

Hatcher, reminded Members of the Committee that, given the current price of uranium, Canada has not yet looked into reprocessing⁽⁴⁰⁾ its spent fuel.⁽⁴¹⁾

However, in a brief submitted to the Committee, the Canadian Coalition for Nuclear Responsibility argued that the ultimate goal of AECL was to promote the reprocessing of nuclear waste.⁽⁴²⁾ Their brief alleged, among other things, that "much of the federal money allotted for research into nuclear waste disposal has actually been used by AECL to further research in plutonium reprocessing".⁽⁴³⁾

The interest in reprocessing expressed by much of the international community is summed up well in the following paragraph:

Sweden and Canada have expressed little interest in reprocessing and are therefore inclined towards eventual direct disposal of spent fuel. Neither one, however, expects to be operating a commercial repository until one or two decades after the end of the century. The United States, the Federal Republic of Germany and Switzerland are also actively engaged in development work on the direct disposal technique, although they have each had varying proportions of their spent fuel reprocessed in the past and may continue to do so in the future. Finland is also investigating direct disposal for some of its fuel capacity. It ships some spent fuel to the USSR. Spain and the Netherlands have only limited nuclear capacity and have so far pursued a policy of securing reprocessing contracts abroad; this situation could change at any time, particularly in the former country, which has announced its intention to limit its long-term nuclear capacity to ten reactors. The remaining OECD countries either operate domestic reprocessing plants or have announced plans to do so.⁽⁴⁴⁾

There is no consensus among specialists in the nuclear industry on this question. At the present time, most of the countries using nuclear power to produce electricity take the "wait and see" position. However, some are convinced of the value of reprocessing. This support was indicated during the second international conference on the reprocessing of nuclear fuel, held in Paris in August 1987, when the president of the *Commissariat à l'énergie atomique de France*, Jean-Pierre Capron, stated that reprocessing is a uniquely responsible approach in consideration of future generations. His claim is that it allows a safe long-term approach to waste management.⁽⁴⁵⁾

Spent fuel is the main waste produced by a nuclear power plant. The initial concept of the CANDU reactor is based on the use of natural uranium (containing only 0.7 per cent fissile material, uranium 235) which goes through the heart of the reactor only once. When this fuel cycle (known as a "once through" or "throw-away" cycle) was first designed, no

⁽⁴⁰⁾ By reprocessing is meant the separation of actinides (such as plutonium, uranium and thorium) from fission products by chemical and physicochemical techniques. The fission products are left behind in the form of high-level radioactive waste, which must be disposed of.

⁽⁴¹⁾ S.R. Hatcher, Atomic Energy of Canada Ltd. Research Company, Issue No. 6, February 2, 1987, p. 5-7.

⁽⁴²⁾ In spite of the fact that Canada ratified the *Treaty on the Non-Proliferation of Nuclear Weapons*, in 1969, and that the exports of nuclear technologies, equipment and materials are now limited to those countries which have signed the Treaty or agree to submit to equivalent international control, there is always a certain concern among the public about the potential diversion of by-products of fission reactors, such as plutonium, to the production of nuclear weapons.

⁽⁴³⁾ Gordon Edwards, "Nuclear Waste — What, Me Worry?", Montreal, Canadian Coalition for Nuclear Responsibility, June 1986, p. 5.

⁽⁴⁴⁾ OECD Nuclear Energy Agency (1986), p. 28.

⁽⁴⁵⁾ Elisabeth Gordon, "La prolifération des déchets nucléaires," *Le Monde*, Paris, August 28, 1987, p. 21.