

Yuri Pill and Rob Waters
Borealis Capital Corporation
One Financial Place
1 Adelaide Street East
Suite 2800, Box 198
Toronto, Ontario
Canada M5C 2V9

December 18, 2002

Dear Sirs,

Nuclear Information and Resource Service (NIRS) learned of your company's potential investment in the Bruce Power Nuclear Development in a Dec. 14, 2002 Globe and Mail article. Our organization is an information and resource center with members throughout the Great Lakes region who are interested in the protecting this ecosystem and the public health and safety.

Our organization has joined with a growing coalition of Canadian and U.S. environmental, public interest, and consumer advocacy groups (including Great Lakes United, a coalition of over 150 grassroots groups throughout the Great Lakes basin) as official intervenors before the Canadian Nuclear Safety Commission (CNSC) regarding the restart of Bruce "A" reactors 3 and 4. We have also intervened on Ontario Power Generation's (OPG) proposed dry cask storage facility for high-level radioactive waste at Bruce.

NIRS is concerned with the haste in which decisions are being made as to the future of Bruce Power. We thought your company might wish to make a more informed decision, rather than rely upon the self-interest of British Energy and Ontario Power Generation. So we would like to share with you our documented concerns, including: risks of age-related degradation of vital reactor safety systems; the implications for safety given the financial uncertainties surrounding Bruce Power; impacts on the Lake Huron ecosystem and economy; and the concentration of nuclear risk at Bruce.

We are very concerned that Bruce Power is proposing to restart the two Bruce "A" reactors without first re-tubing the steam generators in them. Atomic Energy of Canada Ltd. design specifications recommend re-tubing CANDU reactors after 20 years of operation. But Bruce "A" 3 and 4 have not been re-tubed, despite being over 25 years old. Recent utility disclosures involving age-related degradation of susceptible materials in U.S. reactors should raise questions for the investment community. This is particularly sensitive information in light of disclosures that both the industry and their regulatory body have prioritized electricity production from these aging facilities over public safety requirements.

For example, a steam tube rupture at the Indian Point Unit 2 reactor 25 miles from New York City in Feb. 2000, not only resulted in a release of radioactive steam into the environment, but raised significant doubts regarding operator commitment to safety and effective regulatory oversight. As plants age the risks associated with a single tube rupturing other degraded steam tubes increase, simultaneously raising the risks and likelihood of a loss of coolant accident and reactor core damage. The Nuclear Regulatory Commission was responsible for issuing a waiver of a required June 1999 inspection of the same steam generators that ruptured a high pressure primary coolant tube the following February. The August 1983 pressure tube rupture at Ontario Hydro's Pickering unit 2 reactor near Toronto still ranks as one of Canada's most serious

accidents at a commercial nuclear reactor. These are all tell tale signs of advance aging and deterioration of susceptible materials in safety systems.

A more recent example where production outranked public safety is the Davis-Besse reactor near Toledo, Ohio on Lake Erie. Long ignored corrective action programs, falsified inspection programs, and lack of regulatory oversight culminated in chronic boric acid leakage from cracked control rod drive mechanisms corroding a pineapple-sized hole through 6 ¾ inches of carbon steel in the top of the reactor vessel head. Corrosion rates were estimated to be between 2 inches and 6 inches per year. All that remained between a breach of the reactor pressure vessel and release of highly radioactive steam, was a 3/16-inch-thick (less than 5 millimeter) stainless steel liner, which was deformed and cracking due to the internal pressure within the reactor. Davis-Besse came perilously close to a breach of the reactor, a loss of coolant accident, and reactor meltdown. The cost to replace the vessel head will be over \$435 million U.S. dollars. Then there is also the cost to the reputation of FirstEnergy Corporation, the nuclear power industry, and the U.S. Nuclear Regulatory Commission in the eyes of the public. A growing number of other reactors across the U.S. also suffer multiple control rod drive mechanism cracking and corrosive acid leaks, requiring vessel head replacement. Investigations into the Nuclear Regulatory Commission mishandling of Davis-Besse oversight and even criminal investigations into the Davis-Besse incident are ongoing. FirstEnergy's emphasis on prioritizing production over safety significantly damaged not only the reactor but the professional integrity of both the industry and the U.S. Nuclear Regulatory Commission.

The risk of safety system deterioration and component failure worsens as reactors age. The economic pressure to prioritize production over safety compliance is increasing.

These growing financial pressures tempt operators to take more safety risks. British Energy (BE) was criticized by the UK Nuclear Installations Inspectorate in 1999 for cutting safety staff levels to the bone in order to save money. This was BE's unacceptably risky attempt to stay cost competitive in a deregulated marketplace. OPG's efforts to restart reactors at Pickering have run into massive cost overruns. It is possible that the costs to restart the two Bruce reactors will also be more than originally estimated. Combined with age-related degradation of essential safety systems, these financial pressures could lead to unacceptable risk-taking. A growing coalition of watchdog organizations will be increasingly vigilant to guard against Bruce Power short cuts on safety and deferring vital maintenance in order to save money.

A more careful examination of the plant operation impacts upon the Lake Huron ecosystem and economy has slowed down the rush to restart the Bruce "A" reactors. For example, the Chippewas of Nawash First Nation have intervened before the CNSC, protesting that their Lake Huron fishery, guaranteed by treaty rights, was ignored in the Bruce restart environmental assessment. Great Lakes United intervened as well, raising concerns about the heat discharges into Lake Huron that would result from the restart. As lake levels drop throughout the Great Lakes, there is a growing and justified campaign to demand that Bruce Power install conservative cooling water systems – such as natural convection cooling towers – to reduce the reactors' coolant water intake demands (simultaneously reducing the entrainment of fish and fish spawn) and decrease the harmful effects of thermal plumes to white fish and the fragile aquatic ecosystem. NIRS seeks to promote this as an international effort.

A primary concern of NIRS is the concentration of nuclear risk at the Bruce site, and the consequent catastrophic terrorist target that Bruce represents. It is most ironic that the "Environmental Assessment Start Date" for the Bruce A reactors 3 and 4 restart was September 11th, 2001. Recent news articles highlight the danger of terrorist attacks upon nuclear reactors and

radioactive waste storage depots. In June, threats of radiological “dirty bombs” grabbed headlines after the arrest of an alleged Al Qaida “dirty bomber” about to begin his scouting mission. In September, an interview with al Qaida leaders revealed that the original targets for the Sept. 11th, 2001 terrorist attacks upon the United States may have been nuclear facilities. On Nov. 6, the New Brunswick Telegraph-Journal reported that Mounties protecting the Point Lepreau reactor were 'burnt out'; this begs the question, what is the state of security at Bruce? The most recent al Qaida taped threat, aired on the Arab satellite television network Al Jazeera last month, recorded Osama bin Laden's voice explicitly naming Canada as a potential target for future terrorist attack. Also in mid-November, on the eve of U.S. Secretary of State Colin Powell's visit to Ottawa, Canada's National Post reported on a leaked U.S. government document listing 22 potential terrorist targets in Canada, including the Pickering, Point Lepreau, and Chalk River nuclear facilities; Bruce was conspicuous by its absence. Just a week ago, the Calgary Herald ran the headline “Terrorists Will Target Canada: RCMP Fears Retaliation If U.S. Attacks.”

Restarting the Bruce A reactors 3 and 4 would aggravate an already high concentration of nuclear risk on the shoreline of Lake Huron and threaten the other Great Lakes. With nine reactors and the high-level radioactive wastes from them, plus extensive on-going incineration and disposal of “low” and “intermediate” level radioactive wastes from 20 reactors across Ontario, Bruce is among the largest and most concentrated nuclear complexes in the world. Restarting the reactors would generate yet more atomic waste and enlarge the radioactive bull's eye in the heart of the Great Lakes that the Bruce nuclear power complex already represents.

Bruce is just 50 miles across Lake Huron from Michigan's shore. OPG is proposing to install nearly 2,000 outdoor storage silos for its high level radioactive waste, perhaps the largest such facility in the world. Bruce could one day house over half the high level radioactive waste proposed to be stored at the highly controversial Yucca Mountain, Nevada national repository in the U.S. For these reasons, Michigan's U.S. Senators Carl Levin and Debbie Stabenow have expressed their concern to U.S. Secretary of State Colin Powell regarding developments at Bruce, and requested he take action (see attached letter, and related news coverage). The groundswell of concern in Michigan has begun to interest other elected officials, such as the office of the new Governor Jennifer Granholm, in developments at Bruce as well.

In February 1986, Forbes magazine devoted an entire issue to “Nuclear Follies.” On its cover, Forbes wrote “The failure of the U.S. nuclear power program ranks as the largest managerial disaster in business history, a disaster on a monumental scale. The utility industry has already invested \$125 billion in nuclear power, with an additional \$140 billion to come before the decade is out, and only the blind, or the biased, can now think that most of the money has been well spent.” This was just a few months before the Chernobyl catastrophe showed that nuclear power's risks are more than financial. British Energy's current financial disaster shows that nuclear power is still risky business, 17 years after Forbes' assessment.

Nuclear power is a financial liability and increasing safety risk that should not be rushed into. We would be happy to provide you with documentation of our concerns. Dr. Gordon Edwards of the Canadian Coalition for Nuclear Responsibility (phone 514.489.5118, pager 514.853.5736), an expert on problems with Bruce in particular and CANDU reactors in general, has also expressed his willingness to discuss these matters. Mr. Normand de la Chevrotiere, an actuary working with the Inverhuron and District Ratepayers Association near Bruce, has also expressed his willingness to discuss concerns about the concentration of nuclear risk at Bruce. Mr. de la Chevrotiere's phone is 519.742.0730.

Sincerely,

Kevin Kamps
Nuclear Waste Specialist
Nuclear Information and Resource Service