POWER WORKERS' UNION

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The Rt. Honourable Herb Gray, P.C. Q.C.
Chairman, Canadian Section
International Joint Commission
234 Laurier Avenue West
Ottawa, Ontario
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Dear Sir:

Re: Comments – Air Quality Progress Report

The Power Workers' Union represents a large majority of Ontario electrical system employees who, as well as maintaining transmission and distribution wires networks, operate and maintain nuclear, hydroelectric, coal, natural gas and oil-fired generating stations. Due to organizing efforts by the PWU and industry restructuring, these facilities are operated by a number of different employers. Our members at Ontario Power Generation (OPG) are also increasingly involved in that company's renewable energy portfolio.

The PWU has no special loyalty to any particular form of generation. We have actively supported electricity restructuring because new investment will rejuvenate existing stations, maintain reliability and provide good-paying jobs to thousands of Ontarians who work in our sector. We consider the goals of customer choice and of reducing the environmental impact of electricity production in the province in economically sustainable ways, to be complementary and mutually achievable.

It is in this spirit that we offer our observations about the recent Air Quality Progress Report, which highlights actions taken over the past two years to address trans-boundary air quality concerns. It is clear from the Report's findings that significant progress is being made with Canada reporting sulfur dioxide emission levels that are 20 percent below the national emissions cap commitment, while the United States reports reductions in emissions of 35 percent compared to 1980 levels.

These findings show that substantive improvements can be made while maintaining the value inherent in existing generating stations such as the coal fired ones operated by OPG. This company's Emission Reduction Program (representing an investment of $1.8 billion since 1984) recently announced an additional $250 million investment for the installation of selective catalytic reduction abatement technology that will reduce nitrogen oxide emissions from the affected generating units by 80 percent.

The fact that such significant improvements are achievable is critical when one considers the economics of other proposed approaches to air quality improvement. For instance, gas conversion would, according to the Ontario Clean Air Alliance, reduce nitrogen oxide

emissions by 90 percent or an additional 10 percent. Since OPG fossil generation accounts for only 14.7 percent of all nitrogen oxide emissions originating in Ontario and about 7 percent of the nitrogen oxide affecting the Province (more than 50 percent originates in the US), gas conversion would reduce aggregate Ontario nitrogen oxide levels by less than 1 percent more than the technology OPG is installing.

Converting OPG's existing coal-fired stations to gas would cost approximately $5 billion, assuming such financing was even available at acceptable interest rates. And although coal prices are expected to remain stable well into the future since proven coal reserves are ample for several hundred years, replacing coal by gas at current prices would cost an additional hundreds of millions of dollars per year. This is an important consideration due to the increasing unease among industry experts regarding the advisability of becoming more reliant upon natural gas as the fuel of choice for new generations. A steady increase in gas prices and supply deficits can be directly linked to huge increases in gas-fired electricity generation in the US.

The capital costs associated with replacing Ontario's coal generation capability with renewable technologies is equally formidable. Using the least expensive renewable generation, it would require about 6,000 one megawatt wind turbines operating at full capacity to produce 25 percent of Ontario's summer peak requirements. These 6,000 megawatts would require capital investment of $1.5 million per megawatt, for a total capital cost of $9 billion.

The value and stability of coal fired generation is clearly recognized in the Government of Canada's investment of $1.66 million to support the development of technologies that will retrofit an existing coal-burning power plant by 2007 to produce at least 50 percent fewer carbon dioxide emissions. The full-scale demonstration facility will be used to test the technical, environmental and economic viability of new clean coal-burning technology. By 2010, the Canadian Clean Power Coalition hopes to develop a new plant, capable of reducing emissions by up to 90 percent, that will serve as a prototype for future plant construction.

We agree with statements made by government representatives at the time of this announcement that "coal will continue to be an important part of our energy mix for decades to come, provided that we learn to use this energy source in a climate-friendly and clean way" (Honourable David Anderson, Minister of the Environment) and "by finding a cleaner way to use an economical and abundant source of energy, we are contributing to a better quality of life for all Canadians through healthier communities and greater economic prosperity" (Honourable Herb Dhaliwal, Minister of Natural Resources Canada).

Advancements in the US are equally promising. The US administration has budgeted $2US billion over 10 years to help plant operators implement the latest equipment in an effort to reduce emissions. It is a worthwhile investment as the following projects show:

- By installing an advanced air pollution control system on a 524-megawatt generation unit, LG&E Energy Corp says that it can reduce sulfur dioxide emissions by 99.5 percent while nitrogen oxide and mercury can be sliced by 90 percent each.
- The Colorado Springs Municipal Utility will combine an advanced coal burning system called a "circulating fluidized bed combustor" with a fully integrated emission control

technology. The 150-megawatt plant is expected to reduce sulfur dioxide and mercury emissions by 98 percent and 90 percent, respectively.

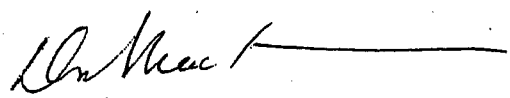
- Waste Management and Processors Inc. of Gilberton, Pa. is building and operating a power plant to produce high-value industrial heat from raw anthracite waste. The project uses a coal gasification process, that turns wastes into a chemically-rich source of gas. Most of the gas will be transformed into electricity and steam.

Although about 90 percent of new power plants have been fueled with gas and despite a record amount of drilling activity since 2001, the Cambridge Energy Research Associates (CERA) say that output levels have stagnated because wells are being depleted. With demand up and level supply, prices are rising. CERA projects gas prices to increase by 15 percent at the Henry Hub in 2003 and 2004.

Coal, by comparison, is cheap and plentiful, with at least 200 years worth of reserves in the ground. Coal currently delivers a million BTUs for a quarter of the cost of gas (March 2003 Futures). Also, with new technologies such as gasification, efficiency rates can increase to 45-50 percent, and potentially as much as 60 percent (nearly double current levels) at a cost of about $1,200US per kilowatt compared to $900US with conventional coal plants.

In closing, we congratulate the parties on the excellent progress to date and we remain confident that air quality can be continuously improved while maintaining the economic benefits that coal fired generation clearly represents.

Yours truly,



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