

MINISTRY OF THE ENVIRONMENT

REPORT

ON THE IMPLEMENTATION OF THE DIRECTIVE 2009/71/EURATOM

Estonia 2014

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FOREWORD

On 25th June 2009, the European Council adopted the directive 2009/71/Euratom for establishing a Community framework for the nuclear safety of nuclear installations (hereinafter referred to as the Directive). According to article 9 of the Directive, the Member States have to submit a report to the Commission on the implementation of the Directive for the first time by 22nd July 2014, and every three years thereafter, taking advantage of the review and reporting cycles under the Convention on Nuclear Safety.

At present, the interest of Estonia in nuclear safety is primarily related to the safety of nuclear installations in the neighbouring countries and to the implications that accidents at such installations, should they occur, may have on the health of the population and on the environment. The Estonian National Development Plan of the Energy Sector until 2020 (endorsed by the Estonian Parliament in June 2009) foresees the development of a legal framework for the use of nuclear energy. Nevertheless, the planned specific activities in the field have not yet started.

Estonia has been a member state of the European Union since 1st May 2004. Thus, the European Union (EU) regulations in the field have been transposed to the national, legal and administrative framework in Estonia. Where necessary, the Estonian acts and regulations are amended and modified to take into account the new EU regulations and their amendments. In 2011, the requirements of the European Council Directive 2009/71/Euratom were brought into Estonian legislation. The Radiation Act was amended with relevant definitions, decision on principles, obligations of the license holder of the nuclear installations and quality assurance requirements to ensure radiation safety. However, if Estonia decides to use nuclear energy or build any new nuclear installation, additional nuclear legislation is required.

The present report is the Estonian National Report on the implementation of the Directive 2009/71/Euratom. This report gives an outline of the implementation process of the Directive and sets out measures adopted by Estonia to fulfil the relevant obligations.

THE IMPLEMENTATION PROCESS

In 2009, the Council of the European Union adopted the Directive 2009/71/Euratom, establishing a community framework for the nuclear safety of nuclear installations. The Member States had to bring into force the laws, regulations and administrative provisions necessary to comply with this directive by 22 July 2011.

According to the Directive, a nuclear installation is an enrichment plant, nuclear fuel fabrication plant, nuclear power plant, reprocessing plant, research reactor facility, spent fuel storage facility; and storage facilities for radioactive waste, that are on the same site and are directly related to nuclear installations. This directive applies only to civilian nuclear installations. At the end of 2009 the Commission asked the Member States about the provisions in which there are difficulties to interpret and implement the national legislation. In the beginning of 2010, Estonia sent a letter to the Commission and asked whether the Paldiski nuclear site, situated in Estonia, lies within the scope of Directive. The Paldiski nuclear site is the Soviet Union former military nuclear submarine training centre and is in a decommissioning state. Based on the agreement between the Republic of Estonia and the Russian Federation, the reactors were defueled in 1994 and the spent nuclear fuel was shipped to Russia. The site was taken over by the Estonian authorities and is currently administered by A.L.A.R.A. ltd. There is also a facility for interim storage of low and intermediate radioactive waste at the Paldiski site. There are no other nuclear facilities in Estonia. Estonia's main argument was the fact that the Paldiski site was established for a military purpose but the Directive applies only to civilian nuclear installation. Also, this was a training centre, not a research reactor or power plant.

In 2010, the Member States had a meeting with the Commission, which stated that according to the aforementioned Directive, the Paldiski site was a nuclear installation. The Commission confirmed that Estonia has never used this as a military facility and as such should consider the Paldiski site as a nuclear installation; therefore requiring a licence for decommissioning. After receiving the information, Estonia started the implementation process and the Ministry of the Environment became the institution responsible for the transposition of the Directive. At the end of 2010, Estonia sent a draft proposal for amending the Estonian Radiation Act to the Commission, along with an explanatory note and a correlation table between the Directive and the national act. The Commission accepted the proposed amendments in the beginning of 2011.

However, the amendment did not come into force until November 2011. The reason for the delay was due to the fact that in 2009-2010 there were political debates in Estonia about *future energy sources*. In June 2009, the Estonian Parliament approved the National Development Plan for Energy 2020 and the Electricity Development Plan 2008–2018, which define important development directions in the field of energy and propose the measures contributing to the achievement of the government's goals in the field of energy. One alternative suggestion to produce energy and electricity was to build a national NPP. In that case, different and more substantive legislation was needed. The Ministry of the Economy had already started to prepare the Nuclear Act so amendments of the Radiation Act, made by the Ministry of the Environment and introduced to the Commission in the beginning of 2011, were unnecessary. Nevertheless, it was finally decided to suspend the NPP plans and not to enforce the Nuclear Act, instead the Radiation Act amendments went to the Estonian Parliament for approval.

Meanwhile, the Commission initiated infringement no 2011/2162, which ended after the Radiation Act entered into force on 9th November 2011. Finally, it must be added that in 2011, both the Estonian Government and the Parliament, asked the Ministry of the Environment several times about the

advancement of the implementation process and encouraged the adoption of all necessary measures to fulfil the relevant obligations before the deadline. Nevertheless, as a consequence of the very complicated situation at the national level, the result was delayed for four months.

OVERVIEW OF THE AMENDMENTS OF THE NATIONAL LEGISLATION

The main legal document in the field of radiation safety in Estonia is the Radiation Act (in this chapter referred to as an Act). In 2011, the Act was amended with relevant definitions, decisions on principle, obligations of the license holder of the nuclear installations and quality assurance requirements to fulfil the Directive 2009/71/Euratom obligations. However, if Estonia decides to build any new nuclear installations then two things will be needed: firstly, permission from Parliament and, secondly, additional nuclear legislation.

In the amended Act, two new definitions, 'nuclear installation' and 'nuclear safety', were introduced. The former refers to an enrichment plant, nuclear fuel fabrication plant, nuclear power plant, reprocessing plant, research reactor facility, spent fuel storage facility and storage facilities for radioactive waste that are on the same site and are directly related to nuclear installations. The latter refers to the achievement of proper operating conditions, prevention of accidents and mitigation of accident consequences, resulting in protection of workers and the general public from dangers arising from ionizing radiations from nuclear installations.

Another new definition; the national audit of a radiation safety, was introduced as well as the frequency of the audit. It states that Estonia has to arrange an audit of the national framework and competent regulatory authorities at least once in every 10 years, which involve international experts. The aim of the audit is to continuously improve nuclear safety.

The licensing system for practices is described in section 3 of the Act. The use of radiation requires a radiation practice licence, which is granted by the Estonian Environmental Board upon application. The granting of a radiation a practice licence can be subject to additional conditions needed to ensure safety. In addition, the cases are identified wherein a licence is not required, e.g. when the use of radiation or a device is exempted by law. According to the amendments, the operating nuclear installation is also subject to a radiation practice licence and is authorized by the Environmental Board. After amendments, the act clearly states that the licence to operate a new nuclear installation can be applied only after the Estonian Parliament has made the decision to take a nuclear installation into use.

The Radiation Act provides the following principal obligations of a licence holder, to:

- 1) be responsible for radiation safety and to guarantee the physical protection of radiation sources in the holder's possession;
- 2) prepare the rules necessary for performing radiation practices and instructing exposed workers;
- 3) organize the treatment and conditioning of radioactive waste if such activity is necessary for modifying the properties of the radioactive waste prior to its release into the environment, and to arrange the interim or final disposal of the radioactive waste;
- 4) take an annual inventory of the radiation sources and submit the results of the inventory to the Environmental Board by 1st March of the following year;
- 5) provide training and radiation safety instruction for exposed workers commensurate with the nature of their work and workplace conditions;
- 6) organize the medical examination of exposed workers;
- 7) upon a change of ownership of a radiation source, provide the new owner with comprehensive information to ensure radiation safety;
- 8) immediately inform the Environmental Board and the Alarm Centre of accidents which take

place in the course of radiation practices and of exposure events involving doses exceeding the dose limits;

9) alleviate the consequences of emergencies;

10) ensure the regular control and calibration of measuring instruments used and be responsible for their fitness for use and appropriate use;

11) ensure the monitoring of doses incurred by exposed workers and submission of the obtained information to the dose registry;

12) guarantee that all building design documentation concerning facilities is reviewed, and that new radiation sources to be used are approved beforehand by a qualified expert;

13) render a radiation source harmless after its use is terminated pursuant to the plan for rendering the radiation source harmless submitted in the application for the licence;

14) provide certification, at the request of competent authorities, of the legality of the possession of radioactive substances or radiation apparatuses containing radioactive substances;

15) prepare an emergency plan if the person engages in high risk radiation practices and test the plan pursuant to the requirements and with the frequency established by legislation;

16) improve the technologies, equipment and techniques used;

17) develop and implement a quality system of radiation safety.

According to the 2011 amendment to the Act, in addition the licence holder of the nuclear installation has to:

18) ensure implementation of nuclear safety measures and compliance with relevant requirements;

19) ensure that the employees of the nuclear installation and sub-contractors follow the nuclear safety culture and the quality assurance system of radiation safety on their jobs;

20) assess nuclear safety of the nuclear installation at least as often as it is set out in the conditions of the radiation practice licence;

In addition, the quality system was improved. According to article 32 of the Act, the quality system of radiation safety shall include the following:

1) planned and systematic activity aimed at ensuring radiation safety;

2) an analysis of the duties of workers and the requirements for the skills needed to operate the radiation source;

3) a system for controlling compliance with the radiation safety requirements;

4) a description of procedures for the supply and use of materials, and of procedures for supervision over radiation safety and controlling the functioning of safety systems.

According to the 2011 amendment to the Act, in addition, the quality system of radiation safety of the nuclear installation shall include the following:

1) activities aimed at ensuring nuclear safety;

2) a description of a system for controlling compliance with the nuclear safety requirements;

3) an analysis of the duties of workers;

4) requirements for the workers;

5) a plan for training and instructions of workers;

6) a description of procedures for the supply, use and discarding of equipment and materials.

Other changes were made to the Act, however these were not clearly related to the Directive.

OVERVIEW OF THE IMPACTS TO THE NATIONAL FRAMEWORK

According to the Radiation Act the performance of activities related to the field of radiation safety shall be managed by the Ministry of the Environment within the limits of its competence through the Environmental Inspectorate and the Environmental Board. This system did not change in 2011. The radiation practice licence is granted by the Estonian Environmental Board.

The Paldiski site also has a radiation practice license, which recently changed in 2014. However the changes were not related to the amendments made to the Radiation Act in 2011. In conclusion, the licence holder had already previously fulfilled obligations that were introduced in 2011.

A new type of activity; namely the national audit, was introduced in 2011. According to the Directive a peer review must be carried out once in every 10 years. The content of the audit and peer review is almost the same, nevertheless the audit is usually more like a controlled mechanism, whereas the peer review is a more flexible way to get expert opinion. The Radiation Act covers both: international expert opinion is used to improve nuclear safety as well as to gather information about the shortcomings.

There is a plan to carry out the first audit in 2016. The intention was to invite international experts to Estonia in 2015. However, the international mission is quite costly for the small country. The calculations showed that an additional 140 000 Euros is needed. One possibility is to apply for support from the International Atomic Energy Agency (IAEA) Integrated Regulatory Review Service and in this case the realistic time to carry out the audit is in 2016. The application was sent to the IAEA in May 2014.

There were no other major impacts of the new Directive to the national framework.

FUTURE DEVELOPMENTS AND CONCERNS

In 2013, the European Commission introduced a draft proposal for a Council Directive which will lead to the amendment of the Directive 2009/71/Euratom. The Council's Working Party on atomic questions was adopted the proposal in June 2014.

In February 2014, Estonia sent a letter to the Commission asking whether implementation of all amendments of this Directive in Member States with no nuclear related activities, is in accordance with the principle of proportionality. Estonia has no policy and framework for the planning or management of an operational nuclear facility. Estonia was of the position that if in Member States where nuclear installations are under decommission and do not contain nuclear fuel, there is no need for such a comprehensive system. Also, this is costly and increases administrative burdens.

Furthermore, Estonia applied an exemption that in transposition and implementation of the Directive, Member States without an operating nuclear installation and without nuclear fuel can take into account the potential magnitude and nature of the hazard relevant for the nuclear installation and its site, unless they decide to develop any new activity related to nuclear installations subject to a licence under their jurisdiction.

In March 2014, Estonia had a meeting with Commission experts. After analysing Estonia's explanations, the Commission concluded that the Directive (as amended) should be transposed and implemented in a proportionate manner in accordance with national circumstances, i.e. taking into account the specifics of the only nuclear site (Paldiski site) in Estonia with no nuclear fuel left and being in the decommissioning stage. In other words; unless Estonia decides to build new nuclear installations, the provisions of the Directive are to be implemented only to the extent which is necessary to ensure the nuclear safety of the Paldiski site until its decommissioning is completed.

The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with the Directive three years after the Directive enters into force. Taking into account the Commission's conclusions, there is a possibility to implement the Directive to the extent which is necessary to ensure the nuclear safety of the Paldiski site. In 2011, by adopting the Radiation Act, the general obligations to fulfil these criteria were already completed. However, the additional amendments to the Radiation Act were discussed.

CONCLUSIONS

The most recent Estonian National Report on the implementation of the Directive 2009/71/Euratom report gave an outline of the implementation process of the Directive and introduced measures adopted by Estonia to fulfil the relevant obligations. The report also described the impacts to the national framework as well as future plans in the field of nuclear safety.

The Member States had to bring into force the laws, regulations and administrative provisions necessary to comply with the Directive by 22 July 2011. Estonia failed to adopt the legislation on time, as the amendments of the Radiation Act entered into force on 9th November 2011. The reason for the delay was due to the fact that in 2009-2010 there were political debates in Estonia about the building of a national NPP. The preparation of the Nuclear Act had started. However, finally it was decided to suspend the NPP plans and not to enforce the Nuclear Act, instead the Radiation Act was amended.

In Estonia, there is only the Paldiski nuclear site. This is the Soviet Union former military nuclear submarine training centre, which is in a decommissioning state. The amendments of the Radiation Act were introduced taking into account the only facility in Estonia. However, if Estonia decides to build any new nuclear installations then two things will be needed: firstly, permission from Parliament and, secondly, additional nuclear legislation.

The most important change in the national framework is the need to carry out an audit to improve nuclear safety. The first calculations showed that this is quite costly and some extra resources have been applied for from the IAEA. There is a plan to carry out Estonia's first audit in 2016.

In 2013, the European Commission introduced a draft proposal for amending the Directive. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with the Directive, three years after the Directive enters into force. The Member States can transpose and implement the Directive in a proportionate manner in accordance with national circumstances. Estonia has to implement the Directive to the extent which is necessary to ensure the nuclear safety of the Paldiski site. In 2011, by adopting the Radiation Act, general obligations to fulfil these criteria were already completed. However, the additional amendments to the Radiation Act were discussed.