

NUCLEAR *facts*

How is the nuclear industry regulated?

ALL NUCLEAR ACTIVITIES IN CANADA ARE REGULATED BY
THE CANADIAN NUCLEAR SAFETY COMMISSION (CNSC).



The CNSC was created on May 31, 2000, when the *Nuclear Safety and Control Act* came into effect. That Act replaced the *Atomic Energy Control Act* which, when it was passed in 1946, was one of the first pieces of nuclear legislation in the world. The CNSC succeeds the Atomic Energy Control Board, which was Canada's nuclear "watchdog" for over half a century.

The CNSC's mandate is to protect the health and safety of persons and the environment and to ensure national security from risks associated with the use of nuclear energy and nuclear materials. The Commission has seven members, appointed by the government, and a staff of almost 700, mostly scientifically trained, based in its headquarters in Ottawa, or stationed at offices at each nuclear power site or five regional offices across the country. Most of the CNSC's operations are financed by licence fees.

How does the CNSC regulate?

The CNSC has issued a number of regulations dealing with nuclear reactors, uranium mines, the use of radioactive materials, radioactive waste and other related activities. A fundamental set of regulations, which applies to all activities, defines the maximum radiation doses that workers and members of the public may

receive. The values are based on the recommendations of the International Commission on Radiological Protection (ICRP) an international, non-governmental, organization of scientists from around the world. Almost all countries follow the recommendations of the ICRP for radiation protection standards.

In almost all cases the regulations require a licence for any specific activity. To obtain a licence, an applicant must demonstrate, through detailed submissions, that there will be no undue hazard to the health and safety of individuals, no undue impact on the environment, and that any waste will be managed in a manner acceptable to the CNSC. Licence applications for major





facilities are considered by Commission members in hearings, which are open to the public.

Licensees are required to keep detailed records of their operations, including radiation exposures of their employees and radioisotope concentrations in their emissions, and must report that information to the CSNC on a continuing basis.

Worker exposures must also be reported to Health Canada's National Dose Registry. The Registry currently contains the cumulative exposure records of hundreds of thousands of individuals.

CNSC staff ensure compliance with licence conditions and regulations through inspections and review of submitted reports.

How are nuclear power stations regulated?

Nuclear power plants (and other major facilities) require specific approval for all stages from site selection to decommissioning. An extensive "Safety Report" is required before construction can begin. This report not only gives a detailed description of the plant but also includes thorough analyses of the consequences of various assumed failures. In addition, an environmental assessment must be performed. All of this material is reviewed carefully by CNSC staff and then is presented and considered by Commission members in public hearings.

CNSC staff conduct inspections during construction and throughout the operating life. Members of CNSC staff located at each nuclear power site monitor operations on a day-to-day basis. Key members of the operating staff of nuclear power plants must undergo CNSC examinations and be certified for their particular position.

Operating licences for nuclear power plants are typically issued for a two-year period, with a thorough review undertaken before renewal. In most other countries with nuclear power plant licences or approvals are granted for longer periods, up to 40 years.

See also the Web site of the Canadian Nuclear Safety Commission www.nuclearsafety.gc.ca

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