

The Committee also notes that some witnesses were concerned about what would happen to nuclear power plants that had been shut down. Gordon Edwards considers that the federal government ought to ask AECL to dismantle a nuclear reactor, like the Gentilly-1, so that some data could be gathered as to the safety risks and the cost of such a procedure. The expertise thus acquired could be marketed throughout the world.⁽⁷⁹⁾ Operators in the nuclear energy field today foresee an average operating lifespan of 40 years for a nuclear power plant.⁽⁸⁰⁾ When that lifespan ends, the plant presents a permanent risk to the environment, because it contains radioactive materials. Given that most of Canada's nuclear installations will have to be dismantled or renovated in the next few decades, the Committee considers it vitally important that an in-depth study be done on the problems posed by decommissioning of nuclear installations. Progress demands that an immense amount of information emanate from those who have the knowledge. The Committee therefore recommends:

Recommendation 14

To diminish the uncertainties associated with the decommissioning of nuclear generating stations, Atomic Energy of Canada Ltd. must produce and publish a study setting out its policy, its resources and its orientation in this area.

In the final analysis, the Committee recognizes that it is precisely because there are uncertainties and value differences, and because fairness is one of the principal qualities of a valid regulatory decision, that the role of the expert has its limitations. The problem arises when one tries to define criteria for risk and safety:

A useful way of defining "safe", one presently gaining currency, is as "that level of *risk* judged *acceptable*". In this context, *risk* is defined as "the probability that harm will occur at all, multiplied by the severity of the consequences if it does occur". Thus *risk* objectively measures the potential hazard, while *safety* reflects a subjective judgement of the acceptability of that hazard. *Risk* is legitimately the subject of scientific investigation. [...] Scientists, however, cannot determine when something is *safe* or *safe enough*, because that is a matter of preference or judgement. Does the group want to live with the risks described by the scientist as accompanying the product; pay for reducing the risks; or forego the product?⁽⁸¹⁾

This then is the challenge that the supporters of nuclear energy must meet: convincing the population that the risks inherent in the atom are worth the associated problems. If a problem is especially difficult to solve, we cannot claim to have solved it merely by pointing out how hard we have tried to do so. Therefore, considering that it is estimated that the environmental assessment panel will require three years to reach a decision on the storage and disposal of spent fuel wastes, the Committee recommends that:

Recommendation 15

A moratorium on the construction of nuclear power plants in Canada should be imposed until the people of Canada have agreed on an acceptable solution for the disposal of high-level radioactive waste. Furthermore, the Canadian energy strategy should formulate alternatives that would encourage a reduction in energy consumption and a decrease in stress on the environment from waste created by the various energy-producing techniques.

⁽⁷⁹⁾ Gordon Edwards, Canadian Coalition for Nuclear Responsibility, Issue No. 7, February 3, 1987, p. 16.

⁽⁸⁰⁾ Pierre Tanguy, "Le déclassement des installations nucléaires", *La Recherche*, Vol. 18, No. 187, April 1987, p. 546-555.

⁽⁸¹⁾ Elizabeth S. Rolph, *Nuclear Power and the Public Safety*, Lexington (Mass.), Lexington Books, 1979, p. xiii; cited in Wolfgang Koerner, *Civilian Nuclear Power: Problems and Prospects*, Backgrounder BP-124E, Ottawa, Library of Parliament, Research Branch, May 1985, p. 7-8.