CANDU unsafe

AECB unfit to regulate

by Cathy McDonald

The organisation responsible for the safety standards of the Canadian nuclear industry is unfit to regulate, according to Dr. Gordon Edwards, President of the Canadian Coalition for Nuclear Responsibility.

The Atomic Energy Control Board does not uphold the public's best interests in terms of health and safety in regulating the nuclear industry, Edwards said in a talk last Friday at the Weldon Law Building. He said a board of members who are owning and regulating the nuclear industry cannot objectively regulate it. Edwards supported a document by the British Columbia Medical Association which stated that the AECB should be abolished and replaced with members of the public who have no vested interests in nuclear energy.

Edwards gave an account of the flaws in the CANDU reactor, information which would be more widely known if the AECB was objective. Because of the design of the CANDU reactor there is significant danger of an accident of enormous proportions. The chances of a pipe-breakage at the Point LePreau reactor in New Brunswick, due to begin operation in 1982, are more than one in four. The ensuing loss of coolant could allow the uranium fuel-rods to overheat to the disastrous "melt-down" stage, Edwards said.

PUBLIC EDUCATION IS ESSENTIAL

Edwards said that our elected representatives are intimidated by the expertise of nuclear experts. The people with the answers tend to be the experts, who are under a lot of pressure from the industry that employs them, rather than politicians.

When asked whether he supports a moratorium on nuclear reactors, Edwards said yes, but his personal opinion was not what is important. "I advocate a real effort to educate the public. If people knew the financial and physical risks, they would be able to make the correct decision. People are not being given the basic ABC information on which to base a decision. "He said that with a modest amount of effort and the minimum amount of 'double talk' on the part of experts, nuclear reactors would not be nearly as complicated to understand as people think they are."

PUBLIC INQUIRY NEEDED AT LEPREAU

The New Brunswick government should commission an independent investigation into the safety of the LePreau

An objective public body has to replace the Atomic Energy Control Board if Canada is to avoid a potentially disasterous nuclear accident, according to Dr. Gordon Edwards.

reactor, Edwards said. Such investigations were commissioned to a California group of engineering consultants, to evaluate objectively the safety of Italian and Swedish reactors.

"If an investigation is not done immediately we'll never know how safe it is. The radiation is so strong that you can't get into the core of the reactor." Edwards also stressed the need for a public account of a complete cost-benefit analysis of the Point LePreau project. He pointed out that the New Brunswick government is already exporting electrical power at a financial loss, and will have to continue to do so when the reactor comes onstream.

The Three Mile Island reactor in Harrisburg, Pennsylvania, suffered an accident in 1979. Edwards said the clean-up costs will reach at least $700 million. He wondered if the New Brunswick government could afford the possibility of such an accident.

FLAWS IN CANDU SYSTEM EXPLAINED

Due to the discovery of small cracks in the walls responsible for the containment of radioactive gas, the Douglas Point reactor in Ontario is not allowed to operate at more than 70% efficiency, for safety reasons. The realization of such problems is causing the Atomic Energy Control Board to push for a change in the written safety standards. Edwards maintained that "This is fundamentally dishonest. It is not publicly stated why they are rewriting the safety laws. The public should demand public hearings into the proposed alterations."

Edwards explained the operation of the "Emergency Core Cooling System" in CANDU reactors. In times of an emergency, coolant is injected into hundreds of pipes surrounding the fuel-rods to cool them down. Two items in question are whether or not the coolant is always available, and how well the system actually works. "The Canadian system is having enormous problems" Edwards said. The inherent flaw, he explained, is that if one of these pipes breaks, the resultant loss of coolant can allow the over-heating fuel-rods to melt together, preventing the further flow of coolant into the system.

The melting fuel-rods are extremely dangerous as the situation is no longer under control. Molten fuel-rods have a temperature of 5000°F as opposed to the melting point of steel at 2-3000°F. The molten fuel therefore melts through the bottom of the reactor building "like butter". Furthermore, the molten material cannot be resolidified by dousing it with coolant as this merely forms a crust on the outside, while the inner heat is self-generating. This is called "loss of geometrical integrity" Edwards said, using the scientific jargon.

A fuel meltdown is far more serious than "fuel damage", such as happened at the Three Mile Island reactor, where only a little fuel actually melted.

"No one dropped dead at Three Mile Island," whereas a meltdown would be a disaster, Edwards said.

Radioactive particles stick to things such as building walls, food supply and water, and specific organs in the body. A "serious but not disastrous" accident will cause more cancers and will especially affect children and infants. A recent "Harrowsmith" article reports an increase in the rates of still-born infants and animals in the Three Mile Island vicinity.

Edwards points out that the nuclear industry is careful to cover itself in case of an accident, by limiting the liability of a utility to $75 million. There is a 10 year statute of limitations for personal claims against the utility which means that if you get cancer after ten years, you have no legal claim.