

GEISLAVARNIR RÍKISINS ICELANDIC RADIATION SAFETY AUTHORITY

# **Convention on Nuclear Safety**

# National report for the 6th review meeting

# Iceland

This report was compiled by the Icelandic Radiation Safety Authority (IRSA) on behalf of the Government of Iceland.

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### Introduction

Iceland signed the Convention on Nuclear Safety on 21 September 1995 and the Convention came into force for Iceland on 2 September 2008.

There has never been a nuclear reactor of any type in operation in Iceland or nuclear facilities of any kind and there are no plans for such an operation, neither for production of energy nor for research. This is reflected in the national legal framework for radiation protection.

Iceland's first legislation on radiation protection was passed in 1962 and has been revised periodically. The legislation covers all relevant radiological safety issues. The latest major revision took place in 2002, Act 44/2002, with the aim of harmonizing the Icelandic legislation in the field of radiation protection and its implementation with the EU Acquis . Iceland is not a member of the European Union and the Directives of the European Union in the field of radiation protection have no legal bearing in Iceland. A minor revision to the radiation protection Act was made in April 2008 and became effective as of 1 January 2009.

This report for the Sixth Review Meeting to the Nuclear Safety Convention is the second national report by Iceland. The report was prepared by the regulatory authority, the Icelandic Radiation Safety Authority, at the request of the Ministry of Foreign Affairs in Iceland.

The Information Circular INFCIRC/572/Rev.3 states that reporting on Articles 7, 8 and 16 is applicable for Contracting Parties with no nuclear installations planned or in operation, reporting on activities covered by Articles 9, 10 and 15 is also encouraged. Since Iceland has no nuclear reactors, this national report focuses mainly on giving an overview of the Legislative and regulatory framework, as required by Article 7, the Regulatory body as required by Article 8 and Emergency preparedness as required by Article 16. For the same reason the focus in the section on emergency preparedness in on paragraph 4.

The aim of this national report is to demonstrate that Iceland meets its obligations of the Convention on Nuclear Safety. The report is laid out according to the requirements and headings contained in the IAEA Information Circular INFCIRC/572/Rev.3

# **Summary**

Iceland supports international efforts to harmonize and increase nuclear safety and considers the Convention on Nuclear Safety to be an important instrument in developing a sustainable global nuclear safety culture. The Review meetings of the Convention provide an excellent opportunity for a small non - nuclear country with limited nuclear expertise such as Iceland to gain valuable insight and information regarding nuclear saftey issues and progress in Member States of the Convention.

Following Iceland's application for membership of the European Union the legislation has been reviewed and compared with the EU Acquis. Based on the review, a bill to change the Act on radiation protection with the aim of harmonizing further towards the EU Acquis has been drafted and will be submitted to the parliament in the autumn of 2013. It is expected that this change in the legislation will be adopted before the end of the year and become effective as of 1 January 2014.

Following the nuclear accident in the Fukushima NPP the Icelandic Radiation Safety Authority (IRSA) had a central role in the response and evaluation in Iceland, including giving advice to the Icelandic Ministry for Foreign Affairs and the Icelandic Embassy in Japan. There was extensive co-operation with the Consular Affairs Unit of the Ministry in providing information to Icelandic citizens in Japan and their concerned relatives.

Action: IRSA to develop support material providing general information and advice to Icelandic citizens abroad in the case of a nuclear or radiological emergency in co-operation with the Consular Affairs Unit of the Ministry of Foreign Affairs and exercise arrangements for providing such information.

In the aftermath of the Fukushima nuclear accident there has been increased interest from the public and media regarding radiation and nuclear safety. This has demonstrated the need for more public information on these issues. When Iceland was the first European country to detect radioactivity in air due to release from Fukushima there was a media frenzy for half a day.

# Action: IRSA to develop more public information on radiation and nuclear safety. Exercise interaction with domestic and international media.

The legislative framework has been reviewed with regard to provisions regarding nuclear and radiological emergencies. There is a need for minor changes related to i.e. public information and these are addressed in the proposed changes in legislation that will be submitted in the autumn of 2013.

#### Follow up from the 5th Review meeting.

The Rapporteurs report mentioned close cooperation with other authorities on emergency matters and for exchange of information as an example of a good practice in Iceland.

Following Fukushima there is a decision for even closer cooperation with more joint exercises and development of more common material.

The 5th Review meeting identified the following challenges:

- A. Finding qualified persons for the regulator (small nation, few experts)
- B. Maintenance of the independence of the radiation protection authority.

A. Finding qualified persons in a small nation with few experts is an ongoing challenge. IRSA addresses this challenge by interacting with students at the university level i.e. teaching, technical visits and offering a good working environment contributing to a low staff turnover. A related challenge is to ensure transfer of knowledge and a suitable age distribution of experts. IRSA addresses this challenge by employing a good mixture of young and old experts.

B. Maintaining the independence of the Authority is also an ongoing challenge. The current Act from 2002 has a weaker provision for ensuring the independence of the Radiation Safety Authority than the previous one. It is important to stress that there has never been any interference from the Ministry of Health regarding fulfilment of the regulatory tasks of the Authority.

## **Article 4 - Implementing measures**

Implementing measures to fulfil the obligations of the Convention are discussed in this report.

# **Article 5 - Reporting**

The present report constitutes the second Icelandic report issued in obligation with Article 5.

# **Article 6 - Existing Nuclear Installations**

In terms of the Convention Iceland has no nuclear installations.

# **Article 7 - Legislative and regulatory framework**

Text of Article 7:

- 1. Each Contracting Party shall establish and maintain a legislative and regulatory framework to govern the safety of nuclear installations.
- 2. The legislative and regulatory framework shall provide for:
  - *i. the establishment of applicable national safety requirements and regulations;*
  - *ii.* a system of licensing with regard to nuclear installations and the prohibition of the operation of a nuclear installation without a licence:
  - *iii.* a system of regulatory inspection and assessment of nuclear installations to ascertain compliance with applicable regulations and the terms of licences;
  - *iv.* the enforcement of applicable regulations and of the terms of licences, including suspension, modification or revocation.

#### Act on Radiation Protection of 18 April 2002

The Act on Radiation Protection of 18 April 2002 constitutes the legal basis for regulating the use of ionizing and non-ionizing radiation, radiation protection requirements, medical use of radiation, emergency planning, waste management and discharges to the environment.

The objective of the Act is to ensure 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. An effort shall be made to ensure that all exposure to radiation resulting from any practice covered by this Act shall be as low as reasonably achievable, taking into account economic and social factors.

The objectives of the Act shall be attained through specific measures, for example, the inspection of radioactive materials and radiological equipment, studies and research, monitoring of radioactive substances in the environment, measures against radiological emergencies, and through education and guidelines on radiation protection.

The Act applies to:

 safety measures against ionising radiation in respect of any practices that could cause a risk of radiation exposure to persons, for example, the production, import, export, delivery, possession, installation, use, handling and disposal of radioactive substances and radiological equipment;

- safety measures against ionising radiation in practices that result in increased levels of natural radiation in the environment;
- safety measures against ionising radiation from radioactive substances and 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;
- radiological aspects of measures concerning radiological and nuclear emergencies.

The Icelandic Radiation Safety Authority is an authority under the auspices of the Minister of Health. The Authority's role is to implement safety measures against radiation from radioactive substances and radiological equipment.

The Act establishes a general framework on which specific regulations concerning radiation protection are based. Pursuant to the Act, five regulations on radiation protection and use of radiation have been issued by the Ministry of Health. These are in the fields of radiation protection in use of open and sealed sources, in use of diagnostic radiology and limits of exposure of workers and public due to use of ionizing radiation. Regulation # 627/2003 covers limits of exposure. Regulation #626/2003 covers radiation protection in dentistry and regulation #640/2003 deals with radiation protection in other medical uses of X-rays. Regulation #811/2003 covers the use of sealed sources whereas regulation #809/2003 with amendment #920/2003 covers the use of open sources. Details regarding regulation of radioactive waste are found in the relevant regulations and further developed by the regulatory authority through guidelines and requirements in licences.

Minor amendments to the Act were approved by the parliament in April 2008 and became effective as of 1 January 2009. These amendments mainly involved clarifying wording in a few clauses. The main change relevant for this report is that previously it could be deduced that export of radioactive substances would require a licence, now it is clearly stated. The wording concerning emergency preparedness was also made clearer, a reference to analysis of threats was added as well as coordination of emergency preparedness planning with internationally accepted practices.

Following Iceland's application for membership of the European Union the legislation has been reviewed and compared with the EU Acquis. Based on the review, a bill to change the Act on radiation protection with the aim of harmonizing further towards the EU Acquis has been drafted and will be submitted to the parliament in the autumn of 2013. It is expected that this change in the legislation will be adopted before the end of the year and become effective as of 1 January 2014.

# Article 8 - Regulatory body

Text of Article 8:

1. Each Contracting Party shall establish or designate a regulatory body entrusted with the implementation of the legislative and regulatory framework referred to in Article 7, and provided with adequate authority, competence and financial and human resources to fulfil its assigned responsibilities.

2. Each Contracting Party shall take the appropriate steps to ensure an effective separation between the functions of the regulatory body and those of any other body or organization concerned with the promotion or utilization of nuclear energy.

Since there is no current or planned utilization of nuclear energy in Iceland, there are no bodies or organizations concerned with the promotion or utilization of nuclear energy. The second paragraph is thus not applicable for Iceland.

#### Role and activities of the regulatory body

As defined in the Act on Radiation Protection, the regulatory authority (the competent authority) is the Icelandic Radiation Safety Authority (IRSA) which is an authority under the auspices of the Minister of Health. The Authority's role is to implement safety measures against radiation from radioactive substances and radiological equipment. The Authority regulates matters concerning radiation protection, nuclear safety and security, nuclear and radiological emergency preparedness and radioactive waste.

The Icelandic Radiation Safety Authority (IRSA, the Authority) is responsible for (as defined in the revised Act effective 1 January 2009):

- 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;
- the radiological part of measures concerning all types of radiation emergencies, including analysis of threats, coordination of emergency preparedness with internationally accepted practices, the operation of emergency response and radiation measuring systems, and other measures relating thereto;
- dosimetric activities appropriate for meeting the need arising from the use of ionising radiation in Iceland;
- collaborating with foreign institutions in relation to radiation protection and nuclear issues;
- other factors pertaining to the implementation of this Act, and other projects in the field of radiation protection in accordance with further decisions thereon by the Minister.

The Minister may request the Institute to address certain matters or projects relating to its duties under this Act.

#### Organizational structure and financing of the regulatory body:

The organisational structure of the Authority is flat, with work being carried out through activities and tasks, each under the leadership of a staff member. Each group of related activities, such as inspections, emergency preparedness etc., is lead by a member of staff having an over-all responsibility. The Authority holds for all of its operations an ISO 9001:2008 certification by the British Standards Institution (FS 540268). The quality system provides a framework for the various tasks the Authority needs to perform, e.g. dealing with incidents and accidents. There is a staff of 10 of which 7 are technical experts with an academic background.

The funding from the government, after the collapse of the Icelandic economy in 2008, has decreased which impacts the activities of the Authority . The Authority has been able to meet the decrease up till now but the funding of the Authority will need to be addressed.

#### The system of licensing:

The production, import, ownership, use, storage, delivery or disposal of radioactive substances, whether pure, mixed with other substances or installed in equipment, are subject to licensing by the Icelandic Radiation Safety Authority. The granting of licences is subject to conditions set out by the Institute, including provisions governing the handling of radioactive substances at the end of their use.

The Act on Radiation Protection itself requires that a Licence must be obtained for radioactive substances, unless the quantity or concentration is below the exemption limits or the substance is in a product that has been approved (e.g. ionising smoke detectors) or defined as not being of concern (e.g. old radio luminescent watches).

A Licence is not required in respect of radioactive substances if their total content or concentration per mass unit is under the exemption limits as determined by the Icelandic Radiation Safety Authority. The exemption limits determined are consistent with the Schedule to and text of Annex 1 of the EU Council Directive 96/29 Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general population against the dangers arising from ionising radiation.

A Licence can be suspended, modified or revoked. If the offence is serious, then the Act states that a breach of the provisions of this act is subject to fine or imprisonment for up to 2 years, unless other law stipulates more severe penal action. No such serious offence has been discovered.

#### Nuclear safety and security:

The Authority undertakes tasks related to "nuclear safety and security" as needed even though "nuclear safety and security" is not mentioned directly in the Act. This is due to the fact that when the Act was written there was no clear need for including specific clauses on nuclear issues. According to the Act The Icelandic Radiation Safety Authority is responsible for the "radiological aspect of radiation emergency preparedness" and also collaboration with foreign authorities and organizations in the field of radiation protection and nuclear issues. Based on these clauses tasks related to nuclear safety and security are undertaken as needed.

#### Challenges for the regulatory authority identified at the 5th Review meeting:

The following challenges for the regulatory authority were identified at the 5th Review meeting:

- A. Finding qualified persons for the regulator (small nation, few experts)
- B. Maintenance of the independence of the radiation protection authority.

A. Finding qualified persons in a small nation with few experts is an ongoing challenge. IRSA addresses this challenge by interacting with students at the university level i.e. teaching, technical visits and by offering a good working environment resulting in a low staff turnover. A related challenge is to ensure transfer of knowledge and a suitable age distribution of experts. IRSA addresses this challenge by employing a good mixture of young and old experts.

Another ongoing challenge is to maintain and increase competence. The solution adopted is to be actively involved in international co-operation.

B. Maintaining independence is an ongoing challenge for the Authority. The current Act of 2002 states that the Authority is an institute under the auspices of the Minister of Health. The previous Act of 1985 stated that the Authority is an independent institute under the auspices of the Minister of Health. The current Act has thus a weaker provision for ensuring the independence of the Radiation Safety Authority than the previous one. It is important to stress that there has never been any interference from the Ministry of Health regarding fulfilment of the regulatory tasks of the Authority.

# **Article 16 - Emergency preparedness**

Text of Article 16:

- 1. Each Contracting Party shall take the appropriate steps to ensure that there are on-site and off-site emergency plans that are routinely tested for nuclear installations and cover the activities to be carried out in the event of an emergency.
- 2. For any new nuclear installation, such plans shall be prepared and tested before it commences operation above a low power level agreed by the regulatory body.
- 3. Each Contracting Party shall take the appropriate steps to ensure that, insofar as they are likely to be affected by a radiological emergency, its own population and the competent authorities of the States in the vicinity of the nuclear installation are provided with appropriate information for emergency planning and response.
- 4. Contracting Parties which do not have a nuclear installation on their territory, insofar as they are likely to be affected in the event of a radiological emergency at a nuclear installation in the vicinity, shall take the appropriate steps for the preparation and testing of emergency plans for their territory that cover the activities to be carried out in the event of such an emergency.

Since Iceland does not have a nuclear reactor, paragraphs 1-3 of Article 16 are not applicable.

#### General

Radiological emergency preparedness and response in Iceland is based on the safety standards of the IAEA and the IAEA framework for emergency preparedness and response. The nearest nuclear power plant is more than 1000 km away from Iceland. Therefore a nuclear accident in a power plant is very unlikely to have a significant health effect in Iceland. An accident in a nuclear powered vessel close to Iceland or the re-entry of a nuclear powered satellite could have significant effects in a restricted area. Malevolent acts may affect Iceland, even if they would not be directed against the country, since the country is a hub for many types of transports (passengers and goods) over the North Atlantic.

IRSA maintains a comprehensive registry of radioactive sources in Iceland based on the IAEA categorization of sources. According to the registry there are no sources in category 1 or 2 in the country. Since there is no nuclear industry in Iceland and due to the limited use of radioactive sources it is difficult to envision a domestic radiological emergency requiring more than an on-site response. There is a classification of situations in the generic emergency plans in use, and they are being revised and harmonised as possible with the classifications used for emergency situations in general in Iceland. This work is carried out by the Department of Civil Protection and Emergency Management of the National Commissioner of the Icelandic Police with IRSA in an advisory capacity.

The radiation protection Act states that the licensee is responsible for organizing local plans to deal with on-site emergency preparedness and response. The licensee is also responsible for informing IRSA immediately in case of a radiological emergency, for making initial estimates of potential consequences and for doing what is possible to minimize these.

The objective of the IRSA is to be able to deal with any radiological situation (incl. rumours, incidents and accidents), in cooperation with other authorities as appropriate, and to minimise possible harmful effects as possible. With no specific nuclear threat to Iceland, the emergency response is generic in structure based on the IAEA framework, taking into account but not limited to a set of predefined scenarios. The aim has also been to lower the threshold, to be able to respond to any radiation related situation that might be of public concern, whether it poses a significant health risk or not. This can e.g. include responding to false rumours that might cause public concern and could subsequently have societal and economical effects.

#### **The National Competent Authority**

The Icelandic Radiation Safety Authority (IRSA) is the National competent authority for nuclear emergencies Abroad (NCA(A)) as well as Domestic (NCA(D)) in terms of the Convention on Early Notification of a Nuclear Accident.

In the radiation protection law it is stated that the IRSA is responsible for (amongst other things, as mentioned in the text on Article 8): the radiological part of measures concerning all types of radiation emergencies, including analysis of threats, coordination of emergency preparedness with internationally accepted practices, the operation of emergency response and radiation measuring systems, and other measures relating thereto.

In practice this means that IRSA initiates response when it receives international or domestic notifications, but it also provides support to other authorities when expertise in radiation protection

is needed. This includes the Civil Protection department of the State Police, Customs Office and first responders (police, fire brigade).

The national nuclear and radiological emergency preparedness in Iceland is being integrated with other fields of emergency preparedness. This is reflected in the Act no. 82/2008 on civil protection, according to which the director of IRSA is a member of the committee for civil protection and safety. The integration is carried out by the Civil Protection department of the State Police. IRSA has also a member in the committee on infectious diseases, set up in accordance with law no. 19/1997. This committee has the role of coordinating response against threats to public health.

Interaction between IRSA and other authorities are defined in terms of harmonised response plans, using the framework developed at the Department of Civil Protection and Emergency Management of the National Commissioner of the Icelandic Police.

#### **Early warning**

Iceland has ratified the Convention on Early Notification of a Nuclear Accident.

Effective and fast low-threshold exchange of information has been made possible through close cooperation with the other Nordic countries. A high-level working group on emergency preparedness has been instrumental in this, e.g. by preparing a manual on response activities and information exchange.

#### **Gamma monitoring stations**

IRSA operates a network of 4 gamma monitoring stations in cooperation with the Icelandic Meteorological office. The data from the stations are combined with meteorological data to aid assessment. Given the size of Iceland and the distance to other countries having spent fuel and radioactive waste management facilities, these 4 stations should be sufficient to detect a plume coming from another country. The locations of the stations are shown in Fig. 1.

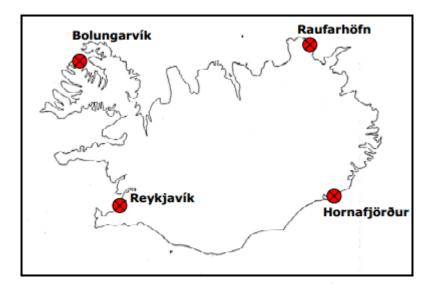


Fig. 1 Locations of gamma monitoring stations in Iceland

These data are accessible by the European Radiological Data Exchange Platform (EURDEP) system. In case of a nuclear incident in Europe, Iceland would access real-time EURDEP data.

#### **High volume samplers**

The regulatory authority also operates an automatic high-volume air sampling station (>500 m<sup>3</sup>/h) in the network of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO). Aerosols are collected for 24 hours, the filters are then stored for 24 h to let short-lived natural radionuclides decay and then counted for 24 h. Even though these are not real-time results, they are very useful for assessing possible effects of suspected releases, which would result in low air concentration in Iceland, but which might nevertheless be of concern. The first detection in Europe of radionuclides from the Fukushima accident was by IRSA's CTBTO high volume radionuclide sampling station. IRSA has also a mobile high volume (>100 m<sup>3</sup>/h) aerosol sampler that can be utilised to assess specific situations where needed.

#### Capability to detect and analyse radioactivity

Three sets of sensitive gamma spectrometric mobile systems are currently in use in Iceland, as a part of cooperation with the US National Nuclear Security Administration (NNSA). The systems can be operated from planes, cars or be operated in a stationary mode. IRSA has also co-operated with the NNSA by testing it analytical services (TRIAGE system) by a non-US user. The IXP-NARAC system is used to assess potential atmospheric distribution of radio nuclides.

#### **Exercises**

Maintaining competence in emergency preparedness and response is a challenge for a small nonnuclear country such as Iceland. The solution adopted is to be actively involved in international cooperation and exercises.

Information exchange exercises between the Nordic countries are performed on a routine basis, a few times per year. Iceland also participates in international exercises i.e. organized by the IAEA. The last participation in an international exercise was in the NB8 exercise involving the Nordic and the Baltic countries that took place in March 2013. Experts from IRSA have observed exercises abroad, i.e. in Finland, Sweden and the US. They participated in an international exercise in Sweden in 2011, exercise Refox.

Exercises of specific parts of the response functions (functional exercises) involving other authorities in Iceland have been performed, but they will be carried out regularly on a more formal basis when the harmonised response plans currently being developed are in place.

# **International Cooperation**

Even for faraway accidents, international exchange of information and assessments is essential. All information by authorities can now be instantly compared with information from other authorities, the slightest discrepancy can be spotted at once and lead to lack of confidence. This makes the international cooperation all the more important, also when faraway incidents are concerned.

### Nordic cooperation

The radiation safety authorities in the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have cooperated closely for decades, including in radiation emergency response planning and management. A part of this cooperation is the *Nordic Nuclear Safety Research* (NKS, <u>www.nks.org</u>), which has supported joint Nordic research and seminars. The director of IRSA is the current chairman of the Board of NKS. Examples of recent Nordic activity with Icelandic involvement:

- a) Contact group of Nordic Met. Office experts dealing with radiological plume modelling (Reykjavík, May 2012).
- b) NKS seminar on mobile measurements, including international coordination when appropriate (Oslo, May 2012).
- c) NKS coordinated Nordic participation in a major Swedish radiation emergency response exercise (Southern Sweden, September 2012).
- d) NKS seminar, on lessons learned after Fukushima (Stockholm, January 2013).
- e) NKS seminar on experiences of Nordic exercises lessons learned and the way forward. (Stockholm, August 2013).

Important international challenges in the Swedish exercise (c) included cooperation and how to *receive* assistance. The seminar (d) provided important input for further development of post-accidental management plans on a joint-Nordic basis. The seminar (e) will provide important input to future Nordic exercises.

#### **HERCA**

HERCA (<u>www.herca.org</u>) is a voluntary association of the <u>Heads of European Radiological Competent</u> <u>Authorities</u>. Lessons learned after Fukushima are an important part of the work and HERCA has a working group on emergencies chaired by Luxembourg, which has been given the task for identifying the most urgent needs for further harmonisation of European response to faraway events and propose practical solutions. Iceland is actively taking part in the work of HERCA, with the director of IRSA being the current chairman of HERCA.

#### **CTBTO**

The Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) has a very powerful worldwide network of air samplers and it has also the capability to analyse the data. Data from the network are being widely used for civil, scientific and emergency preparedness purposes.

#### IAEA

The IAEA safety standards are at the core of the current radiation emergency response plans in Iceland, as well as the new plans now being developed using the general framework for response. The close cooperation of the Nordic countries, e.g. concerning low threshold notification of incidents, is based on the framework provided by the IAEA. For Iceland, the IAEA provides the framework for international cooperation for dealing with radiation emergencies.

# Articles 9, 10 and 15

#### Text of Article 9:

Each Contracting Party shall ensure that prime responsibility for the safety of a nuclear installation rests with the holder of the relevant licence and shall take the appropriate steps to ensure that each such licence holder meets its responsibility.

#### Text of Article 10:

Each Contracting Party shall take the appropriate steps to ensure that all organizations engaged in activities directly related to nuclear installations shall establish policies that give due priority to nuclear safety.

#### Text of Article 15:

Each Contracting Party shall take the appropriate steps to ensure that in all operational states the radiation exposure to the workers and the public caused by a nuclear installation shall be kept as low as reasonably achievable and that no individual shall be exposed to radiation doses which exceed prescribed national dose limits.

Although these Articles refer to nuclear installations, their requirements are similar to those made for any licensed user of radioactive substances in Iceland, according to radiation protection Act of 18 April 2002.

### Conclusion

The Icelandic Radiation Safety Authority considers that the information in this report describes Iceland's full compliance with the Convention on Nuclear Safety.

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