*Acadia Environmental Action Association*

# Nuclear energy is very risky business, group warns


By DAVE MCCURDY

A student group at Acadia University has started a campaign to pressure government to be more careful in future with nuclear energy policy.

The group, calling itself the Acadia Environmental Action Association (AEAA), is circulating a petition calling for the establishment of a Canadian Environmental Bill of Rights, designed to guarantee for all Canadians the right to an unpolluted environment. As well, the petition calls for an end to the sale of Canadian nuclear reactors to countries which have not signed and ratified the nuclear Non-Proliferation Treaty (NPT), and also calls for the scrapping of the James Bay and other uranium enrichment plants in Canada.

**Canada has almost completed negotiations to sell Candu nuclear reactors to South Korea, Iran and Argentina, none of which have signed the Nuclear Non-Proliferation Treaty. India used nuclear expertise provided by Canada to manufacture an atomic bomb.**

The AEAA hopes that similar groups will be formed elsewhere in Canada to increase pressure on government to adopt these measures.

Harrie Norrie, a spokesperson for the association, said the sale of Canadian nuclear reactors (called Candus) to countries like India, Argentina, Iran and South Korea is "not in the best interests of world peace." The Candu and accompanying nuclear expertise sold to India recently were used by that country to make an atomic bomb, and international disciplinary action was not possible because India has not ratified the NPT.

Canada is currently in the process of selling similar nuclear technology to Argentina, Iran and South Korea, none of which have signed the NPT. Despite assurances from the federal government that these three countries have promised not to use the reactors to make explosives, Norrie is skeptical. "Argentina is a very unstable country beset by widespread internal problems, Iran is deeply involved in the Middle East situation and has ambitions of being a world military power, and South Korea is governed by a volatile military strongman, Chung Hee Park. The AEAA thinks it most unwise of the government to sell nuclear expertise to these countries."

The government's main argument in its own defense is that if Canada didn't sell nuclear technology to these countries, someone else would. But Norrie thinks this is a pretty thin argument. "The point is that Canada, 'the peace-keeping nation', should not be helping other countries make atomic bombs, countries which refuse to sign the NPT."

The third main point of the petition deals with the uranium enrichment plant being built along with the huge hydroelectric project in James Bay in northern Quebec. With so much attention being focused on the problems of the hydro project itself, the accompanying enrichment plant has received little attention.

Basically, the process of uranium enrichment greatly increases the amount of radioactivity in regular uranium. This enriched uranium can be used in reactors which will then need only regular water as a coolant. Reactors using non-enriched uranium heavy water as a coolant--that is, water containing hydrogen with an extra neutron. This heavy water must be specially manufactured.

Since Candus do not even use enriched uranium, the Quebec government would sell most of the enriched uranium produced in James Bay to France and the United States. Premier Bourassa of Quebec has suggested that Candus be converted to use enriched uranium to provide more business for the James Bay plant, but the cost of this would be "astronomical," said Norrie, and it is unlikely the federal government would do it.

Although enriched uranium reactors are cheaper and more efficient in the short run, they pose many more problems, said Norrie. One problem is that if the plant in James Bay ever gets going at full steam, it will use up all of Canada's natural uranium in 60 years. Candus, on the other hand, require much less uranium.

Another problem is that the uranium enrichment plant would use half of the hydro power generated by the James Bay project.

**Radioactive plutonium, the waste product from nuclear reactors, remains dangerous for 250,000 years. The containers in which it is stored last only 100 years.**

But the most serious problem of all, said Norrie, concerns radioactive waste. All nuclear reactors pose a waste problem, and reactors are often shut down due to leaks, but enriched uranium poses an extra hazard because it is so much more radioactive than regular uranium.

Radioactive pollution shows up in humans in the form of cancer (leukemia). There is no way to tell that the leukemia was caused by radioactive poisoning; nor is there an antidote. In fact, unlike other forms of pollution which can eventaully be cleaned up, radioactive pollution is irreversible. Norrie said the Canadian and Quebec governments, if they must look into nuclear energy at all, should be concentrating on the least dangerous forms of that energy, not on highly dangerous forms like enriched uranium.

Present safety systems to prevent nuclear waste from escaping into the environment are inadequate, Norrie warned. He said that a private company performed six tests in 1970-71 to determine the effectiveness of present nuclear reactor safety systems; all six tests failed. And as late as January 1975, all the nuclear reactors in the United States were closed down due to leaks.

In order to provide for Canada's energy needs while keeping highly risky nuclear research to a minimum, the AEAA suggests that Canada look into ways of producing energy more efficiently; look into the recycling of energy; waste less energy; and investigate other sources of energy, such as solar and wind power.

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"Studies on solar power have been contradictory," Norrie said. "Some studies suggest that each home in Canada could provide for all its own energy needs through solar power, while other studies indicate Canada does not receive strong enogh sunlight to accomplish this. But with solar and wind power put together, each home should be able to produce most of its own energy needs, at least."

As for automobiles and other vehicles which currently depend on increasingly scarce and expensive gasoline, Norrie said that present internal combustion engines could conceivably be conerted to use methane and propane. "The biggest fear at the moment with this process is that methane or propane might burn out a car's valves," he said. However, methane and propane are already being used to power some basic diesel engines, and Norrie is optimistic that the technological roadblocks can be overcome.

The most important thing, said Norrie, is that Canada start acting now. "By this time next year it may be too late to stop the Candu sales to Argentina, Iran and South Korea, and it may also be too late to stop the James Bay enrichment project. The government must be made to realize that Canadians are concerned about these issues," he said.

Norrie said the passage of the third point in the petition, a Canadian Environmental Bill of Rights, would make enforcement of the petition's other demands much easier. "Right now, Canadians have no strong legal recourse against people who abuse the environment," he said. "A bill of rights would provide this recourse."