

Continued from page 19

bon dioxide. For Canada to even approach its Kyoto greenhouse gas emissions targets without destroying our economy, increased reliance on nuclear power is absolutely essential.

Canada's Power Reactors Are Safe

In the half century commercial nuclear reactors have been operating in the western world, there has yet to be a single injury or fatality as a result of radiation exposure or leakage. Nuclear power has proven to be our safest large-scale energy source.

In addition to many design features that ensure high safety in CANDU reactors, the Canadian Nuclear Safety Commission (CNSC) ensures these standards are maintained. While nuclear power plant operating licenses are approved for periods of up to 40 years in most countries, CNSC licenses must be renewed every two years at which time additional safety assessments must be passed.

Some Canadians worry about the threat of large commercial aircraft crashing into nuclear stations. Such an event is extremely unlikely because of the relatively small size of reactor buildings. Even if it happened, the likelihood of penetration of a Canadian reactor is negligible. CANDU reactors are housed in a one-meter thick steel reinforced concrete outer shell that would be very effective in stopping a large aircraft. The reactor itself is also surrounded by a reinforced concrete biological shielding up to 1.8 meters thick. Trying to damage a Canadian reactor by flying an aircraft into it is like driving a car into an office safe in order to break open the safe.

In June of this year, the Senate Committee examining nuclear power safety concluded, "... Canada's domestic nuclear reactors are among the safest in operation anywhere in the world."

Radioactive Waste Disposal Problems Are Exaggerated

While many of the serious pollutants from non-nuclear sources are dangerous forever, the radiation from a used CANDU reactor bundle diminishes over time — in four or five centuries it is no longer a hazard. If the average Canadian's lifetime usage of electricity were supplied entirely from nuclear power, they would be responsible for the production of a golf ball-sized chunk of

high-level waste.

Atomic Energy of Canada Limited has proposed that this waste be ultimately disposed of in sealed containment vaults buried 500 to 1,000 meters underground in the Canadian Shield. These rock formations have been stable for hundreds of millions of years and so are highly unlikely to be geologically active while the waste is still dangerous.

The recently passed Bill C-27, the Nuclear Waste Act, mandates that nuclear power plant operators establish a Waste Management Organization (WMO) as a separate legal entity to revisit this and other long-term waste disposal options. The WMO will recommend the best disposal options after which the government will finally choose the approach to be taken.

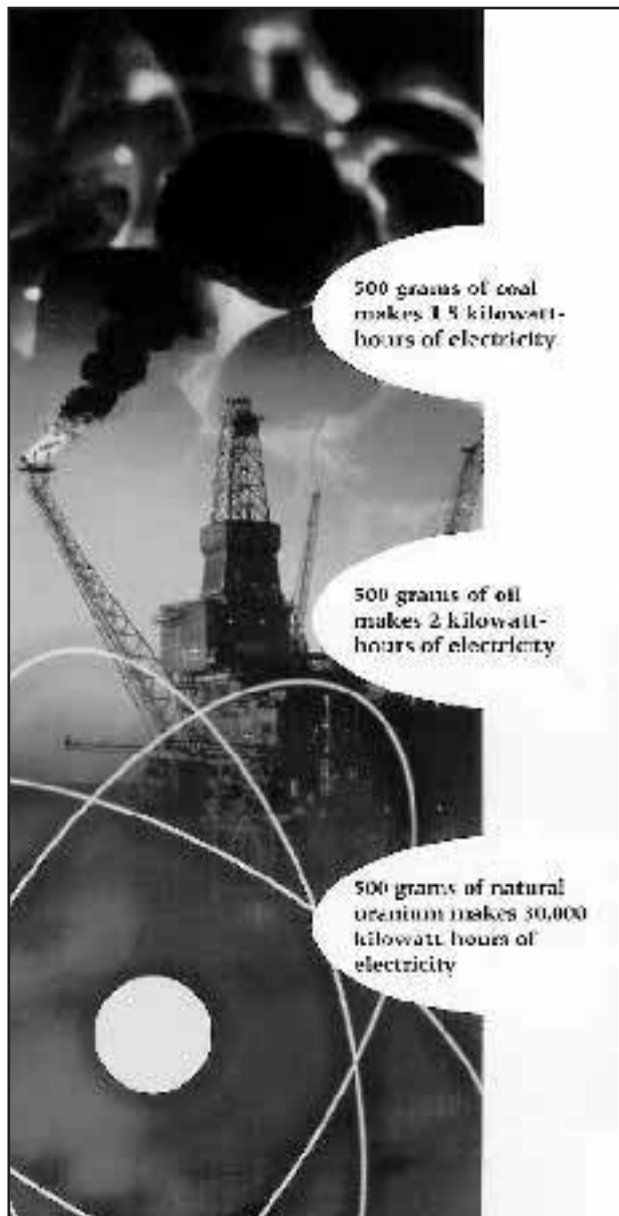
Canadian Nuclear Technology Does Not Lead to Weapons Proliferation

A commercial power reactor cannot explode like a bomb. The nuclear fuel (either before, during or after use) in such a facility cannot be used directly to make an atomic weapon either. The concentrations of the isotopes of uranium and plutonium needed to produce a nuclear bomb are far too low in these reactors to be used directly for this purpose.

The easiest way to make an atom bomb is to enrich natural uranium to produce "weapons grade" material. Any industrialized country could do this if it wished to, so even if the peaceful applications of nuclear energy were stopped immediately, nuclear weapons would still be with us.

Using spent fuel from commercial reactors to produce bomb-making materials is a difficult and dangerous process, one easily detected by international inspectors. It is not surprising that, of the 33 nations that rely on nuclear power as a clean, safe source of electricity, only seven have developed nuclear weapons.

In Canada, nuclear power is not used for military purposes at all and it is illegal to export uranium or nuclear technol-



ogy for use in nuclear weapons.

The Future

Although Canada has no immediate plans to build new nuclear plants, there are a total of 33 reactors under construction world-wide, most of them in Asia. The United States is already planning to build more nuclear reactors and has the full support of the President, who knows that all energy sources will be needed over the next 20 years to meet demand. Nuclear power has its place and let's not pretend it doesn't. The alternative — to turn out the lights — just is not on.

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