary results of the DOE-sponsored study, Canadian hydropower has a sufficient cost advantage to remain competitive in U.S. markets even if Canadian provincial utilities were hypothetically subjected to the same level of taxation as U.S. investor-owned utilities. The study is expected to be completed in October 1987.

An official of the Commerce Department's Canadian desk told us that as part of the Department of Commerce's efforts to support the U.S./Canadian trade negotiations, he is identifying direct and indirect financial subsidies afforded Canadian provincial utilities and U.S. public utilities. According to this official, the information will be considered as part of the trade negotiations. In addition, the Edison Electric Institute is nearing completion of a study of Canadian electricity imports. Two issues

the Institute expects to discuss in its report are the economic aspects of Canadian electricity imports (including Canadian import pricing policies) and legal issues related to subsidization and fair trade.

When completed, the above study efforts should provide additional perspective on the subsidy issue and provide a further basis for assessing the appropriateness of continuing Canadian electricity sales to U.S. utilities under current approaches.

Environmental Regulation of Canadian and U.S. Electric Utilities

The Ad Hoc Coalition believes that Canadian utilities and provincial governments have not taken sufficient steps to control SO₂ emissions from their fossil-fueled power plants. According to the Coalition, this lack of environmental regulation provides an inappropriate economic advantage to Canadian utilities in competition with U.S. utilities, which have been required to install costly environmental control devices at their fossil-fueled power plants. Further, the Coalition contends that this lack of environmental regulation of Canadian utilities, among other things, indicates Canada's unwillingness to effectively control SO₂ emissions.

The particular environmental control issues raised by the Coalition are a component of the broader acid rain control issue, which is currently the subject of high-level discussions between the United States and Canada. Recognizing the sensitivity of these discussions, we focused our work on the particular issues raised by the Coalition. We reviewed a June 1985 Congressional Research Service (CRS) paper,² a July 1987 report released by the State Department³ on Canada's air pollution control program, and information provided to us by the Ad Hoc Coalition.

With respect to each country's SO₂ emissions control at its respective fossil-fueled power plants, the information reviewed indicates that Canadian provincial governments thus far have not regulated SO₂ emissions from such plants to the same extent as the United States. The difference in the extent of SO₂ emissions control at fossil-fueled power plants suggests that Canadian provincial utilities have an electricity production cost advantage from such plants relative to U.S. utilities.

²See Canada's Acid Rain Control Program: Catching Up or Pulling Away?, Congressional Research Service, June 7, 1985.

³This report was jointly prepared by the Departments of State and Energy and the Environmental Protection Agency at the request of the Chairman, House Committee on Energy and Commerce.

The CRS and State Department studies, point out, however, that the sources and emission levels of SO₂ in the United States and Canada are very different. For example, estimated total U.S. SO₂ emissions in 1985 were 20.7 million metric tons compared with 3.94 million metric tons for Canada in 1984. The primary source for the SO₂ emission level in the United States was electric utilities (accounting for over 66 percent of the 1985 total) while in Canada⁴ it was nonferrous smelting (accounting for 55 percent of the 1984 total). In comparison, electric utilities in Canada contributed about 23 percent of Canada's total SO₂ emissions in 1984.

Both the CRS paper and the State Department report also discuss the United States' and Canada's overall approach to environmental control of SO₂ emissions, providing an overview of each country's strategy. For example, the reports note that while the United States has established federal standards and enforcement procedures for controlling SO₂ emissions, the Canadian national government establishes objectives but the provincial governments have autonomy in developing their own standards and enforcement approaches. As noted by the Administrator, Environmental Protection Agency, in October 2, 1987, testimony before the Subcommittee on Oversight and Investigations, House Energy and Commerce Committee; Canada, unlike the United States, has adopted regulatory requirements tailored to meet the circumstances of individual sources of SO₂ emissions. According to the State Department study, the provinces of Ontario and Quebec (major electricity-exporting provinces), as well as others, have agreed to enforce SO₂ emission standards which, according to the study, generally meet or exceed U.S. standards.

As a general matter, we believe it reasonable that environmental regulatory action to control SO₂ emissions in each country would focus first on the primary source of those emissions, namely electric utilities in the United States and nonferrous smelting operations in Canada. Given these circumstances, one would expect, and the studies we reviewed appear to indicate, more restrictive environmental requirements and greater associated costs for U.S. fossil-fueled power plants than for those in Canada. As indicated above, however, some Canadian provinces have established standards for future SO₂ emissions which are similar to U.S. standards. In view of the differences in each country's SO₂ emissions situation, a comparison of SO₂ emissions control efforts which have been directed at each country's fossil-fueled power plants would

⁴Canada's SO₂ emissions data refer to the situation in eastern Canada, defined as the seven provinces east of the Manitoba-Saskatchewan border. These provinces account for the vast majority of Canada's SO₂ emissions. Also, 1985 data were not available at the time of our work.

not, in our opinion, be an appropriate measure of each country's relative commitment to environmental regulation.

Impacts on Domestic Coal Producers

Based on information provided by Ad Hoc Coalition representatives, one of the Coalition's concerns is the adverse impact that increasing electricity imports has had and could have on domestic coal producers through the displacement of U.S. coal-fired electricity generation with imported electricity.

It is apparent that the importation of electricity has reduced the amount of coal which domestic utilities would have otherwise consumed. Our prior report on Canadian electricity imports disclosed that imported electricity has been used primarily in place of higher cost electricity that otherwise would be generated from domestic oil-, gas-, and coal-fired power plants. Thus, domestic utilities that have existing coal-fired generating plants and are importing electricity are likely to be consuming less coal than they otherwise would as a direct result of the imported electricity. Our work also showed that selected utilities which have firm power contracts with Canadian utilities have been able to delay the need to build domestic generating capacity, including coal-fired power plants.

An estimate of the significance of this displacement of coal consumption, which was contained in a draft paper prepared by the National Coal Association, was provided to us by the Ad Hoc Coalition. According to that paper, Canadian electricity imports in the upper Midwest region (the primary area where imports displace coal-fired generation) may have displaced the equivalent of 3.86 million tons of coal in 1985. This represents about 3.2 percent of the coal produced in the region in 1985, about 0.44 percent of total U.S. coal production in 1985, and about 0.56 percent of the amount of coal consumed by U.S. electric utilities in 1985. We would expect the amount of coal displacement to increase in the future on the basis of projected increases in the level of electricity imports.

Comments on Proposal for Legislative Action

We also reviewed the proposal you are considering which would legislatively address some of the Ad Hoc Coalition's concerns related to Canadian electricity imports. The main focus of that proposal is to establish a process for overseeing electricity purchases from foreign utilities by requiring that the Environmental Protection Agency certify that the

generating source of the power purchased by U.S. utilities has environmental controls in place which would comply with environmental standards applicable to domestic electric utilities. Viewed in the context of the Ad Hoc Coalition's concerns, the proposal could be seen as one approach for assuring that Canadian utilities which export electricity to the United States incur environmental control costs similar to costs incurred by domestic utilities.

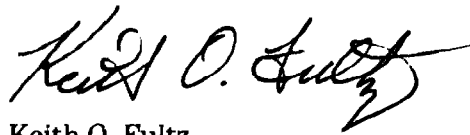
We are not clear about the extent to which the proposal would actually affect the pricing of Canadian power to U.S. utilities and, consequently, the amount of power imported. As discussed in our previous report, Canadian utilities generally price the power they sell to U.S. utilities on the basis of the purchasing utility's costs of power generation rather than on their own costs.

Several potential effects of the proposal also should be considered. To the extent that the proposal would result in reduced Canadian electricity imports, U.S. utilities may start using more imported oil. This would add to current security concerns over the level of U.S. reliance on imported oil and could increase the price of electricity to consumers, primarily in Northeastern states which rely to a large degree on oil-fired generation plants. In addition, the proposal could reduce the amount of Canadian power generated by coal, which could in turn reduce the amount of coal that the U.S. exports for use in Canada's coal-fired power plants. (According to the Energy Information Administration, the U.S. exported about 16.4 million short tons of coal to Canada in 1985.) For example, the province of Ontario is both a major source of coal-fired electricity generation sold to U.S. utilities and a major importer of U.S. coal used in its generation facilities.

In carrying out our work we met, at the request of Representative Dorgan, with the Governor of North Dakota and representatives of the Ad Hoc Coalition. We also held discussions with DOE and Department of Commerce officials and staff of the U.S. Trade Office, and reviewed various documents relevant to the issues raised by the Ad Hoc Coalition. Our review was conducted between May and September 1987.

As requested by Representative Dorgan, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies to the Secretaries of the Energy, Commerce, and State Departments; to the Director, Office of Management and Budget; and to the Ad Hoc Coalition on International Electric Power Trade. Copies will

also be made available to others upon request. Major contributors to this report are listed in appendix I.



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