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Nuclear Legislation in OECD Countries

**Regulatory and
Institutional Framework
for Nuclear Activities**

Iceland



Iceland

I. General Regulatory Regime	3
1. Introduction	3
2. Mining regime	3
3. Radioactive substances and equipment	3
4. Nuclear installations	4
5. Trade in nuclear materials and equipment	4
6. Radiation protection	4
7. Radioactive waste management	5
8. Nuclear security	5
9. Transport	6
10. Nuclear Third Party Liability	6
II. Institutional Framework	6
1. Regulatory and supervisory authorities	6
a) <i>Minister of Health and Social Security</i>	6
b) <i>Icelandic Radiation Protection Institute</i>	6

I. General regulatory regime

1. Introduction

Bearing in mind that there are no nuclear power-generating installations in Iceland, activities involving the use of ionising radiation in this country are currently governed by the 2002 Radiation Protection Act (hereinafter referred to as the "act"), which repealed and replaced the 1985 Radiation Protection Act. Several regulations have been adopted on implementation of this act.

2. Mining regime

There are no specific provisions governing uranium mining in Iceland.

3. Radioactive substances and equipment

The objective of the 2002 Radiation Protection Act is to ensure the adoption of the necessary safety measures to protect against radiation from radioactive materials and radiological equipment and to limit the detrimental effects of such radiation. Exposure to radiation resulting from practices covered under this act is to respect the ALARA principle. The act applies to:

- practices that can cause radiation exposure e.g. the production, import, export, delivery, possession, installation, use, handling and disposal of radioactive substances and radiological equipment;
- practices that result in increased levels of natural radiation in the environment;
- radioactive substances or radiological equipment insofar as this is not governed by other legislation pursuant to international conventions;
- monitoring and research in respect of radioactive substances in the environment and foodstuffs;
- the radiological aspects of measures concerning radiological or nuclear emergencies.

It is not permitted to produce, import, own, store or deliver radioactive substances (whether they are pure, mixed with other substances or built into equipment), or equipment capable of producing ionising radiation, without a permit issued by the Icelandic Radiation Protection Institute (hereinafter referred to as the "Institute"), with the exception of small quantities as determined by exemption levels (Chapter III and V of the act). Similarly, it is not allowed to install or modify radiological equipment capable of producing ionising radiation without a permit from the Icelandic Radiation Protection Institute (Chapter IX of the act).

The Minister of Health and Social Security may decide, under Chapter V of the act, that the use of certain categories of radiological equipment emitting non-ionising radiation be subject to authorisation. Applications for permits must be made using the special forms prepared by the Institute

Chapter IV of the act provides that the Institute is authorised to issue such permits, but stipulates that an evaluation by the Directorate General of Public Health is also necessary in respect of medical activities.

Before a permit is granted under the act, the Institute must investigate whether the safety arrangements and the intended use of the relevant substances and equipment are in accordance with the act and its implementing rules and regulations or other rules based on these texts (Articles 4 and 20 of the act).

Article 7 of the act provides that a permit is not required for:

- substances or equipment with a concentration level lower than the exemption limits determined by the Institute;
- phosphorescence watches, pocket compasses, meters and other equipment of that nature containing a slight quantity of radioactive material.

A supervisor with the appropriate education and experience (Article 10 of the act), designated by the owner of radiological equipment and radioactive materials shall ensure that practices are in accordance with the act and its implementing regulations. According to Article 15 of the act the designated supervisor is responsible for the use of medical radiation and in that regard shall ensure that only competent persons with recognised special education shall carry out medical radiation.

Only those persons who have knowledge and experience relevant to the Institute, are permitted to carry out repairs and install or make changes to radiological equipment (Article 20). Those who carry out such activities shall ensure that legal safety requirements for the equipment have been met and they shall immediately report to the Institute if this is not the case. Those who intend to install or make changes to radiological equipment must submit a proposal on the prescribed form to the Institute and may not proceed with the work until approval has been obtained (Article 8 and 20).

Similarly, any person intending to commence or alter an activity where radioactive materials and radiological equipment are used shall send an application for a permit to the Institute, together with plans for the proposed operation or alterations with detailed information. The Institute must be notified immediately when radioactive materials and radiological equipment are taken out of use (Article 20).

For further details of the Institute's control over radiological equipment and radioactive materials, see Section 6 "Radiation protection", *infra*.

4. Nuclear installations

There are no nuclear installations in Iceland and no legislation in this respect.

5. Trade in nuclear materials and equipment

The import of radiological equipment capable of producing ionising radiation is subject to reporting requirements. Any such equipment imported shall be reported to the Institute [Article 7 of the act].

6. Radiation protection

According to the Act on Radiation Protection, any types or categories of practices that may cause ionising radiation exposure to personnel shall be assessed in advance with respect to the economic, social or other benefits in comparison with the risk of detrimental health impact such radiation may have.

The Institute exercises control over radiological equipment and radioactive materials through general periodic inspections of the equipment and materials and of the factors (such as use of lead aprons at X-ray departments of hospitals) that influence the safety of personnel, patients and others that might be exposed to ionising radiation. For this purpose the personnel of the Institute have unlimited access to any place where such equipment and materials are used or stored. This control is aimed at keeping exposures as low as reasonably achievable. This control is also exercised through education and training on radiation protection and on the use of equipment and substances. Registered owners of equipment or materials subject to inspection must pay a special fee to cover the cost of the inspection.

The owners of radiological equipment and radioactive material are required to carry out any adjustments deemed to be necessary by the Institute. If the adjustments are not made within the required time, the Institute may forbid any further use of the equipment or materials until such adjustments have been carried out. Similarly, if safety arrangements are so insufficient that they can lead to danger, the Institute may forbid any further use of the equipment and materials until the situation has been remedied (Article 18).

During the design and construction of a building or facilities where radioactive materials or radiological equipment are to be used, the Institute must be consulted as to whether the proposed building, facilities or other equipment satisfies the requirements relating to radiation protection (Article 20). All places where radioactive materials and radiological equipment are used shall be clearly marked with warning signs in accordance with instructions from the Institute (Article 35 of Regulation 809/2003 on Radiation Protection with regard to Unsealed Radioactive Substances and corresponding articles in other regulations).

Only those who are suitably qualified and experienced, in accordance with the requirements of the Institute, are allowed to work or supervise work with radioactive materials and radiological equipment (Article 13).

The Institute is authorised to control and undertake research into the doses received by personnel, patients and the public arising from the use of ionising radiation (Article 13). In cooperation with the Director General of Health, the Institute is required to lay down rules on the medical examination of employees working with ionising radiation (Article 8). As a preventive safety measure, the Institute is also authorised to provide training in radiation protection for personnel exposed to ionising radiation and to supply information to the public and the media (Article 13). Measures for protecting workers against the detrimental effects of non-ionising radiation in the workplace are subject to the Act on the Working Environment, Health and Safety in the Workplace and its implementing rules.

Iceland ratified the 1986 Convention on Early Notification of a Nuclear Accident on 27 September 1989 and it ratified the 1986 Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency on 27 January 2006.

7. Radioactive waste management

The storage and disposal of radioactive substances or waste, equipment and packaging which contains (or is contaminated by) radioactive substances shall always take place in accordance with the rules set by the Institute.

The Icelandic rules regarding radioactive waste are based on the Nordic document entitled "Application in the Nordic Countries of International Radioactive Waste Recommendations" (published by the Radiation Protection Institutes in Denmark, Finland, Iceland, Norway and Sweden in 1986).

Iceland ratified the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter on 24 May 1973.

Iceland acceded to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management on 27 January 2006.

8. Nuclear security

Iceland became a party to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT) on 18 July 1969. It acceded to the 1979 Convention on Physical protection of Nuclear Material on 18 June 2002 and ratified the Comprehensive Nuclear Test Ban Treaty on 26 June 2006.

Radioactive materials must always be stored in a reliable and safe place. The Institute is empowered to lay down further rules concerning the construction and equipment of these storage facilities. Places storing radioactive materials, or equipment that makes use of ionising radiation, must carry warning signs as specified by the Institute (Article 12 of the Act and Article 35 of Regulation 809/2003 on Radiation Protection with regard to Unsealed Radioactive Substances).

9. Transport

When transporting radioactive materials they must be kept in reliable containers in order to ensure that such materials are not emitted into the environment even if it means that the container is damaged. Transport of radioactive material must be in accordance with international regulations, in particular the IAEA Regulations for the Safe Transport of Radioactive Material (Article 47 of Regulations 809/2003 on Radiation Protection with regard to Unsealed Radioactive Substances).

10. Nuclear Third Party Liability

There are no specific provisions in Icelandic legislation governing nuclear third party liability.

II. Institutional Framework

1. Regulatory and supervisory authorities

a) Minister of Health and Social Security

The Minister of Health and Social Security is primarily responsible for radiation protection in Iceland. This responsibility is carried out directly through the issue of permits under the act, and indirectly through the Icelandic Radiation Protection Institute. The Minister has the power to request that the Institute address particular problems in this field and has the power to regulate the implementation of the act, the operation of the Institute and the control exercised by the Institute.

b) Icelandic Radiation Protection Institute

The Icelandic Radiation Protection Institute (*Geislavarnir ríkisins*) is an independent entity under the authority of the Minister of Health and Social Security. The Institute is responsible for the establishment of safety measures to protect against the hazards of ionising radiation which may be emitted from radioactive materials and radiological equipment.

The Minister of Health and Social Security appoints the Director of the Institute for a term of five years. The Director is in charge of the management of the Institute and ensures that it is operated in accordance with existing rules and regulations. The Minister also appoints the Radiation Protection Council which is a professional advisory board for the Institute. The Council is composed of three people with expertise in the Institute's area of work.

Chapter II of the act sets out in some detail the responsibilities of the Institute, which include:

- monitoring and supervising the implementation of this act and its implementing rules and regulations;
- any inspections and research deemed necessary pursuant to this act and its implementing rules and regulations;
- monitoring workers' exposure to ionising radiation, and maintaining a dose register of the results of the dose estimates for every worker;

- regular assessment of the total ionising radiation exposure of the general public from practices under this act;
- regular assessment of patients' exposure to ionising radiation from practices under this act;
- monitoring and researching radioactive substances in foodstuffs and the environment;
- courses in radiation protection for workers who work with radiation, as well as dissemination of information to the general public and the mass media;
- research in the field of radiation protection;
- Radiological measures concerning radiological and nuclear emergencies, including the operation of emergency response, radiation measuring systems and other measures relating thereto;
- collaborating with foreign institutions in relation to radiation protection and nuclear issues;

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The OECD Nuclear Energy Agency (NEA) was established on 1st February 1958 under the name of the OEEC European Nuclear Energy Agency. It received its present designation on 20th April 1972, when Japan became its first non-European full member. NEA membership today consists of 28 OECD member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Portugal, Republic of Korea, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information.

The NEA Data Bank provides nuclear data and computer program services for participating countries. In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

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